

U.S. Department of Energy

National Energy Technology Laboratory

Methane Hydrate R&D Program

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Section I: Publications Related to Methane Hydrate Fellowship Program

Papers Authored and Presentations Given by NETL Methane Hydrate Fellows

Papers Authored

- Brothers, L. L., Kelley, J. T., Belknap, D. F., Koons, P. O., Barnhardt, W. A., (2011). "Pockmarks: Self-scouring seep features?" *Proc. of the 7th International Conference on Gas Hydrates (ICGH 2011). Edinburgh, Scotland, United Kingdom, July, 17-21, (2011).* Paper 326.
- Brothers, L., Hart, P. E., and Ruppel, C. R., (2012). "Minimum distribution of subsea ice-bearing permafrost on the U. S. Beaufort Sea continental shelf." *Geophysical Research Letters*, vol. 39, L15501, doi:10.1029/2012GL052222.
- Brothers, L. L., Kelley, J. T., Belknap, D. F., Barnhardt, W. A., Andrews, B. D., Legere, C., Hughes Clarke, J., (2012). Shallow stratigraphic control on pockmark distribution in north temperate estuaries. *Marine Geology*, v. 329-331, pp. 34-45, doi: <http://dx.doi.org/10.1016/j.margeo.2012.09.006>.
- Brothers, L. L., Van Dover, C. L., German, C. R., Kaiser, C. L., Yoerger, D. R., Ruppel, C. D., Lobecker, E., Skarke, A. R., Wagner, K. S., (2013). Evidence for extensive methane venting on the southeastern U. S. Atlantic margin. *Geology* <http://dx.doi.org/10.1130/G34217.1>
- Cook, A. and Goldberg, D., (2009). "Two Kinds of Gas Hydrate Reservoirs: Pore-filling Sand vs. Fractured Clay," *Eos Trans. AGU* 90(52), Fall Meet. Suppl. Abstract OS31A-1174.
- Cook, A., Guerin, G., Mrozewski, S., Collett, T. S., Boswell, R., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II — Walker Ridge 313 LWD Operations and Results," *Proceedings of the Drilling and Scientific Results of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project Leg II*.
- Cook, A. and Malinverno, A., (2010). Can in situ methanogenesis explain a 3 m-thick gas hydrate-filled sand in Walker Ridge Block 313, Gulf of Mexico?, Abstract OS53A-1353 Poster presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.
- Cook, A., Rasmus, J., Li, Q., Sun, K., Anderson, B., Collett, T., and Goldberg, D., (2011). "Analyzing Electrical Anisotropy in Gas Hydrate Reservoirs Using Logging-While-Drilling Directional Resistivity Data from the Gulf of Mexico Gas Hydrate Joint Industry Project." *Proc. of the 7th International Conference on Gas Hydrates (ICGH 2011). Edinburgh, Scotland, United Kingdom, July, 17-21, (2011).*
- Daigle, H. and Dugan, B., (2008). "Extending Nuclear Magnetic Resonance Data for Permeability Estimation in Fine-Grained Sediments," *Eos Trans. AGU*, 89(53), Fall Meet. Suppl. Abstract H43J-04.
- Daigle, H. and Dugan, B., (2009). "Fracture Genesis and Fracture Filling in Hydrate Systems," *Eos Trans. AGU* 90(52), Fall Meet. Suppl. Abstract OS41A-02.
- Daigle, H. and Dugan, B., (2009). "Extending NMR data for permeability estimation in fine-grained sediments," *Marine and Petroleum Geology*, Volume 26, Issue 8, September 2009, pp. 1419-1427, ISSN 0264-8172, DOI: 10.1016/j.marpetgeo.2009.02.008.

- Daigle, H. and Dugan, B., (2010). "Origin and evolution of fracture-hosted methane hydrate deposits," *Journal of Geophysical Research*, 115, B11103, doi:10.1029/2010JB007492.
- Daigle, H. and Dugan, B., (2010). "Effects of multiphase methane supply on hydrate accumulation and fracture generation," *Geophysical Research Letters*, 37, L20301, doi:10.1029/2010GL044970.
- Daigle, H. and Dugan, B., (2010). Free gas in the regional hydrate stability zone: Implications for hydrate distribution and fracturing behavior, Abstract : OS53A-1355 Poster presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.
- Daigle, H. and Dugan, B., (2011). "Capillary controls on methane hydrate distribution and fracturing in advective systems," *Geochemistry, Geophysics, Geosystems*, 12, Q01003, doi:10.1029/2010GC003392.
- Daigle, H. and Dugan, B., (2011). "An improved technique for computing permeability from NMR measurements in mudstones," *Journal of Geophysical Research*, 116, B08101, doi:10.1029/2011JB008353.
- Daigle, H. and Dugan, B., (2011). "Permeability anisotropy and fabric development: A mechanistic explanation," *Water Resources Research*, 47, W12517, doi:10.1029/2011WR011110.
- Daigle, H., Bangs, N., and Dugan, B., (2011). "Transient hydraulic fracturing and gas release in methane hydrate settings: A case study from southern Hydrate Ridge," *Geochemistry, Geophysics, Geosystems*, 12, Q12022, doi:10.1029/2011GC003841.
- Heintz, M. B., Mau, S., Valentine, D. L., Reed, J. H., Hallam, S. J., Yang, J., (2008). "Methane Consumption in Waters Overlying a Hydrate-Associated Mound in the Santa Monica Basin: A Project Synopsis," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, B. C., July 6-10, (2008).
- Heintz M. B., Mau, S., Valentine, D. L., (2010). "Methane Consumption in the Water Column of the Santa Monica Basin: A Comparison from Two Sampling Expeditions," *Eos Trans. AGU*, 91(26), Ocean Sci. Meet. Suppl., Abstract CO45B-12.
- Heintz, M. B., Pohlman, J. W., Valentine, D. L., Wooller, M. J., (2010). "Ice Cover Modulates Methanotrophic Efficacy in Arctic Thermokarst Lakes," *7th Annual Southern California Geobiology Symposium*. CALTECH. Pasadena, CA.
- Heintz, M. B., Pohlman, J., Wooller, M. J., Elvert, M., Ruppel, C. D., and Valentine, D. L., (2010). "Ice Cover Enhances Methane Consumption in Alaskan Thermokarst Lakes," Abstract GC51J-03 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.
- Heintz, M. B., Mau, S., Valentine, D. L., (2012). Physical Control on Methanotrophic Potential in Waters of the Santa Monica Basin, Southern California. *Limnology and Oceanography*, 57(2), pp. 420-432, doi: 10.4319/lo.2012.57.2.0420
- Lapham, L., Albert, D., Chanton, J., Martens, C., (2001). "Light hydrocarbon distributions and sulfate reduction rates in sediment porewaters near exposed gas hydrates," *American Society of Limnology and Oceanography Annual Meeting*.
- Lapham, L., Chanton, J., Martens, C., Scheckler, H., Chapman, R., Pohlman, J., (2003). "Innovations in Sampling Pore Fluids From Deep-Sea Hydrate Sites," *Eos Trans. AGU*, 84(46), Fall Meet. Suppl., Abstract OS52D-05, (2003).

- Lapham, L. L., Martens, C. S. and Coffin, R. B., (2003). "Controls on the isotopic composition of dissolved methane in the pore waters of sediments containing disseminated gas hydrate off of Cascadia Margin," *Proceedings of the American Society of Limnology and Oceanography Annual Meeting*, p. 82.
- Lapham, L., Chanton, J., C. Martens, and H. Mendlovitz, (2004). "Innovations in sampling pore fluids at deep sea hydrate sites," in B. J Thompson, ed., *Energy, Simulation-Training, Ocean Engineering and Instrumentation*, Research Papers of the Link Foundation Fellows, Volume 3, p. 4.
- Lapham, L., Chanton, J., Martens, C., Pohlman, J., Chapman, R., (2005). "In Situ light hydrocarbon concentrations and stable carbon isotope values in hydrate-bearing sediments of Cascadia Margin, Vancouver Island," *Second General Assembly European Geosciences Union*, April 24-29.
- Lapham, L. L., Chanton, J. P., Martens, C. S., Higley, P. D., Jannasch, H. W., and Woolsey, J. R., (2006). "Pore-Fluid Array Construction and Deployment at Mississippi Canyon Site 118, Gulf of Mexico," OTC 18170-MS. *Proceedings of the 2006 Offshore Technology Conference, Houston, TX*.
- Lapham, L., (2007). "In situ measurements of methane cycling in cold seep sediments containing gas hydrates and brines," Ph. D. Thesis, University of North Carolina.
- Lapham, L., Chanton, J., Martens, C., Higley, P., Jannasch, H., Woolsey, J., Sleeper, K., (2007). "Biogeochemical sensors: design and applications of the Pore Fluid Array for the Mississippi Canyon 118 Gas Hydrate Seafloor Observatory," *Mid-South Area Engineering and Sciences Conference*, University of Mississippi, May 17-18.
- Lapham, L., Chanton, J., Martens, C., Higley, P., Jannasch, H., Woolsey, J., (2007). "Monitoring long term hydrate stability: in situ methane and the Pore Fluid Array (PFA)," *Gulf of Mexico Hydrates Research Consortium Annual Meeting*. University of Mississippi.
- Lapham, L., Chanton, J., Martens, C., Sleeper, K., Woolsey, J., (2007). "Methane and biogeochemical gradients within acoustic wipe-out zones at a Gulf of Mexico Cold Seep," *Eos Trans. AGU*, 88(52), Fall Meet. Suppl. Abstract B53C-07.
- Lapham, L., Chanton, J., Martens, C., Sleeper, K., Woolsey, J. R., (2008). "Microbial activity in surficial sediments overlying acoustic wipeout zones at a Gulf of Mexico Cold Seep," *Geochemistry, Geophysics, Geosystems*, Volume 9, No. 6
- Lapham, L. L., J. P. Chanton, Martens, C. S., Mendlovitz, H. P., Higley, P. D., Lutken, C. B., and Woolsey, J. R., (2008). "Unique tools sample sediment pore water near seafloor hydrate mounds in the Gulf of Mexico," *U. S. DOE-NETL Fire in the Ice Newsletter*, Winter, pp. 9-12.
- Lapham, L. L., Chanton, J. P., Martens, C. S., Higley, P. D., Jannasch, H. W., Woolsey, J. R., (2008). "Measuring long term changes in dissolved ion and gas concentrations and stable isotopes at a hydrate site: Mississippi Canyon 118, Gulf of Mexico," *Environmental Science and Technology*, 42, 7368-7373.
- Lapham, L. L., Alperin, M. J., Chanton, J. P., Martens, C. S., (2008). "Upward advection rates and dissolved methane and sulfate concentrations at two Gulf of Mexico brine seeps," *Marine Chemistry*, 112, 65-71.

- Lapham, L. L., Chanton, J. P., Martens, C. S., Higley, P. D., Jannasch, H. W., Woolsey, J. R., (2008). "Temporal variability in pore-fluid chemistry at a Gulf of Mexico gas hydrate site," *Eos Trans. AGU*, Fall Meet. Suppl., Abstract OS31D-06.
- Lapham, L. L., Martens, C. S., Chanton, J. P., (2009). "Controls on gas hydrate stability in methane-depleted sediments: Laboratory and field measurements," *Eos Trans. AGU*, 90(52) Fall Meet. Suppl., Abstract OS31A-118.
- Lapham, L. L., Chanton, J. P., Chapman, R. and Martens, C. S., (2010). "Methane under-saturated fluids in deep-sea sediments: Implications for gas hydrate stability and rates of dissolution," *Earth and Planetary Science Letters*, Volume 298, Issues 3-4, 1 October 2010, pp. 275-285, ISSN 0012-821X, DOI: 10.1016/j.epsl.2010.07.016.
- Lapham, L., Wilson, R., Short, T, Bell, R and Chanton, J., (2010). "Mechanisms Influencing Hydrate Dissolution Rates in Under-saturated Systems," *Goldschmidt Conference*, Knoxville, Tennessee, June 2010.
- Lapham, L. L., Wilson, R., and Chanton, J., (2012). Pressurized laboratory experiments show no stable carbon isotope fractionation of methane during gas hydrate dissolution and dissociation. *Rapid Communications in Mass Spectrometry*. 26(1): 32-36
- Lapham, L. L., Wilson, R. M., Riedel, M., Paull, C. K., and Holmes, M. E., (2013). Temporal variability of *in situ* methane concentrations in gas hydrate-bearing sediments near Bullseye Vent, Northern Cascadia margin. *Geochemistry, Geophysics, Geosystems*, v. 14, pp. 2445-2459. doi: 10.1002/ggge.20167
- Lapham, L. L., Wilson, R. M., MacDonald, I. R., and Chanton, J. P., (2013). Gas hydrate dissolution rates quantified with laboratory and seafloor experiments, *Geochimica et Cosmochimica Acta*, v. 125, pp. 492-503. doi: 10.1016/j.gca.2013.10.030
- Mau, S., Heintz, M. B., Valentine, D. L., (2012). Quantification of CH₄ loss and transport in dissolved plumes of the Santa Barbara Channel, California. *Continental Shelf Research*, v. 32, pp. 110-120, doi:10.1016/j.csr.2011.10.016
- Solomon, E., M. Kastner, H. Jannasch, Y. Weinstein, G. Robertson, and A. Aubrey, (2004). Long-term continuous monitoring of fluid chemistry and flux at the Bush Hill gas hydrate field, Gulf of Mexico, using a new flowmeter, the MOSQUITO, American Geophysical Union, Fall Meeting, December 13-17.
- Solomon, E., M. Kastner, H. Jannasch, Y. Weinstein, and G. Robertson, (2005). Insights into the dynamics of *in situ* gas hydrate formation and dissociation at Bush Hill gas hydrate field, Gulf of Mexico, Trondheim, Norway, Proceedings of the Fifth International Conference of Gas Hydrates, Volume 3, p. 947-953.
- Solomon, E. A., Spivack, A. J., Kastner, M., Torres, M., Borole, D. V., Robertson, G., Das, H. C., (2008). Hydrogeochemical and Structural Controls on Heterogeneous Gas Hydrate Distribution in the K-G Basin Offshore SE India. Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008), Vancouver, B. C., July 6-10, (2008).
- Solomon, E. A., Kastner, M., and Leifer, I., (2009). "Ethane and Propane Emissions to the Ocean and Atmosphere from 550-1200 m Seeps in the Gulf of Mexico," *Eos Trans. AGU*, 90(52), OS31A-1182.

- Solomon, E. A., Kastner, M., MacDonald, I. R., Leifer, I., (2009). Considerable methane fluxes to the atmosphere from hydrocarbon seeps in the Gulf of Mexico, *Nature Geoscience*, 2, 561-565.
- Solomon, E. A., Spivack, A., Kastner, M., Torres, M., (2010). Biogeochemical cycling and methane generation in gas hydrate-bearing sediments offshore SE India, Gordon Research Conference on Gas Hydrates, Waterville, ME, USA, June 6-11, (2010).
- Wagner, K. S., McEntee, M. H., Brothers, L. L., German, C. R., Kaiser, C. L., Yoerger, D. R., and Van Dover, C. L., (2013). Cold-seep habitat mapping, High-resolution spatial characterization of the Blake Ridge Diapir seep field. *Deep Sea Research II: Topical Studies in Oceanography*, v. 92, pp. 183-188, August, (2013).
<http://dx.doi.org/10.1016/j.dsr2.2013.02.008>
- Wilson, R. M., Macelloni, L., Simonetti, A., Lapham, L., Lutken, C., Sleeper, K., D'Emidio, M., Pizzi, M., Knapp, J., and Chanton, J., (2014). Subsurface methane sources and migration pathways within a gas hydrate mound system, Gulf of Mexico, *Geochemistry, Geophysics, Geosystems*, v. 15, pp. 89-107, January, (2014).

Presentations

- Brothers, L. L., Hart, P. E., Ruppel, C., (2011). Subsea permafrost mapped across the US Beaufort Sea using multichannel seismic data, AGU Fall Meeting 2011
- Brothers, L. L., Van Dover, C. L., German, C. R., Kaiser, C. L., Yoerger, D. R., Ruppel, C. D., Lobecker, E., Skarke, A. R., Wagner, K. S., (2012). Evidence for extensive methane venting on the southeastern U. S. Atlantic margin., AGU Fall Meeting 2012
- Brothers, L. L., Hart, P. E., and Ruppel, C., (2013). Subsea permafrost on the US Beaufort Sea Margin, Permafrost & Gas Hydrates Workshop, Helsinki Finland, (2013).
- D'Emidio, M, M Ingrassia, CB Lutken, L Macelloni, A Simonetti, M Pizzi, LL Lapham, R Wilson, P Hsing, and C Fisher, (2012). Biogeophysical classification of seafloor seeps at a carbonate-hydrate mound, Northern Gulf of Mexico. Poster. The Gordon Research Conference on Natural Gas Hydrate Systems, Ventura, California. March 18th-23rd
- Pohlman, J. W., Kessler, J. K., Maue, C., Ruppel, C. D., Brothers, L. L., Yvon Lewis, S. A., Sparrow, K., Bergeron, E., Worley, C., (2012). Methane fluxes to the atmosphere in an area of possibly dissociating gas hydrate in the shallow Alaskan Beaufort Sea, *Eos Trans. AGU* 87(36), Ocean Sciences Meet. Supplement, Abstract OS35E 02
- Ruppel, C., Brothers, L. L., Hart, P. E., Worley, C., (2011). The distribution of subsea permafrost and shallow methane on the central U. S. Beaufort Inner Shelf from newly acquired geophysical data, AGU Fall Meeting
- Ruppel, C., Brothers, L., Hart, P., Pohlman, J., (2012). Warming driven dissociation of gas hydrates on the continental shelf and upper continental slope of the US Beaufort Sea, for Arctic Frontiers, Tromso, Jan 2012.
- Wilson, R. M., Lapham, L. L., and Chanton, J. P., (2012). Chemical and physical controls on hydrate stability probed with field and laboratory experiments. Presented at the American Geophysical Union Fall Meeting, Dec. 3-7, San Francisco, CA.

- Wilson, RM, LL Lapham, B Anderson, N Garapati, and J Chanton, (2012). Laboratory experiments probe hydrate dissolution rates. Poster. The Gordon Research Conference on Natural Gas Hydrate Systems, Ventura, California. March 18th-23rd
- Wilson, RM, LL Lapham, CS Martens, JP Chanton, H Mendlovitz, K Sleeper, and M Riedel, (2012). Time-series methane monitoring in gassy sediments and the benthic boundary layer. Ocean Sciences Meeting, Salt Lake City, Utah. February 20th-24th
- Wilson, R. M., Lapham, L. L., and Chanton, J. P., (2013). Integrating seismic data and geochemical profiles to identify methane provenance, cycling, and migration pathways. Presented at American Chemical Society National Meeting, Apr. 8-12, New Orleans, LA.

Section II: Publications Related to the Program's Major Field Projects

With private companies, state and local governments, universities, and research institutions

Alaska North Slope Gas Hydrate Reservoir Characterization (DE-FC26-01NT41332)

BP Exploration Alaska, Inc.

Peer-Reviewed Publications

- Anderson, B., Hancock, S., Wilson, S., Enger, C., Collett, T., Boswell, R., Hunter, R., (2010). "Formation pressure testing at the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Operational summary, history matching, and interpretations," *Marine and Petroleum Geology, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope*, pp. 478-492, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2010.02.012.
- Anderson, B. J., Kurhiara, M., Wilson, S. J., Pooladi-Darvish, M., White, M., Moridis, G., Gaddipati, M., Masuda, Y., Collett, T. S., Hunter, R. B., Narita, H., Rose, K., Boswell, R., (2010). "Regional long-term production modeling from a single well test, Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope*, pp. 493-501, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2010.01.015.
- Boswell, R., Collett, T. S., Hunter, R. B., and Anderson, B. J., Editors, (2010). Scientific Results of 2007 USDOE-BP-USGS "Mount Elbert Gas Hydrate Stratigraphic Test Well, Milne Point, Alaska North Slope," *Journal of Marine and Petroleum Geology Special Thematic Volume*.
- Boswell, R., Rose, K., Collett, T. S., Lee, M. W., Winters, W. F., Lewis, K., and Agena, W. F., (2010). "Geologic controls on gas hydrate occurrence in the Mount Elbert prospect, Alaska North Slope," *Marine and Petroleum Geology, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope*, pp. 589-607, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2009.12.004.
- Collett, T. S., Johnson, A., Knapp, C., and Boswell, R., (2009). "Natural gas hydrates: A review," in T. Collett et al., eds., *Natural Gas Hydrates—Energy Resource Potential and Associated Geologic Hazards*, pp. 89, 146–219.
- Collett, T. S., Lewis, R. E., Winters, W. F., Lee, M. W., Rose, R., and Boswell, R., (2009). "Downhole well log and core montages from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope*, pp. 561-577, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2010.03.016.

- Collett, T. S., Lee, M. W., Agena, W. F., Miller, J. J., Lewis, K. A., Zyrianova, M. V., Boswell, R. M., and Inks, T. L., (2010). "Permafrost-associated natural gas hydrate occurrences on the Alaska North Slope," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope, pp. 279-294, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2009.12.001.
- Colwell, F., Briggs, B., and Schwartz, A., (2010). "Microbial community distribution in sediments from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology*, Volume 28, Issue 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope, pp. 404-410, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2009.12.012.
- Dai, S., Lee, C., and Santamarina, A., (2010). "Formation history and physical properties of sediments from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope, pp. 427-438, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2010.03.005.
- Hunter, R., Collett, T., Boswell, R., Anderson, B., Digert, S., Pospisil, G., Baker, R., and Weeks, M., (2010). "Mount Elbert gas hydrate stratigraphic test well, Alaska North Slope: overview of scientific and technical program." In Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology*, v. 28, no. 2, pp. 295-310.
- Inks, T. L., Lee, M. W., Agena, W. F., Taylor, D. J., Collett, T. S., Hunter, R. B., and Zyrianova, M. V., (2009). "Seismic prospecting for gas hydrate and associated free-gas prospects in the Milne Point area of northern Alaska," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Jaiswal, N., Dandekar, A., Patil, S., Hunter, R., and Collett, T., (2009). "Relative permeability measurements of gas-water-hydrate systems," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Kneafsey, T. J., Lu, H., Winters, W. J., Boswell, R. M., Hunter, R. B., Collett, T. S., (2011). "Analysis of core samples from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Implications into core disturbance and handling," *Marine and Petroleum Geology*, 28, 381-393, doi: 10.1016/j.marpetgeo.2009.10.009
- Kurihara, M., Sato, A., Funatsu, K., Ouchi, H., Masuda, Y., Narita, H., Collett, T., (2011). "Analysis of formation pressure test results in the Mount Elbert methane hydrate reservoir through numerical simulation," in Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology*, v. 28, no. 2, pp. 502-516.
- Lee, M. W., Collett, T. S., and Inks, T. L., (2009). "Seismic attribute analysis for gas-hydrate and free-gas prospects on the North Slope of Alaska," in Collett, T., Johnson, A., Knapp, C., Boswell, R., eds, *Natural Gas Hydrates -- Energy Resource Potential and Associated Geologic Hazards: American Association of Petroleum Geologists Memoir 89*, pp. 541-554.

- Lee, M. W. and Collett, T. S., (2011). "In Situ gas hydrate hydrate saturation estimated from various well logs at the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope, pp. 439-449.
- Lee, M. W., Agena, W. F., Collett, T. S., and Inks, T. L., (2011). "Pre- and post-drill comparison of the Mount Elbert gas hydrate prospect, Alaska North Slope," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope, pp. 578-588.
- Lorenson, T. D., Collett, T. S., and Whiticar, M. J., (2009). "Hydrocarbon gas composition and origin of gas hydrate from the Alaska North Slope, USA," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*, 584-597.9.
- Lorenson, T. D., Collett, T. S., and Hunter, R. B., (2011). "Gas geochemistry of the Mount Elbert Gas Hydrate Test Well, Milne Pt. Alaska: Implications for gas hydrate exploration in the Arctic," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope, pp. 343-360.
- Lu, H., Lorenson, T. D., Moudrakovski, I. L., Ripmeester, J. A., Collett, T. S., Hunter, R. B., and Ratcliffe, C. I., (2011). "The characteristics of gas hydrates recovered from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope, pp. 411-418.
- Moridis, G.J., Silpngarmlet, S, Reagan, M. T., Collett, T. S., and Zhang, K., (2011). "Gas production from a cold, stratigraphically-bounded gas hydrate deposit at the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Implications of uncertainties," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope, pp. 517-534.
- Pooladi-Darvish, M. and Hong, H., (2010). "Use of formation pressure test results over a hydrate interval for long-term production forecasting at the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Implications of uncertainties," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope, pp. 535-545, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2010.01.006.
- Rose, K., Boswell, R., and Collett, T. S., (2011). "Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Coring operations, core sedimentology, and lithostratigraphy," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope, pp. 311-331.
- Rutqvist, J., Moridis, G. J., Grover, T., and Collett, T. S., (2009.) "Geomechanical responses of permafrost-associated hydrate deposits to depressurization-induced gas production," *Journal of Petroleum Science and Engineering*, v. 67, pp. 1-12.

- Stern, L. A., Lorenson, T. D., and Pinkston, J. C., (2011). "Gas hydrate characterization and grain-scale imaging of recovered cores from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope*, pp. 394-403.
- Sun, Y., Goldberg, D., Collett, T. S., and Hunter, R. B., (2011). "High-resolution well-log derived dielectric properties of gas-hydrate-bearing sediments, Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope*, pp. 450-459.
- Torres, M. E., Collett, T. S., Rose, K., Sample, J. C., Agena, W., Rosenbaum, E., (2011). "Pore fluid geochemistry from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope*, pp. 332-342.
- White, M., Wurstner, S., and McGrail, P., (2010). "Numerical studies of methane production from Class 1 gas hydrate accumulations enhanced with carbon dioxide injection," *Marine and Petroleum Geology, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope*, pp. 546-560, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2009.06.008.
- Wilson, S. J., Hunter, R. B., Collett, T. S., Hancock, S., Boswell, R., Anderson, B. J., (2011). "Alaska North Slope regional gas hydrate production modeling forecasts," *Marine and Petroleum Geology, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope*, pp. 460-477.
- Winters, W. J., Walker, M., Kwon, O., Waite, B., Torres, M., Collett, T. S., and Rose, K., (2011). "Physical properties of sediment from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology, Vol. 28, Iss. 2, Thematic Set on Scientific results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope*, pp. 361-380.

Government Reports

- Hunter, R., Patil, S., Casavant, R., and Collett, T., (2003). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *First Quarterly Report and Year-end Technical Report, October 2002-December 2002*. Cooperative Agreement Award Number DE-FC26-01NT41332, June 2.
- Hunter, R., Patil, S., Casavant, R., and Collett, T., (2003). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Second Quarterly Report, January 2003-March 2003*. Cooperative Agreement Award Number DE-FC26-01NT41332, November 3.

- Hunter, R., Patil, S., Casavant, R., and Collett, T., (2003). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Third Quarterly Report, April 2003-June 2003*. Cooperative Agreement Award Number DE-FC26-01NT41332, August 7.
- Hunter, R., Patil, S., Casavant, R., and Collett, T., (2003). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Fourth Quarterly Report, July 2003-September 2003*. Cooperative Agreement Award Number DE-FC26-01NT41332, November 18.
- Hunter, R., Patil, S., Casavant, R., and Collett, T., (2004). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Fifth Quarterly Report, October 2003-December 2003*. Cooperative Agreement Award Number DE-FC26-01NT41332, March 3.
- Hunter, R., Patil, S., Casavant, R., and Collett, T., (2004). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Sixth Quarterly Report, January 2004-March 2004*. Cooperative Agreement Award Number DE-FC26-01NT41332, May 20.
- Hunter, R., Patil, S., Casavant, R., and Collett, T., (2004). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Seventh Quarterly Report, April 2004-June 2004*. Cooperative Agreement Award Number DE-FC26-01NT41332, September 28.
- Hunter, R., Patil, S., Casavant, R., and Collett, T., (2005). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Eighth and Ninth Quarterly Report*, Cooperative Agreement Award Number DE-FC26-01NT41332, July 25.
- Hunter, R., Patil, S., Casavant, R., and Collett, T., (2005). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay – Kuparuk River Area on the North Slope of Alaska, Drilling and Data Acquisition Planning," *U. S. DOE-NETL Topical Report*.
- Hunter, R., Patil, S., Casavant, R., and Collett, T., (2006). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Fifteenth Technical Quarterly Report*, Cooperative Agreement Award Number DE-FC26-01NT41332.
- Hunter, R., Patil, S., Casavant, R., and Collett, T., (2006). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Sixteenth Technical Quarterly Report*, Cooperative Agreement Award Number DE-FC26-01NT41332, November 6.

- Hunter, R. and Collett, T., (2006). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Seventeenth Technical Quarterly Report*, Cooperative Agreement Award Number DE-FC26-01NT41332, November 6.
- Hunter, R. and Collett, T., (2007). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Eighteenth Technical Quarterly Report*, Cooperative Agreement Award Number DE-FC26-01NT41332, January 27.
- Hunter, R. and Collett, T., (2007). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Nineteenth Technical Quarterly Report*, Cooperative Agreement Award Number DE-FC26-01NT41332, June 27.
- Hunter, R. and Collett, T., (2007). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Twentieth Technical Quarterly Report*, Cooperative Agreement Award Number DE-FC26-01NT41332, December 12.
- Hunter, R. and Collett, T., (2008). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Twenty-First and Twenty-Second Technical Semi-Annual Report*, Cooperative Agreement Award Number DE-FC26-01NT41332, June 18.
- Hunter, R. and Collett, T., (2008). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Twenty-Third and Twenty-Fourth Technical Semi-Annual Report*, Cooperative Agreement Award Number DE-FC26-01NT41332, December 31.
- Hunter, R. and Collett, T., (2009). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Twenty-Fifth and Twenty-Sixth Technical Semi-Annual Report*, Cooperative Agreement Award Number DE-FC26-01NT41332, May 6.
- Hunter, R. and Collett, T., (2009). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *Twenty-Seventh and Twenty-Eighth Technical Semi-Annual Report*, Cooperative Agreement Award Number DE-FC26-01NT41332. November 30.
- Hunter, R. and Lewis, S., (2011). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay - Kuparuk River Area on the North Slope of Alaska," *33rd and 34th Quarterly Report, 4Q2010—1Q2011 Semi-Annual Progress Report*. BP Exploration (Alaska), DOE Award Number DE-FC26-01NT41332. May 26, 2011.

- Hunter, R. and Digert, S., (2012). "Resource Characterization and Quantification of Natural Gas Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay – Kuparuk River Area on the North Slope of Alaska," *39th and 40th Quarterly Reports, 2Q2012 – 3Q2012 Semi-Annual Progress Report*. BP Exploration (Alaska), DOE Award No.: DE-FC26-01NT41332. November 21, 2012.
- Hunter, R. and Digert, S., (2013). "Resource Characterization and Quantification of Natural Gas Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay – Kuparuk River Area on the North Slope of Alaska," *41st and 42nd Quarterly Reports, 4Q2012 – 1Q2013 Semi-Annual Progress Report*. BP Exploration (Alaska), DOE Award No.: DE-FC26-01NT41332. April 30, 2013.
- Hunter, R. and Digert, S., (2013). "Resource Characterization and Quantification of Natural Gas Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay – Kuparuk River Area on the North Slope of Alaska," *43rd and 44th Quarterly Report, 3Q2013 – 4Q2013 Semi-Annual Progress Report*. BP Exploration (Alaska), DOE Award No.: DE-FC26-01NT41332. October 31, 2013.
- Lee, M., (2005). "Well Log Analysis to Assist the Interpretation of 3-D Seismic Data at Milne Point, North Slope of Alaska," *U. S. Geological Survey Scientific Investigations Report, 2005-5048*, available online.
- Lee, M. W., Collett, T. S., and Agena, W. F., (2008). Assessing gas hydrate prospects on North Slope of Alaska-Theoretical considerations: U. S. Geological Survey Investigations Report 2008-5175, 28 p.
- Lewis, S., (2010). "Resource Characterization and Quantification of Natural Gas Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay – Kuparuk River Area on the North Slope of Alaska," *Semi-Annual Progress Report, October 1 – March 31, 2010*. BP Exploration (Alaska), DOE Award No.: DE- DE-FC26-01NT41332. April 30, 2010.
- Lewis, S., (2010). "Resource Characterization and Quantification of Natural Gas Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay – Kuparuk River Area on the North Slope of Alaska," *Semi-Annual Progress Report, April 1 – September 1, 2010*. BP Exploration (Alaska), DOE Award No.: DE- DE-FC26-01NT41332. November 4, 2010.
- Lewis, S., (2011). "Resource Characterization and Quantification of Natural Gas Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay – Kuparuk River Area on the North Slope of Alaska," *Semi-Annual Progress Report, April 1 – September 30, 2011*. BP Exploration (Alaska), DOE Award No.: DE- DE-FC26-01NT41332. October 31, 2011.
- Lewis, K. A., and Collett, T. S., (2013). Brookian sequence well log correlation sections and occurrence of gas hydrates, north-central North Slope, Alaska: U. S. Geological Survey Scientific Investigations Report 2013–5050, 23 p., <http://pubs.usgs.gov/sir/2013/5050/>.
- U. S. Geological Survey Alaska Gas Hydrate Assessment Team, (2013). National Assessment of Oil and Gas Project—Geologic assessment of undiscovered gas hydrate resources on the North Slope, Alaska: U. S. Geological Survey Digital Data Series 69–CC, 100 p., <http://pubs.er.usgs.gov/publication/dds/69/cc/>

Theses/Dissertations

- Casavant, R., (2001). "Morphotectonic Investigation of the Arctic Alaska Terrane: Implications to Basement Architecture, Basin Evolution, Neotectonics and Natural Resource Management," Ph. D. Thesis, University of Arizona.
- Geauner, S., (2006). "Fault analysis, seismic facies modeling and volumetric reassessment of gas hydrates in the Milne Point Unit, North Slope, Alaska," M. S. Thesis, University of Arizona.
- Hagbo, C., (2003). "Characterization of Gas Hydrate Occurrences Using 3-D Seismic Data and Seismic Attributes, Milne Point, North Slope, Alaska," M. S. Thesis, University of Arizona.
- Hennes, A., (2004). "Structural Constraints on Gas-hydrate Formation and Distribution in the Milne Point, North Slope of Alaska," M. S. Thesis, University of Arizona.
- Howe, S., (2004). "Production modeling and economic evaluation of a potential gas hydrate pilot production program on the North Slope of Alaska," M. S. Thesis, University of Alaska Fairbanks.
- Jaiswal, N., (2004). "Measurement of gas-water relative permeabilities in hydrate systems," M. S. Thesis, University of Alaska at Fairbanks.
- Manuel, J., (2006). "A chronostratigraphic framework of the Sagavanirktok Formation, North Slope Alaska: Incorporating facies characterization, reservoir continuity and dimensions in relation to gas hydrate and associated free-gas resources," M. S. Thesis, University of Arizona.
- Westervelt, J., (2004). "Determination of methane hydrate stability zones in the Prudhoe Bay, Kuparuk River, and Milne Point units on the North Slope of Alaska," M. S. Thesis, University of Alaska at Fairbanks.
- Zhoa, B., (2003). "Classifying Seismic Attributes in the Milne Point Unit, North Slope of Alaska," M. S. Thesis, University of Arizona.

Other Publications

- Boswell, R., Collett, T., Anderson, B., and Ruppel, C., (2010). Relative gas volumes for free gas and gas hydrate accumulations, in: DOE NETL newsletter, Fire in the Ice , Summer 2010 edition, pp. 9-11.
- Collett, T. S., (2008). "Geologic Controls on the Occurrence of Permafrost-Associated Natural Gas Hydrates: Proceedings of the 9th International Conference on Permafrost, June 29 – July 3, 2008, Fairbanks, Alaska," Published by the University of Alaska, USA, 6 p. (on CD-ROM).
- Collett, T. S., (2008). "Geologic and engineering controls on the production of permafrost-associated gas hydrate accumulations: Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)," Vancouver, B. C., July 6-10, 2008, 12p.
- Collett, T. S., (2009). "Gas hydrate petroleum systems in marine and Arctic permafrost environments: Proceedings of the 29th Annual Gulf Coast Section Foundation, Bob F. Perkins Research Conference," Houston, TX, December 6-8, 2009, 12 p. (on CD-ROM).

- Collett, T. S., (2009). "Gas hydrate petroleum systems in marine and Arctic permafrost environments: Proceedings of the 29th Annual Gulf Coast Section Foundation, Bob F. Perkins Research Conference," December 6-8, 2009, Houston, TX, 12 p. (on CD-ROM).
- Collett, T. S., and Lee, M. W., (2011). "Well log characterization of natural gas hydrates, Proceedings of the Society of Petrophysicists and Well Log Analysts (SPWLA) 52nd Annual Logging Symposium," Colorado Springs, Colorado, May 14-18, 2011, 16 p.
- Collett, T., and Lee, M., (2011). "Downhole well log characterization of gas hydrates in nature – a review: Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)," July 17-21, 2011, Edinburgh, Scotland, United Kingdom, 16 p.
- Collett, T. S., Boswell, R. M., Lee, M. W., Anderson, B. J., Rose, K., and Lewis, K., (2011). "Evaluation of Long-Term Gas Hydrate Production Testing Locations on the Alaska North Slope, OTC 22149, Proceedings 2011 Arctic Technology Conference," Houston, TX, February 7-9, 2011, 29 p.
- Lorenson, T. D., Collett, T. S., Wong, F. L., (2011). A Petroleum system model for gas hydrate deposits in northern Alaska. *In* Proceeding of the 7th International Conference on Gas Hydrates (ICGH 2011), Edinburgh Scotland, United Kingdom, July 17-21, 2011, 18 p.
- Mt. Elbert Science Party, (2007). "Alaska North Slope Well Successfully Cores. Logs, and Tests Gas-Hydrate-Bearing Reservoirs," *U. S. DOE-NETL Fire in the Ice Newsletter*, Winter, pp. 1-4.
- Ruppel, C., Collett, T., Boswell, R., Lorenson, T., Buckzowski, B., and Waite, W., (2011). A new global gas hydrate drilling map based on reservoir type, *U. S. DOE-NETL Fire in the Ice Newsletter*, 11, 1, 15-19.

Presentations

- Boswell, R., (2006). "Status of U. S. DOE/BP Gas Hydrate Resource Characterization, Milne Point, Alaska North Slope," *ECI Science and Technology Issues in Methane Hydrate R&D*, March 5-9.
- Boswell, R., Collett, T., Hunter, R., Hancock S., and the Mount Elbert Science Party, (2007). "Gas hydrate investigations at the 2007 Mount Elbert test site, Milne Point area, Alaska North Slope," *Eos Trans. AGU*, 88(52), Fall Meet. Suppl., OS21A-02.
- Boswell, R., Hunter, R., Collett, T. S., Digert, S., Hancock, S., Weeks, M., and the Mt. Elbert Science Team, (2008). "Investigation of Gas Hydrate-Bearing Sandstone Reservoirs at The "Mount Elbert" Stratigraphic Test Well, Milne Point, Alaska," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, B. C., July 6-10, 2008.
- Casavant, R., (2002). "Tectonic geomorphic characterization of a transcurrent fault zone, Western Brooks Range, Alaska," Anchorage, AK, *SPE-AAPG Western Region-Pacific Section Joint Technical Conference Proceedings*, May 18-23.
- Casavant, R., (2004). "Reservoir-Fluid Characterization and Reservoir Modeling of Potential Gas Hydrate Resources, Alaska North Slope," *Canadian Society of Petroleum Geologists Technical Conference*, Calgary, AB, June 1.

- Casavant, R., Hennes, A., Johnson, R., and Collett, T., (2004). "Structural analysis of a proposed pull-apart basin: Implications for gas hydrate and associated free-gas emplacement, Milne Point Unit, Arctic Alaska," *American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Collett, T. S., Agena, W. F., Lee, M. W., Zyrianova, M. V., Bird, K. J., Charpentier, R. R., Cook, T., Houseknecht, D. W., Klett, T. R., Pollastro, R. M., and Schenk, C. J., (2008). Assessment of gas hydrate resources on the North Slope, Alaska, 2008: Series of Power Point Presentations prepared for Department of Interior and Congressional briefings presented in Washington DC, November 17-21, 2008, (hard copy and on CD-ROM).
- Collett, T. S., Agena, W. F., Lee, M. W., Zyrianova, M. V., Bird, K. J., Charpentier, R. R., Cook, T., Houseknecht, D. W., Klett, T. R., Pollastro, R. M., and Schenk, C. J., (2008). Assessment of gas hydrate resources on the North Slope, Alaska: Fall Meeting of the American Geophysical Union, December 15-19, 2008, San Francisco, California, Proceedings, Abstract OS43F-08.
- Collett, T. S., et al., (2008). U. S. Geological Survey gas hydrate energy resource studies: Proceedings of the NRC Committee reviewing the activities authorized under the Methane Hydrate research Development Act (renewal) of 2005, 38 p. (presentation only)
- Digert, S., (2005). "Perspective on ANS methane gas hydrate," *Alaska Division of Natural Resources Alaska Gas Workshop*, Anchorage, AK, August 17-18.
- Gandler, G., Casavant, R., Johnson, R., Glass, K., and Collett, T., (2004). "Preliminary Spatial Analysis of Faulting and Gas Hydrates-Free Gas Occurrence, Milne Point Unit, Arctic Alaska," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Geauner, S., Manuel, J., and Casavant, R., (2003). "Preliminary subsurface characterization and modeling of gas hydrate resources, North Slope, Alaska," *American Association of Petroleum Geologists-Society of Exploration Geophysicists Student Expo*, Houston, TX, October 5-6.
- Geauner, S., Manuel, J., Casavant, R., Glass, C., and Mallon, K., (2004). "Well Log Normalization and Comparative Volumetric Analysis of Gas Hydrate and Free-Gas Resources, Central North Slope, Alaska," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, B. C., September 12-16.
- Hagbo, C., and Johnson, R., (2003). "Use of seismic attributes in identifying and interpreting onshore gas-hydrate occurrences, North Slope, Alaska," *Eos Trans. AGU*, 84(46), Fall Meet. Suppl., OS42B-06.
- Hennes, M., Johnson, R., and Casavant, R., (2004). "Seismic Characterization of a Shallow Gas-Hydrate-Bearing Reservoir on the North Slope of Alaska," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Howe, S., Nanchary, N., Patil, S., Ogbe, S., Chukwu, G., Hunter, R., and Wilson, S., (2004). "Economic Analysis and Feasibility Study of Gas Production from Alaska North Slope Gas Hydrate Resources," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.

- Hunter, R., (2002). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay – Kuparuk River Area on the North Slope of Alaska," *Society of Petroleum Engineers –The American Association of Petroleum Geologists Western Region – Pacific Section Conference*, May 18-23.
- Hunter, R., (2003). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations Prudhoe Bay – Kuparuk River Area, North Slope of Alaska," *The American Association of Petroleum Geologists Annual Convention and Exhibition*, May 11-14.
- Hunter, R., (2003). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay – Kuparuk River Area on the North Slope of Alaska," *Geophysical Society of Alaska Lecture Series*, May.
- Hunter, R., (2005). "Evaluation and modeling of Alaska North Slope gas hydrate resource potential," *Alaska Gas Workshop*, Anchorage, AK, Alaska Division of Natural Resources, August 17-18.
- Hunter, R., (2006). "BP-DOE Alaska Gas Hydrate Update," *Hart Energy Publishing Methane Hydrates Conference*, Houston, TX, December 5-6.
- Hunter, R., Digert, S., Casavant, R., Johnson, R., Poulton, M., Glass, C., Mallon, K., Patil, S., Dandekar, A., and Collett, T., (2003). "Resource Characterization and Quantification of Natural Gas-Hydrate and Associated Free-Gas Accumulations in the Prudhoe Bay – Kuparuk River Area, North Slope of Alaska," *The American Association of Petroleum Geologists Annual Convention and Exhibition*, Salt Lake City, UT, May 11-14.
- Hunter, R., and Collett, T., (2004). "Gas hydrate prospect development and production modeling, Alaska North Slope," *Geophysical Society of Alaska Lecture Series*, December.
- Hunter, R., Casavant, R., Johnson, R., Poulton, M., Moridis, G., Wilson, S., Geauner, S., Manuel, J., Hagbo, C., Glass, C., Mallon, K., Patil, S., Dandekar, A., and Collett, T., (2004). "Reservoir-Fluid Characterization and Reservoir Modeling of Potential Gas Hydrate Resources, Alaska North Slope," *The American Association of Petroleum Geologists Annual Convention and Exhibition*, Dallas, TX, April 16-21.
- Hunter, R., Collett, T., Patil, S., Casavant, R., and Mroz, T., (2004). "Characterization, Appraisal and Economic Viability of Alaska North Slope Gas Hydrate Accumulations," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Hunter, R., Collett, T., Wilson, S., Inks, T., Casavant, R., Johnson, R., Poulton, M., Mallon, K., Patil, S., and Dandekar, A., (2005). "Gas Hydrate Prospect Development and Production Modeling, Alaska North Slope," *The American Association of Petroleum Geologists Annual Convention and Exhibition*, Calgary, AB, June 19-22.
- Hunter, R., Wilson, S. J., Digert, S. A., (2006). "Gas Hydrate Resource and Regional Development Potential, Alaska North Slope," *The American Association of Petroleum Geologists Pacific Section – Joint Meeting with Cordilleran Section, GSA, and West Region, SPE*, Anchorage, AK, May 8-10.

- Hunter, R., Digert, S. A., Wilson, S., Collett, T., Boswell, R., (2007). "Gas Hydrate Resource Potential, Alaska North Slope, The American Association of Petroleum Geologists Annual Convention and Exhibition, Long Beach, CA, April 3.
- Hunter, R., Digert, S., Boswell, R., (2007). "Alaska Gas Hydrate Research and Stratigraphic Test Preliminary Results," *Arctic Energy Summit*, Anchorage, AK, October 15-18, available online.
- Hunter, R. B., and Osadetz, K., (2007). "Alaska Gas Hydrate Research Results and Future Opportunities," *9th Annual Far North Oil & Gas Forum*, Calgary, AB, November 27.
- Hunter, R., Digert, S., Collett, T., Boswell, R., (2008). "Gas Hydrate Research and Stratigraphic Test Results, Milne Point Unit, Alaska North Slope," *American Association of Petroleum Geologists Annual Convention and Exhibition*, San Antonio, TX.
- Hunter, R., Digert, S., Collett, T. S., Boswell, R., (2010). "Mount Elbert Gas Hydrate Stratigraphic Test Well Results and Implications, Milne Point Unit, Alaska North Slope," *The American Association of Petroleum Geologists Annual Convention and Exhibition*, New Orleans, Louisiana, April 13, 2010.
- Inks, T., Collett, T., Taylor, D., Agena, W., and Lee, M., (2004). "Prospecting for Gas Hydrate Accumulations using 2D and 3D seismic data, Milne Point, North Slope, Alaska," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Inks, T., Collett, T., Taylor, D., Agena, W., Lee, M., and Hunter, R., (2006). "Prospecting for Gas Hydrate Accumulations using 2-D and 3-D seismic data, Milne Point, North Slope, Alaska," *The American Association of Petroleum Geologists Annual Convention and Exhibition*, Houston, TX, April 9-12.
- Jaiswal, N., (2003). "Measurement of Relative Permeability for Gas Hydrate Production," *Fifth Arctic Science Conference*, American Association for the Advancement of Science, Arctic Division, Fairbanks, AK, September 22-24.
- Jaiswal, N., Westervelt, J., Patil, S., Dandekar, A., Nanchary, N., Tsunemori, P., and Hunter, R., (2004). "Phase Behavior and Relative Permeability of Gas-Water-Hydrate System," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Jaiswal, N. J., Kerkar, P. B., Patil, S. L., Dandekar, A. Y., Chukwu, G. A., Hunter, R. B., Collett, T. S. and Khataniar, S., (2007). "Core Flooding Studies in Support of Potential Natural Gas Production from Hydrate Accumulations on Alaska North Slope," *7th International Oil & Gas Conference and Exhibition, Petrotech 2007*, New Delhi, India, January 15-19.
- Kneafsey, T. J., Lu, H., Winters, W. J., and Hunter, R. B., (2009). "Effects of core retrieval, handling, and preservation on hydrate bearing-samples," *Eos Trans. AGU* 90(52), Fall Meet. Suppl., OS31A-1191.
- Kurihara, M., Masuda, Y., Yamamoto, K., Narita, H., Dallimore, S., Collett, T. S., Hancock, S. H., (2008). "Analyses Of Production Tests And Mdt Tests Conducted In Malli And Alaska Methane Hydrate Reservoirs: What Can We Learn From These Well Tests?," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10, (2008).

- Lorenson, Thomas D., Collett, Timothy S., Hunter, Robert B., (2008). "Preliminary Assessment Of Hydrocarbon Gas Sources From The Mt. Elbert No. 1 Gas Hydrate Test Well, Milne Pt. Alaska," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10, (2008).
- Mitchell, K., Casavant, R., and Manuel, J., (2003). "Regional characterization of the Cretaceous Nanushuk Group: Preliminary assessment for coal-bed methane potential in Arctic Alaska," *The American Association of Petroleum Geologists-Society of Exploration Geophysicists Student Expo*, Houston, TX, October 5-6.
- Nanchary, N., Patil, S., Dandekar, A., and Hunter, R., (2004). "Numerical Modeling of Gas Dissociation from Gas Hydrate in Porous Media," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Patil, S. L., and Dandekar, A. Y., (2007.) "Natural Gas Hydrates: Energy Resource Potential and Review of Production Techniques," *International Symposium on Application of Computers and Operations Research in the Mineral Industry—APCOM*, April 24-27, 2007, Santiago, Chile.
- Poulton, M., Casavant, R., Glass, C., and Zhao, B., (2004). "Model Testing of Methane Hydrate Formation on the North Slope of Alaska With Artificial Neural Networks," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Taylor, D., Collett, T., and Lee, M., (2003). "Imaging gas-hydrate-bearing zones using 3-D seismic data, Milne Point, North Slope, Alaska," *Proceedings of the Ninth Annual RMAG-DGS 3D Seismic Symposium*, Denver, CO, February 28.
- Tsunemori, P., (2003). "Determination of Gas Hydrate Stability Zones in Prudhoe Bay, Kuparuk River, and Milne Point Units for Production of Natural Gas from Gas Hydrates," *Fifth Arctic Science Conference*, American Association for the Advancement of Science, Arctic Division, September 22-24.
- Winters, W. J., Walker, M., Collett, T. S., Bryant, S. L., Novosel, I, Wilcox-Cline, R., Bing, J., and Gomes, M. L., (2009). "Comparison of Physical Properties of Marine and Arctic Gas-Hydrate-Bearing-Deposits," *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., OS31A-1178.

Chevron, ConocoPhillips, Halliburton Energy Services, Japan National Oil Co., Reliance Industries, Schlumberger Oilfield Services, Total, Georgia Institute of Technology, Minerals Management Service, Naval Research Lab, Scripps Institute of Oceanography, United States Geological Survey

Peer-Reviewed Publications

- Boswell, R, Shelander, D., Lee, M. W., Latham, T., Collett, T. S., Guerin, G., Moridis, G., Reagan, M., and Goldberg, D., (2009). "Occurrence of gas hydrate in Oligocene Frio sand: Alaminos Canyon Block 818: Northern Gulf of Mexico," *Journal of Marine and Petroleum Geology*, v. 26, pp. 1499-1512.
- Boswell, R., Collett, T., Frye, M., Shedd, W., McConnell, D., Shelander, D., (2012). "Subsurface gas hydrates in the northern Gulf of Mexico," *J. Marine Pet. Geol.*, v. 34, no. 1, pp. 4-30. [10.1016/j.marpetgeo.2011.10.003](https://doi.org/10.1016/j.marpetgeo.2011.10.003).
- Boswell, R., Frye, M., Shelander, D., Shedd, W., McConnell, D., and Cook, A., (2012). "Architecture of gas-hydrate-bearing sands from Walker Ridge 313, Green Canyon 955, and Alaminos Canyon 21: Northern deepwater Gulf of Mexico," *J. Marine Pet. Geol.*, v. 34, no.1, pp. 134-149.
- Boswell, R., Shipp, C., Reichel, T., Saeki, T., Frye, M., Shedd, W., Collett, T., and McConnell, D., (2015). Prospecting for marine gas hydrate resources, *Interpretation*, v. 4, i. 1, pp. 25-37.
- Coffin, R., Hamdan, L., Plummer, R., Smith, J., Gardner, J., Hagen, R., Wood, W., (2008). "Analysis of methane and sulfate flux in methane-charged sediments from the Mississippi Canyon, Gulf of Mexico," *Marine and Petroleum Geology*, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008, pp. 977-987, ISSN 0264-8172, DOI: [10.1016/j.marpetgeo.2008.01.014](https://doi.org/10.1016/j.marpetgeo.2008.01.014).
- Collett, T. S., Agena, W. F., Lee, M. W., Zyrianova, M. V., Bird, K. J., Charpentier, R. R., Cook, T., Houseknecht, D. W., Klett, T. R., Pollastro, R. M., and Schenk, C. J., (2008). "Assessment of gas hydrate resources on the North Slope, Alaska, 2008: U. S. Geological Survey Fact Sheet 2008-3073," 4 p.
- Collett, T., Lee, M., Zyrianova, M., Mrozewski, S., Guerin, G., Cook, A., Goldberg, D., (2012). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II logging-while-drilling data acquisition and analysis," *J. Marine Pet. Geol.*, v. 34, no. 1, pp. 41-61. [10.1016/j.marpetgeo.2011.08.003](https://doi.org/10.1016/j.marpetgeo.2011.08.003)
- Cook, A., Goldberg, D., Kleinberg, R. L., (2008). "Fracture-controlled gas hydrate systems in the northern Gulf of Mexico," *Marine and Petroleum Geology*, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008, pp. 932-941, ISSN 0264-8172, DOI: [10.1016/j.marpetgeo.2008.01.013](https://doi.org/10.1016/j.marpetgeo.2008.01.013).

- Cook, A., Anderson, B., Rasmus, J., Sun, K., Li, Q., Collett, T., Goldberg, D., (2012). "Electrical anisotropy of gas hydrate-bearing sand reservoirs in the Gulf of Mexico." *J. Marine Pet. Geol.*, v. 34, no. 1, pp. 72-84. [10.1016/j.marpetgeo.2011.09.003](https://doi.org/10.1016/j.marpetgeo.2011.09.003).
- Cook, A. E., and Malinverno, A., (2013). "Short migration of methane into a gas hydrate-bearing sand layer at Walker Ridge, Gulf of Mexico," *Geochemistry, Geophysics, Geosystems*, Vol.14 (2), pp. 283-291. doi: 10.1002/ggge.20040.
- Cooper, A., and Hart, P., (2003). "High-resolution seismic-reflection investigation of the northern Gulf of Mexico gas-hydrate-stability zone," *Marine and Petroleum Geology*, Volume 19, pp. 1275-1293.
- Cortes, D. D., Martin, A. I., Yun, T. S., Francisca, F. M., Santamarina, J. C., and Ruppel, C., (2009.) "Thermal conductivity of hydrate-bearing sediments," *J. Geophys. Res.*, 114,, B11103, doi:10.1029/2008JB006235.
- Dai, J., H. Xu, Snyder, F., and N. Dutta, (2004). "Detection and estimation of gas hydrates using rock physics and seismic inversion: Examples from the northern deepwater Gulf of Mexico," in Taylor, C., and J. Kwan, eds., *Advances in the study of gas hydrates*, Kluwer Academic/Plenum Publishers, p.117-139.
- Dai J., Xu, H., Snyder, F., and Dutta, N., (2004). "Detection and estimation of gas hydrates using rock physics and seismic inversion: Examples from the northern deepwater Gulf of Mexico," *Leading Edge*, January.
- Dai, J., Snyder, F., Gillespie, D., Koesoemadinata, A., Dutta, N., (2008). "Exploration for gas hydrates in the deepwater, northern Gulf of Mexico: Part I. A seismic approach based on geologic model, inversion, and rock physics principles," *Marine and Petroleum Geology*, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008, pp. 830-844, ISSN 0264-8172, DOI: 10.1016/j.marpetgeo.2008.02.006.
- Dai, J., Banik, N., Gillespie, D., Dutta, N., (2008). "Exploration for gas hydrates in the deepwater, northern Gulf of Mexico: Part II. Model validation by drilling," *Marine and Petroleum Geology*, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008, pp. 845-859, ISSN 0264-8172, DOI: 10.1016/j.marpetgeo.2008.02.005.
- Dai, S., Lee, C. H. and Santamarina, J. C., (2011). "Mount Elbert Sediments (With and Without Hydrates): Characteristics, Mechanical Properties and Geophysical Parameters," *Marine and Petroleum Geology*, vol. 28, pp. 427-438.
- Dai, S., Santamarina, J. C., Waite, W. and Kneafsey, T., (2012). "Hydrate Morphology: Patchy Hydrate Saturation in Sands," *Journal of Geophysical Research - Solid Earth*, vol. 117, B11205, 12 pages.
- Ellis, M., R. L. Evans, Hutchinson, D., Hart, P., Gardner, J., R. Hagen, (2008). "Electromagnetic surveying of seafloor mounds in the northern Gulf of Mexico," *Marine and Petroleum Geology*, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008, pp. 960-968, ISSN 0264-8172, DOI: 0.1016/j.marpetgeo.2007.12.006.

- Francisca, F., Yun, T., Ruppel, C., and J. Santamarina, (2005). "Geophysical and geotechnical properties of near-seafloor sediments in the northern Gulf of Mexico gas hydrate province," *Earth and Planetary Science Letters*, Volume 237, Issues 3-4, pp. 924-939, ISSN 0012-821X, DOI: 10.1016/j.epsl.2005.06.050.
- Hart, P., Hutchinson, D., Gardner, J., R. Carney, and D. Fornari, (2008). "A photographic and acoustic transect across two deep-water seafloor mounds, Mississippi Canyon, northern Gulf of Mexico," *Marine and Petroleum Geology*, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008, pp. 969-976, ISSN 0264-8172, DOI: 10.1016/j.marpetgeo.2008.01.020.
- Hutchinson, D. R., P. E. Hart, T. S. Collett, K. M. Edwards, D. C. Twichell, and F. Snyder, (2008). "Geologic framework of the 2005 Keathley Canyon gas hydrate research well, northern Gulf of Mexico," *Marine and Petroleum Geology*, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008, pp. 906-918, ISSN 0264-8172, DOI: 10.1016/j.marpetgeo.2008.01.012.
- Hutchinson, D. R., Shelander, D., Dai, J., McConnell, D., Shedd, W., Frye, M, Ruppel, C., Boswell, R., Jones, E., Collett, T., Rose, K., Dugan, B., Wood, W., and Latham, T., (2008). "Site Selection for DOE/JIP Gas Hydrate Drilling in the Northern Gulf of Mexico," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, B. C., July 6-10, 2008.
- Hutchinson, D., P. E. Hart, C. D. Ruppel, Snyder, F., and B. Dugan, (2009). "Seismic and thermal characterization of a bottom simulating reflector in the Northern Gulf of Mexico," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Hutchinson, D., Ruppel, C., H. Roberts, R. Carney, and M. Smith, (2011). "Gas hydrates in the Gulf of Mexico," in N. A. Buster and C. W. Holmes, eds. *Gulf of Mexico Origin, Waters, and Biota, Volume 3: Geology*, Texas A&M University Press, pp. 247-277.
- Kastner, M., G. Claypool, and G. Robertson, (2008). "Geochemical constraints on the origin of the pore fluids and gas hydrate distribution at Atwater Valley and Keathley Canyon, northern Gulf of Mexico," *Marine and Petroleum Geology*, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008, pp. 860-872, ISSN 0264-8172, DOI: 10.1016/j.marpetgeo.2008.01.022.
- Kwon, T. H., Cho, G. C. and Santamarina J. C., (2007). "Hydrate Dissociation in Sediments: Pressure-Temperature Evolution," *Geochemistry, Geophysics, Geosystems*, vol. 9, No. 2, Q03019, doi:10.1029/2007GC001920.
- Kwon, T., Cho, G. C., Santamarina, J. C., Kim, J., and Lee, J., (2009). "Stability evaluation of hydrate-bearing sediments during thermally-driven hydrate dissociation," *AGU Fall meeting*, Abstract.
- Lee, J. Y., Yun, T. S., Santamarina, J. C. and Ruppel, C., (2007). "Observations Related To Tetrahydrofuran and Methane Hydrate for Laboratory Studies of Hydrate-Bearing Sediments," *Geochemistry, Geophysics, Geosystems*, vol. 8, no. 6.

- Lee, M. and Collett, T., (2008). "Integrated analysis of well logs and seismic data to estimate gas hydrate concentrations at Keathley Canyon, Gulf of Mexico," *Marine and Petroleum Geology, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008*, pp. 924-931, ISSN 0264-8172, DOI: 10.1016/j.marpetgeo.2007.09.002.
- Lee, J. Y., Santamarina, J. C. and Ruppel, C. D., (2008). "Mechanical and Electromagnetic Properties of Gulf of Mexico Sediments With and Without THF Hydrates," *Marine and Petroleum Geology, vol. 25, no. 9*, pp. 884-895.
- Lee, J. Y. and Santamarina, J. C., (2010). "Electrical Resistivity Tomography in Cylindrical Cells—Guidelines for Hardware Pre-Design," *Geotechnical Testing J. vol. 33*, pp. 23-32, doi: 10.1520/GTJ102366
- Lee, J. Y., Francisca F., Santamarina, J. C. and Ruppel, C. D., (2010). "Parametric Study of the Physical Properties of Hydrate-Bearing Sand, Silt, and Clay Sediments. Part II: Small-Strain Mechanical Properties," *J. Geophysical Research – Solid Earth. vol. 115*, B11105, doi:10.1029/2009JB006670,
- Lee, J. Y., Santamarina, J. C., and Ruppel, C. D., (2010). "Parametric Study of the Physical Properties of Hydrate-Bearing Sand, Silt, and Clay Sediments. Part I: Electromagnetic Properties." *J. Geophysical Research – Solid Earth. vol. 115*, B11104, doi:10.1029/2009JB006669.
- Lee, J. Y., Santamarina, J. C. and Ruppel, C. D., (2010). "Volume change associated with formation and dissociation of hydrate in sediment," *Geochemistry, Geophysics, Geosystems, 11*, Q03007, doi:10.1029/2009GC002667
- Lee, C., Yun, T. S., Lee, J. S., Bahk, J. J. and Santamarina, J. C., (2011). "Geotechnical Characterization of Marine Sediments in The Ulleung Basin, East Sea," *Engineering Geology, vol. 117*, pp. 151-158.
- Lee, M. and Collett, T., (2012). "Pore- and fracture-filling gas hydrate reservoirs in the Gulf of Mexico Gas Hydrate Joint Industry Project Leg II Green Canyon 955 H well." *J. Marine Pet. Geol., v. 34, no. 1*, pp. 62-71. doi: [10.1016/j.marpetgeo.2011.08.002](https://doi.org/10.1016/j.marpetgeo.2011.08.002)
- Lee, M., Collett, T., and Lewis, K., (2012). "Anisotropic models to account for large borehole washouts to estimate gas hydrate saturations in the Gulf of Mexico Gas Hydrate Joint Industry Project Leg II Alaminos Canyon 21 B well." *J. Marine Pet. Geol., v. 34, no. 1*, pp. 85-95. doi: [10.1016/j.marpetgeo.2011.06.010](https://doi.org/10.1016/j.marpetgeo.2011.06.010).
- Livescu, S., Durlifsky, L.J., Aziz, K., Ginestra, J.C. (2010). "A fully coupled thermal multiphase wellbore flow model for use in reservoir simulation." *J. Pet. Sci. Eng.* 71: 138-146.
- Lorenson, T., G. Claypool, J. Dougherty, (2008). "Natural gas geochemistry of sediments drilled on the 2005 Gulf of Mexico JIP cruise," *Marine and Petroleum Geology, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008*, pp. 873-883, ISSN 0264-8172, DOI: 10.1016/j.marpetgeo.2008.01.017.

- McConnell, D., Zhang, Z., and Boswell, R., (2012). "Review of progress in evaluating gas hydrate drilling hazards," *J. Mar. Pet. Geol.*, v. 34, pp. 209-224.
- Pasten, C. R., Santamarina, J. C., (2011). "Energy Geo-Storage," *KSCE Journal of Civil Engineering*, vol. 15, no. 4, pp. 655-667.
- Paull, C., Ussler, W., Lorenson, T., Winters, W., and J. Dougherty, (2005). "Geochemical constraints on the distribution of gas hydrates in the Gulf of Mexico," *Geo-marine Letters, Volume 25*, pp. 273-280.
- Pohlman, J., Ruppel, C., D. R. Hutchinson, Downer, R., R. B. Coffin, (2008). "Assessing sulfate reduction and methane cycling in a high salinity pore water system in the northern Gulf of Mexico," *Marine and Petroleum Geology, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008*, pp. 942-951, ISSN 0264-8172, DOI: 10.1016/j.marpetgeo.2008.01.016.
- Ruppel, C., (2007). "Tapping methane hydrates for unconventional natural gas," *Elements*, 3 (3), 193-199.
- Ruppel, C., Boswell, R., E. Jones, (2008). "Scientific results from Gulf of Mexico Gas Hydrates Joint Industry Project Leg 1 drilling: Introduction and overview," *Marine and Petroleum Geology, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008*, pp. 819-829, ISSN 0264-8172, DOI: 10.1016/j.marpetgeo.2008.02.007.
- Ruppel, C., Boswell, R., E. Jones (Editors), (2008). "Special Volume on Scientific Results from 2005 Joint Industry Project Gulf of Mexico Methane Hydrates Drilling," *Marine and Petroleum Geology, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008*.
- Sánchez, M., Shastri, A., and Santamarina, J. C., (2013). "Modeling gas hydrate bearing sediments using a coupled approach." In Eds. B. Caicedo, et al., eds, *Proceedings of the Pan-American Conference on Unsaturated Soils*, Cartagena, Colombia, pp. 545-550.
- Santamarina, J. C., Francisca, F., Yun, T. S., Lee, J. Y., Martin, A. I. and Ruppel, C., (2004). "Mechanical, Thermal and Electrical Properties of Hydrate-Bearing Sediments," *AAPG Hedberg Conference on Gas Hydrates: Energy Resource Potential and Associated Geologic Hazards*, September, Vancouver, BC, Canada (Extended Abstract).
- Santamarina J. C., Yun T. S., Lee J. Y., Martin A., Francisca F. and Ruppel C., (2005). "Mechanical, Thermal and Electromagnetic Properties of Hydrate-Bearing Clay, Silt and Sand at Various Confining Pressures," AGU Fall meeting, Abstract.
- Santamarina, J. C., (2006). "The Worldwide Energy Situation," *Anales Academia Nacional de Ingenieria.*, vol. II-06, pp. 79-98.
- Santamarina, J. Ruppel, C., Lee, J. Y. and Yun, T. S., (2007). "Making the Case for In Situ Characterization of Gas Hydrate-Bearing Sediments: Quantifying Degradation Associated with Core Retrieval," (Extended Abstract).
- Santamarina, J. C. and Jang, J., (2009). "Gas Production from Hydrate Bearing Sediments: Geomechanical Implications," *DOE Fire in the Ice, vol. 9, no.4*, pp. 18-22.

- Santamarina, J. C. and Ruppel, C., (2010). "The Impact of Hydrate Saturation on the Mechanical, Electrical and Thermal Properties of Hydrate-Bearing Sands, Silts and Clay, in Geophysical Characterization of Gas Hydrates," in Riedel, M., E. C. Willoughby, and S. Chopra, eds. *SEG Geophysical Developments Series No. 14*, pp. 373-384.
- Santamarina, J. C. and Hyodo, M., (2011). "US-Japan Hydrate Meeting at Georgia Tech. Future Research," *DOE Fire in the Ice*, vol. 10, no. 3, pp. 26-27.
- Santamarina, J. C., S. Dai, Jang, J., M. Terzariol, Papadopoulos, E., W. J. Winters, D. Mason, Waite, W., and E. Bergeron, (2012). "Pressure Core Characterization Tools to Enhance Gas Hydrate Field Programs," *DOE Fire in the Ice*, vol. 12, no. 2, pp. 7-9
- Santamarina, J. C., Dai, S., Jang, J., and Terzariol, M., (2012). "Pressure Core Characterization Tools for Hydrate-Bearing Sediments," *Scientific Drilling*, vol. 14, September 2012, pp. 44-48. doi:10.2204/iodp.sd.14.06.2012.
- Shelander, D., Dai, J. Bunge, G., (2010). "Predicting saturation of gas hydrates using pre-stack seismic data, Gulf of Mexico," *Marine Geophysical Researches* V. 31, pp. 39-57.
- Schultheiss, P., Santamarina, C., Kumar, K. and Collett, T., (2007). "HYACINTH Pressure Cores from India: Analysis and Subsampling Reveals Detailed Methane Hydrate Structures," *DOE Fire in the Ice*.
- Valdes, J. R. and Santamarina, J. C., (2006). "Particle Clogging in Radial Flow: Microscale Mechanisms," *J. the Society of Petroleum Engineers SPE*, vol. 11, no. 2, pp. 193-198.
- Valdes, J. R. and Santamarina, J. C., (2007). "Particle Transport in a Non-Uniform Flow Field: Retardation and Clogging," *Applied Physics Letters*, vol. 90, no. 24.
- Valdes, J. R. and Santamarina, J. C., (2008). "Clogging: Bridge Formation and Vibration-Based Destabilization," *Canadian Geotechnical J.*, vol. 45, no. 2, pp. 177-184.
- Waite, W. F., Kneafsey, T. J., Santamarina, J. C., Winters, W. J., Yun, TS, Mason, D. H., Ruppel, C., (2006). "Physical property changes in hydrate-bearing sediment samples due to depressurization/repressurization," *AGU Fall meeting*, Abstract.
- Waite, W., Ruppel, C., and S. Kirby, (2006). "Comment on 'Thermal and visual time-series at a seafloor gas hydrate deposit on the Gulf of Mexico slope,' by IR MacDonald, LC Bender, M. Vardaro, B. Bernard, and JM Brooks," *Earth Planet. Sci. Lett.* 233 (2005) 49-59, in *Earth and Planetary Science Letters*, vol. 245, 481- 482, doi:10.1016/j.epsl.2005.11.062.
- Waite W. F., Santamarina J. C., Cortes DD, Dugan B, Espinoza DN., Germaine J., Jang J., Jung J. W., Kneafsey T., Shin H. S., Soga K., Winters W., and Yun T. -S., (2009). "Physical properties Of hydrate-bearing sediments," *Review of Geophysics*, vol. 47, doi:10.1029/2008RG000279.
- Waite, W. F., J. C. Santamarina, M. Rydzy, S. H. Chong, J.L. H. Grozic, K. Hester, J. Howard, T. J. Kneafsey, J. Y. Lee, Nakagawa, S., J. Priest, E. Rees, Koh, C., E. D. Sloan, A. Sultaniya, (2011). "Inter-Laboratory Comparison of Wave Velocity Measurements in a Sand Under Hydrate-Bearing and Other Set Conditions," *Proc. 7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July 17-21, 2011.

- Waite, W. F., J. C. Santamarina, M. Rydzy, S. H. Chong, J.L. H. Grozic, K. Hester, J. Howard, T. J. Kneafsey, J. Y. Lee, Nakagawa, S., J. Priest, E. Rees, Koh, C., E. D. Sloan, A. Sultaniya, (2012). "Overview of the Inter-laboratory comparison of wave velocity measurements in sand with gas hydrate and other pore-filling material," *DOE Fire in the Ice*, vol. 12, n. 1, pp. 16-21.
- Winters, W. J., Dugan, B., and T. S. Collett, (2008). "Physical properties of sediments from Keathley Canyon and Atwater Valley, JIP Gulf of Mexico gas hydrate drilling program," *Marine and Petroleum Geology*, Volume 25, Issue 9, November 2008, pp. 896–905.
- Wood, W., Hart, P., Hutchinson, D., Dutta, N., Snyder, F., Coffin, R., J. Gettrust, (2008). "Gas and gas hydrate distribution around seafloor seeps in Mississippi Canyon, Northern Gulf of Mexico, using multi-resolution seismic imagery," *Marine and Petroleum Geology*, Volume 25, Issue 9, Thematic Set on Scientific Results of 2005 US DOE-Chevron JIP Drilling for Methane Hydrates Objectives in the Gulf of Mexico, November 2008, pp. 952-959, ISSN 0264-8172, DOI: 10.1016/j.marpetgeo.2008.01.015.
- Yun, T. S., Francisca, F. M., Santamarina, J. C. and Ruppel, C., (2005). "Compressional and Shear Wave Velocities in Uncemented Sediment Containing Gas Hydrate," *Geophysical Research Letters*, 32(10). May, L10609. DOI:10.1029/2005GL022607.
- Yun, T. S., Narsilio, G. A., Lee, J. Y. Santamarina, J. C. and Ruppel, C., (2005). "Physical Properties of a Keathley Canyon Pressure Core Maintained at In Situ Pressure - New Instrumented High Pressure Chamber," *AGU Fall meeting*, Abstract.
- Yun, T. S. and Santamarina J. C., (2005). "Decementation, Softening and Collapse: Changes in Small-Strain Shear Stiffness in k0 Loading," *J. Geotechnical and Geoenvironmental Eng.*, vol. 131, no. 3, pp. 350-358.
- Yun, T. S., Narsilio, G. A. and Santamarina, J. C., (2006). "Geotechnical Characterization Of Gulf Of Mexico Sediments," *Marine and Petroleum Geology*, vol. 23, pp. 893-900.
- Yun, T. S., Narsilio, G. A., Santamarina, J. C. and Ruppel, C., (2006). "Instrumented Pressure Testing Chamber for Characterizing Sediment Cores Recovered at In Situ Hydrostatic Pressure," *Marine Geology*, vol. 229, pp. 285-293.
- Yun, T. S., Santamarina, J. C. and Ruppel, C., (2007). "Mechanical Properties of Sand, Silt, And Clay Containing Tetrahydrofuran Hydrate," *J. Geophysical Research. – B: Solid Earth*, 112.
- Yun, T. S. and Santamarina, J. C., (2008). "Fundamental Study of Thermal Conduction in Dry Soils," *Granular Matter*, vol. 10, no. 3, pp. 197-207. DOI 10.1007/s10035-007-0051-5
- Yun T. S., Fratta D. and Santamarina J. C., (2010). "Hydrate Bearing Sediments from the Krishna-Godavari Basin: Physical Characterization, Pressure Core Testing and Scaled Production Monitoring," *Journal of Energy & Fuels*, vol. 24, pp. 5972 -5983.
- Yun, T. S. and Santamarina, J. C., (2011). "Hydrate Growth in Granular Materials: Implication to Hydrate Bearing Sediments," *Geosciences Journal*, vol. 15(3), pp. 225~348
- Yun, T. S., Lee, C., Lee, J. S., Jang-Jun Bahk, and Santamarina, J. C., (2011). "A Pressure Core Based Characterization of Hydrate Bearing Sediments in the Ulleung Basin, East Sea," *Journal of Geophysical Research*, vol. 117, pp. 151-158. doi:10.1029/2010JB007468

Government Reports

- Balczewski, J., (2010). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *Semi-Annual Progress Report, October 2009 – March, (2010)*. Chevron, DOE Award No.: DE- DE-FC26-01NT41330. June, (2010).
- Balczewski, J., (2010). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *Semi-Annual Progress Report, April 2010 – September, (2010)*. Chevron, DOE Award No.: DE- DE-FC26-01NT41330. October, (2010).
- Balczewski, J., (2011). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *Semi-Annual Progress Report, October 2010 –March, (2011)*. Chevron, DOE Award No.: DE- DE-FC26-01NT41330. April, (2011).
- Balczewski, J., (2011). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *Semi-Annual Progress Report, April 2011 –September, (2011)*. Chevron, DOE Award No.: DE- DE-FC26-01NT41330. October, (2011).
- Balczewski, J., (2012). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *Semi-Annual Progress Report, October 2011 – March 2012*. Chevron, DOE Award No.: DE- DE-FC26-01NT41330. March, (2012).
- Balczewski, J., (2012). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *Semi-Annual Progress Report, April 2012 – September 2012*. Chevron, DOE Award No.: DE- DE-FC26-01NT41330. October, (2012).
- Boswell, R., Collett, T. S., Frye, M., Shedd, W., Mrozewski, S., Gilles, G., and Cook, A., (2009). "The 2009 Gulf of Mexico Gas Hydrate Joint Industry Project — Leg II: Technical Summary," *Proceedings of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project - Leg II*.
- Coffin, R. B., Lamontagne, R., Rose-Pehrsson, S., Grabowski, K. S., Knies, D. L., Qadri, S. L. B., Yesinowski, J. P., Pohlman, J. W., Yousuf, M., and Linton, J. A., (2002). Ocean Floor Methane Gas Hydrate Exploration. NRL Review 2002:112-115.
- Coffin, R. B., (2002). Field Evaluation of Sediment Structure and Content, Relative to Associated Hydrates. NRL Technical Report NRL Technical Report NRL/MR/6110--03-8647.
- Coffin, R. B., Masutani, S. M., Uchida, T., and Kvamme, B., (2003). Fiery Ice from the Seas. 2ND International Workshop on Methane Hydrate R&D 29-31 October 2002, Washington Plaza Hotel, Washington, DC. NRL/MR/6114-03-8696.
- Coffin, R. B. and R. Chapman. 2006. 4th International Workshop on Methane Hydrate Research and Development. Victoria, BC, May 9-11, (2005). US Naval Research Laboratory Technical Memorandum, NRL/MR/6110—06-9007

- Coffin, R., Gardner, J., Pohlman, J., Downer, R., and W. Wood, (2006). "Methane Hydrate Exploration, Atwater Valley, Texas–Louisiana Shelf: Geophysical and Geochemical Profiles," (2006) NRL/MR/6110-06-9002.
- Coffin, R. B., Hamdan, L. J., Smith, J, Rose, K, Downer, R. C., Edsal, D. Gardner, J. Hagen, R., Wood, W. T., (2008.) "Geochemical evaluation of deep sediment hydrate deposits on Alaminos Canyon, Block 818, Texas-Louisiana Shelf," NRL/MR/6110-11-9294
- Collett, T., (2005). "Cruise Report: ChevronTexaco Gulf of Mexico JIP drilling program: downhole logging program," *DOE-NETL Topical Report*.
- Collett, T. S., Boswell, R., Mrozewski, S., Guerin, G., Cook, A., Frye, M., Shedd, W., and McConnell, D., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II — Operational Summary," *Proceedings of the Drilling and Scientific Results of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project Leg II*.
- Cook, A., Guerin, G., Mrozewski, S., Collett, T. S., Boswell, R., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II — Walker Ridge 313 LWD Operations and Results," *Proceedings of the Drilling and Scientific Results of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project Leg II*.
- Evans, J., Fornari, D., Gilbert, L., Boyle, M., and Dougherty, J., (2005). "Archive of raw bottom photographs collected during cruise P1-04-GM, northern Gulf of Mexico, June 21-24," *U. S. Geological Survey Open-File Report 2004-1285*. (click [here](#))
- Frye, M., Shedd, W., Godfriaux, P., Collett, T. S., Lee, M., Boswell, R., Dufrene, R., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II — Alaminos Canyon 21 Site Summary," *Proceedings of the Drilling and Scientific Results of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project Leg II*.
- Guerin, G., Cook, A., Mrozewski, S., Collett, T. S., Boswell, R., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II — Green Canyon 955 LWD Operations and Results," *Proceedings of the Drilling and Scientific Results of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project Leg II*.
- Guerin, G., Cook, A., Mrozewski, S., Collett, T. S., Boswell, R., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II — Alaminos Canyon 21 LWD Operations and Results," *Proceedings of the Drilling and Scientific Results of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project Leg II*.
- Hart, P., D. Hutchinson, and Lee, M., (2005). "High-resolution seismic-reflection data acquired in the northern Gulf of Mexico, 2003," *U. S. Geological Survey Open-File Report 2005-1411*. (click [here](#))
- Holditch, S., and Jones, E., (2002). "Results from the Data Collection Workshop, Modeling Workshop, and Drilling and Coring Methods Workshop as a part of the Joint Industry Participation (JIP) Project to characterize natural gas hydrates in the deepwater Gulf of Mexico," *U. S. DOE Topical Report*, Award Number DE-FC26-01NT41330.
- Holditch, S., and Jones, E., (2004). "Protocols for seismic data acquisition and processing to characterize natural gas hydrate deposits in deepwater," *U. S. DOE Topical Report*, Award Number DE-FC26-01NT41330.

- Hutchinson, D., Hart, P., Dugan, B., Geresi, E., Sliter, R., and Newman, K., (2003). "Subsurface gas hydrates in the northern Gulf of Mexico," *Proceedings of the Geological Society of America Annual Meeting, Volume 34, n. 7*, November 2-5.
- Hutchinson, D. R., and Hart, P. E., (2004). "Cruise report for G1-03-GM USGS Gas Hydrates cruise, R/V Gyre, 1-14 May, 2003, Northern Gulf of Mexico," *U. S. Geological Survey Open-File Report OF 03-474*, 103 pp.
- Hutchinson, D., (2005), "Final Technical Report to the Department of Energy," *National Energy Technology Lab Interagency Agreement, Task DE-AT26-97FT34343*, September 8, 1997-April 30, 2005.
- Hutchinson, D., Boswell, R., Collett, T. S., Dai, J., Dugan, B., Frye, M., Jones, E., McConnell, D., Rose, K., Ruppel, C., Shedd, W., Shelander, D., Wood, W., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II — Walker Ridge 313 Site Selection," *Proceedings of the Drilling and Scientific Results of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project Leg II*.
- Hutchinson, D., Boswell, R., Collett, T. S., Dai, J., Dugan, B., Frye, M., Jones, E., McConnell, D., Rose, K., Ruppel, C., Shedd, W., Shelander, D., Wood, W., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II — Green Canyon 955 Site Selection," *Proceedings of the Drilling and Scientific Results of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project Leg II*.
- Hutchinson, D., Boswell, R., Collett, T. S., Dai, J., Dugan, B., Frye, M., Jones, E., McConnell, D., Rose, K., Ruppel, C., Shedd, W., Shelander, D., Wood, W., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II — Green Canyon 781 Site Selection," *Proceedings of the Drilling and Scientific Results of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project Leg II*.
- Jones, E., (2006). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico, Applications for Safe Exploration and Production Activities," *U. S. DOE Semi-Annual Report, October 2004–March 2005*.
- Jones, E., (2006). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *U. S. DOE Semi-Annual Report, April 2005–September 2005*.
- Jones, E., (2006). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *U. S. DOE Semi-Annual Report, October 2005–March 2006*.
- Jones, E., (2006). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *U. S. DOE Semi-Annual Report, April 2006–September 2006*.
- Jones, E., (2007). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *U. S. DOE Semi-Annual Report, October 2006–March 2007*.
- Jones, E., (2008). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *U. S. DOE Semi-Annual Report, April 2008–September 2008*.

- Jones, E., (2009). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *U. S. DOE Semi-Annual Report, October 2008–March 2009*.
- Kleinberg, R., and E. Jones, (2004). "Measurements for assessment of hydrate related geohazards," *U. S. DOE Topical Report, Award Number DE-FC26-01NT41330, ChevronTexaco Energy Technology Company*.
- Lee, M. W., (2009). "Anisotropic velocities of gas hydrate-bearing sediments in fractured reservoirs," *U. S. Geological Survey Scientific Investigations Report 2009-5141, 20 pp*.
- Lee, M. W., (2013). "Comparison of methods for predicting shear wave velocities of unconsolidated shallow sediments in the Gulf of Mexico," *U. S. Geological Survey Scientific Investigations Report 2013–5141, 11 p.*, <http://pubs.usgs.gov/sir/2013/5141/>.
- McConnell, D., Boswell, R., Collett, T. S., Frye, M., Shedd, W., Guerin, G., Cook, A., Mrozewski, S., Dufrene, R., and Godfriaux, P., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II — Walker Ridge 313 Site Summary," *Proceedings of the Drilling and Scientific Results of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project Leg II*.
- McConnell, D., Boswell, R., Collett, T. S., Frye, M., Shedd, W., Guerin, G., Cook, A., Mrozewski, S., Dufrene, R., and Godfriaux, P., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II — Green Canyon 955 Site Summary," *Proceedings of the Drilling and Scientific Results of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project Leg II*.
- Mrozewski, S., Guerin, G., Cook, A., Collett, T. S., Boswell, R., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II — LWD Methods," *Proceedings of the Drilling and Scientific Results of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project Leg II*.
- Ruppel, C., (2011). "Scientific ocean drilling and gas hydrates studies," *Scientific Ocean Drilling—Accomplishments and Challenges, National Research Council Report, 106-110*.
- Ruppel, C., J. Robertson, and B. Pierce, (2013). "Groundbreaking gas hydrate research, Sound Waves," *USGS national newsletter, March/April 2013*.
<http://soundwaves.usgs.gov/2013/04/research.html>
- Schlumberger, (2003). "Theoretical modeling and analysis for gas hydrate quantification from pre-stack seismic data in the northern deepwater Gulf of Mexico," *U. S. DOE Topical Report, Award Number DE-FC26-01NT41330, ChevronTexaco Energy Technology Company, 130 pp*.
- Shedd, W., Hutchinson, D., Boswell, R., Collett, T. S., Dai, J., Dugan, B., Frye, M., Jones, E., McConnell, D., Rose, K., Ruppel, C., Shelander, D., and Wood, W., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II — East Breaks 991 and Alaminos Canyon 21 Site Selection," *Proceedings of the Drilling and Scientific Results of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project Leg II*.
- Shipboard Science Party, (2006). "Cruise Report for the Gulf of Mexico Gas Hydrate Joint Industry Project: Covering the cruise of the drilling vessel Uncle John - Mobile, Alabama to Galveston, Texas Atwater Valley Blocks 13/14 and Keathley Canyon Block 151," April 17-May 22.
- Collett, T., "Gulf of Mexico Gas Hydrate JIP Drilling Program Downhole Logging Program."

- Conte, A., and Bloys, B. "Gulf of Mexico Gas Hydrates Joint Industry Project Operational Summary of 2005 Drilling and Coring Program."
- Dugan, B., "Geomechanical Characteristics of Sediments from Atwater Valley and Keathley Canyon, Northern Gulf of Mexico."
- Hippe, F., "Geotechnical Investigation, Chevron Gulf of Mexico Hydrates JIP, Results of Core Sample Analysis Standard and Advanced Laboratory Testing, Report No. 0201-5081, prepared by Fugro-McClelland Marine Sciences for Chevron Texaco Energy Technology Company."
- Kastner, M., Claypool, G., and Robertson, G. "Pore Water Geochemistry – 2005 Gulf of Mexico JIP Cruise."
- Lorenson, T., Dougherty, J., and Claypool, G. "Natural Gas Geochemistry – 2005 Gulf of Mexico JIP Cruise."
- Ruppel, C., and Santamarina, J. "Preliminary Results: Georgia Tech Instrumented Pressure Testing Chamber Deployed on JIP Gas Hydrate Drilling Program in Gulf of Mexico, April-May 2005."
- Schultheiss, P., Holland, M., and Roberts, J. "Gulf of Mexico Gas Hydrates Joint Industry Project Pressure Coring and Core Logging."
- Snyder, G., Hubbard, L., Dugan, B., and Dickens, G. "Total iodine, bromine, and barium concentrations in pore waters from the Atwater Valley area, Gulf of Mexico: Preliminary results from the Gas Hydrates JIP Cruise."
- Twichell, D. C., Cross, V. A., Paskevich, V. F., Hutchinson, D. R., Winters, W. J., and Hart, P. E., (2005.) "GIS of selected geophysical and core data in the northern Gulf of Mexico continental slope collected by the U. S. Geological Survey," *USGS Open-File Report 2005-1071* (CD-ROM).
- Vu, C., (2013). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *Semi-Annual Progress Report, October 2012 – March 2013*. Chevron, DOE Award No.: DE-DE-FC26-01NT41330. April, (2013).
- Vu, C., (2013). "Characterizing Natural Gas Hydrates in the Deep Water Gulf of Mexico: Applications for Safe Exploration and Production Activities," *Semi-Annual Progress Report, April 2013 – September 2013*. Chevron, DOE Award No.: DE-DE-FC26-01NT41330. October, (2013).

Theses/Dissertations

- Lee, J. Y., (2007). "Hydrate-Bearing Sediments: Formation And Geophysical Properties," *Ph. D. Thesis*, Civil and Environmental Engineering, Georgia Tech, 241 pp., (2007).
- Martin, A. I., (2004). "Hydrate Bearing Sediments - Thermal Conductivity," *M. S. Thesis*, Civil and Environmental Engineering, Georgia Tech, 151 pp.
- Yun, T. S., (2005). "Mechanical and Thermal Study of Hydrate Bearing Sediments," *Ph. D. Thesis*, Civil and Environmental Engineering, Georgia Tech, 179 pp.

Other Publications

- Balczewski, J. T., Boswell, R., Collett, T. S., and Baker, R., (2011). "International collaboration on deepwater natural gas hydrate continues – Gulf of Mexico Gas Hydrate JIP: past, present, and future," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, July 17-21, 2011, Edinburgh, Scotland, United Kingdom, 6 p.
- Birchwood, R., Dai, J., Shelander, D., Boswell, R., Collett, T., Cook, A., Dallimore, S., Fuji, K., Imasato, Y., Fukuhara, M., Kusaka, K., Murray, D., and Saeki, T., (2010). "Developments in gas hydrates," *Oilfield Review, Published by Schlumberger, Spring, 2010*, pp. 18-33.
- Boswell, R., Collett, T. S., McConnell, D., Frye, M., Shedd, B., Mrozewski, S., Guerin, G., Cook, A., Godfriaux, P., Dufrene, R., Roy, R., and Jones, E., (2009). "Joint industry project leg II discovers rich gas hydrate accumulations in sand reservoirs in the Gulf of Mexico," *DOE Fire in the Ice, Summer, 2009*, pp. 1-5.
- Boswell, R., Collett, T. S., Frye, M., Shedd, W., Mrozewski, S., Guerin, G., and Cook, A., (2009). "The 2009 Gulf of Mexico Gas Hydrate Joint Industry Project - Leg II: Technical Summary," *Proceedings of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project - Leg II*, 30 p.
- Boswell, R., Collett, T. S., McConnell, D., Frye, M., Shedd, B., Godfriaux, P., Dufrene, R., Mrozewski, S., Guerin, G., Cook, A., Shelander, D., Jianchun, D., and Jones, E., (2009). "Initial results of Gulf of Mexico Gas Hydrate Joint Industry Project Leg II logging-while-drilling operations," *Proceedings of the 29th Annual Gulf Coast Section Foundation, Bob F. Perkins Research Conference, Houston, TX, December 6-8, 2009*, 21 p. (on CD-ROM).
- Boswell, R., Collett, T. S., McConnell, D., Frye, M., Shedd, B., Godfriaux, P., Dufrene, R., Mrozewski, S., Guerin, G., Cook, A., Shelander, D., Jianchun, D., and Jones, E., (2010). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Overview of Leg II LWD Results, OTC 20560," *Proceedings 2010 Offshore Technology Conference, Houston, Texas May 3-6, 2010*, 12 p.
- Boswell, R., Moridis, G., Reagan, M., and Collett, T., (2011). "Gas hydrate accumulation types and their application to numerical simulation," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July 17-21, 2011, 12 p.
- Collett, T. S., (2005). "Gulf of Mexico Gas Hydrate JIP Drilling Program downhole logging program," 65 p.
- Collett, T. S., (2009). "Gas hydrate petroleum systems in marine and Arctic permafrost environments," *Proceedings of the 29th Annual Gulf Coast Section Foundation, Bob F. Perkins Research Conference, Houston, TX, December 6-8, 2009*, 12 p. (on CD-ROM).
- Collett, T. S., Boswell, R., Frye, M., Shedd, W., Godfriaux, P., Dufrene, R., McConnell, D., Mrozewski, S., Jones, E., and Roy, R., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Operational Summary," *Proceedings of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project - Leg II*, 30 p.
- Collett, T. S., and Boswell, R. M., (2010). "Results of the Gulf of Mexico Gas Hydrate Joint Industry Project Leg II Drilling Expedition: Impact on Global Energy Development," *Proceedings of Petrotech-2010, New Delhi, India, October 31 - November 3, 2010*, 8 p.

- Collett, T. S., Boswell, R., Frye, M., Shedd, W., Godfriaux, P., Dufrene, R., McConnell, D., Mrozewski, S., Guerin, G., and Cook, A., (2010). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Logging-While-Drilling Operations and Challenges, OTC 20452," *Proceedings 2010 Offshore Technology Conference*, Houston, TX May 3-6, 2010, 12 p.
- Collett, T. S., and Boswell, R. M., (2011). "Results of the Gulf of Mexico Gas Hydrate Joint Industry Project Leg II Drilling Expedition: impact on global energy development," *Proceedings of the 241th American Chemical Society National Meeting*, Anaheim, CA, March 27-30, 2011, 4 p.
- Cook, A., Rasmus, J., Li, Q., Sun, K., Anderson, B., Collett, T., and Goldberg, D., (2011). "Analyzing electrical anisotropy in gas hydrate reservoirs using logging-while-drilling directional resistivity data from the Gulf of Mexico Gas hydrate Joint Industry Project," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July 17-21, 2011, 13 p.
- Claypool, G., (2005). "Joint industry project (JIP) Gulf of Mexico gas hydrate coring update," *U. S. DOE-NETL Fire in the Ice Newsletter*, Summer, pp. 9-13.
- Dai, J., Xu, H., Snyder, F., and Dutta, N., (2004). "Detection and estimation of gas hydrates using rock physics and seismic inversion – examples from the northern deepwater Gulf of Mexico," *The Leading Edge*, Volume 23, pp. 60-66.
- Frye, M. C., Shedd, W. W., Godfriaux, P. D., Dufrene, R., Collett, T. S., Lee, M. W., Boswell, R., Jones, E., McConnell, D. R., Mrozewski, S., Guerin, G., and Cook, A., (2010). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: results from the Alaminos Canyon 21 Site, OTC 20552," *Proceedings 2010 Offshore Technology Conference*, Houston, TX, May 3-6, 2010, 21 p.
- Haines, S. S., Lee, M. W., and Collett, T. S., (2011). "Multicomponent seismic methods for characterizing gas hydrate occurrences and systems in deep-water Gulf of Mexico," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July 17-21, 2011, 10 p.
- Hart, P., Hutchinson, D., and Dugan, B., (2003). "USGS conducts deepwater gas hydrate research cruise in the northern Gulf of Mexico," *U. S. DOE-NETL Fire in the Ice Newsletter*, Fall, pp. 6-8.
- Hutchinson, D. R., Shelander, D., Dai, J., McConnell, D., Shedd, W., Frye, M., Ruppel, C., Boswell, R., Jones, E., Collett, T., Rose, K., Dugan, B., Wood, W., and Latham, T., (2008). "Site Selection for DOE/JIP Gas Hydrate Drilling in the Northern Gulf of Mexico," *Sixth International Conference on Gas Hydrates*, Vancouver, BC., 7-10 July, 2008.
- Hutchinson, D. R., Boswell, R., Ray, Collett, T., Dai, J., Dugan, B., Frye, M., Jones, E., McConnell, D., Rose, K., Ruppel, C., Shedd, W., Shelander, D., and Wood, W., (2009). "Gulf of Mexico gas hydrate Joint Industry Project Leg II: Green Canyon 781 site selection," *Department of Energy, 2009 Gulf of Mexico JIP – Leg II Reports*, 28 pp.
- Hutchinson, D. R., Boswell, R., Ray, Collett, T., Dai, J., Dugan, B., Frye, M., Jones, E., McConnell, D., Rose, K., Ruppel, C., Shedd, W., Shelander, D., and Wood, W., (2009). "Gulf of Mexico gas hydrate Joint Industry Project Leg II: Walker Ridge 313 site selection," *Department of Energy, 2009 Gulf of Mexico JIP – Leg II Reports*, 35 pp.

- Hutchinson, D. R., Boswell, Ray, Collett, Tim, Dai, J., Dugan, B., Frye, M., Jones, E., McConnell, Dan, Rose, K., Ruppel, C., Shedd, W., Shelander, D., and Wood, W., (2009). "Gulf of Mexico gas hydrate Joint Industry Project Leg II: Green Canyon 955 site selection," *Department of Energy, 2009 Gulf of Mexico JIP – Leg II Reports*, 51 pp.
- Jones, E., and S. Holditch, (2004). "Characterizing natural gas hydrates in the deepwater Gulf of Mexico," *Proceedings of the Fourth International Symposium on Methane Hydrates*, Yokohama, Japan.
- Kwon, T. H., Cho, G. C., and Santamarina, J. C., (2008). "Gas hydrate dissociation in sediments: Pressure-temperature evolution," *Geochem., Geophys., Geosyst. v. 9*, No. Q03019.
- Lee, M. W., and Collett, T. S., (2011). "Three types of gas hydrate reservoirs in the Gulf of Mexico identified in LWD data," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July 17-21, 2011, 12 p.
- McConnell, D. R., Collett, T. S., Boswell, R., Frye, M. C., Shedd, W. W., Dufrene, R., Godfriaux, P., Mrozewski, S., Guerin, G., Cook, A., and Jones, E., (2010). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: initial results from the Green Canyon 955 Site, OTC 20801, OTC 20552," *Proceedings 2010 Offshore Technology Conference*, Houston, TX, May 3-6, 2010, 14 p.
- Moridis, G. J., Reagan, M. T., Boswell, R., Collett, T. S., and Zhang, K., (2010). "Preliminary evaluation of the production potential of recently discovered hydrate deposits in the Gulf of Mexico, OTC 21049," *Proceedings 2010 Offshore Technology Conference*, Houston, Texas May 3-6, 2010, 27 p.
- Mrozewski, S., Cook, A., Guerin, G., Goldberg, D., Collett, T. S., Boswell, R., and Jones, E., (2010). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: LWD logging program design, data acquisition and evaluation, OTC 21023," *Proceedings 2010 Offshore Technology Conference*, Houston, TX, May 3-6, 2010, 27 p.
- Ruppel, C., (2011). "The Future of Natural Gas," *Methane hydrates and the future of natural gas, Supplementary Paper 2.4*, MIT Energy Initiative.
- Ruppel, C., Collett, T., Boswell, R., Lorenson, T., Buckzowski, B., Waite, W., (2011). "A new global gas hydrate drilling map based on reservoir type," *DOE Fire in the Ice, Vol. 11, no. 1*, pp. 15-19.
- Santamarina, J. C. and C. Ruppel, (2010). "The impact of hydrate saturation on the mechanical, electrical, and thermal properties of hydrate-bearing sand, silts, and clay," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH)*, Vancouver, BC, 6-10 July, 12 pp.
- Santamarina, J. C., Dai, S., Jang, J., Terzariol, M., Papadopoulos, Winters, W. J., Mason, D., Waite, W., and Bergeron, E., (2012). "Pressure core characterization tools to enhance gas hydrate field programs," *DOE Fire in Ice, vol. 12 no. 2*, pp.7-9.
- Schultheiss, P., C. Santamarina, P. Kumar, and T. Collett, (2007). "HYACINTH Pressure Cores from India: Analysis and Subsampling Reveals Detailed Methane Hydrate Structures," *DOE Fire in the Ice, Winter*, pp. 11-13.
- Shedd, W. W., and Hutchinson, D. R., (2006). Gas hydrate potential of the mid-Atlantic outer continental shelf: *Fire in the Ice Newsletter Fall, 2006*, pp. 8-9.

- Shedd, W., Hutchinson, D. R., Boswell, R., Collett, T., Dai, J., Dugan, B., Frye, M., Jones, E., McConnell, D., Rose, K., Ruppel, C., Shelander, D., and Wood, W., (2009). "Gulf of Mexico gas hydrate Joint Industry Project Leg II: East Breaks 992 and Alaminos Canyon 21 site selection," *Department of Energy, 2009 Gulf of Mexico JIP – Leg II Reports*, 18 pp.
- Shedd, W., P. Godfriaux, M. Frye, Boswell, R., and D. Hutchinson, (2009). "Occurrence and variety in seismic expression of the base of gas hydrate stability in the Gulf of Mexico," *DOE Fire in the Ice, Winter, 2009*.
- Shedd, W., Frye, M., Godfriaux, P., Dufrene, R., McConnell, D., Boswell, R., Collett, T., Mrozewski, S., Guerin, G., Cook, A., Shelander, D., and Dai, J., (2010). "Gulf of Mexico Gas Hydrates Joint Industry Project Leg II: results from the Walker Ridge 313 Site, OTC 20806," *Proceedings 2010 Offshore Technology Conference*, Houston, TX, May 3-6, 2010, 15 p.
- Shelander, D., Dai, J., Bunge, G., Boswell, R., Collett, T. S., Balczewski, J., and Jones, E., (2011). "predictions of gas hydrates using pre-stack seismic data, deepwater Gulf of Mexico," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, July 17-21, 2011, Edinburgh, Scotland, United Kingdom, 10 p.
- Smith, S., Boswell, R., Collett, T., Lee, M., and E. Jones, (2006). "Alaminos Canyon Block 818: A Documented Example of Gas Hydrate Saturated Sand in the Gulf of Mexico," *U. S. DOE-NETL Fire in the Ice Newsletter*, Fall, pp. 12-13.
- Waite, W. F., Santamarina, J. C., Rydzy, M., Chong, S. H., Grozic, J.L. H., Hester, K., Howard, J., Kneafsey, T. J., Lee, J. Y., Nakagawa, S., Priest, J., Rees, E., Koh, C., Sloan, E. D., and Sultaniya, A., (2012). "Overview of the Inter-laboratory comparison of wave velocity measurements in a sand with gas hydrate and other pore-filling material," *DOE Fire in the Ice*, v. 12, no. 1, pp. 16-21.

Presentations

- Birchwood, R., (2005). "Wellbore Stability Model for Marine Sediments Containing Gas Hydrates," *American Association of Drilling Engineers National Drilling Technology Conference*, Houston, TX, April 5-7.
- Birchwood, R., Noeth, S., Sayers, C., Hooyman, P., and Jones, E., (2005). "Results of Wellbore Stability Modeling for the Gulf of Mexico Joint Industry Project on Hydrates Leg I," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS31D-05.
- Birchwood, R., Singh, R., Mese, A., (2008). "Estimating the In Situ Mechanical Properties of Sediments Containing Gas Hydrates," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, B. C., July 6-10, 2008.
- Boswell, R., (2006). "U. S. DOE/Chevron Gulf of Mexico Gas Hydrates Joint Industry Project," *Methane Hydrates Federal Advisory Committee*, Washington, D. C., April 24.
- Boswell, R., (2006). "U. S. DOE/Chevron Gulf of Mexico Gas Hydrates Joint Industry Project," *Methane Hydrates Federal Advisory Committee*, Washington, D. C., November 8.

- Boswell, R., Collett, T. S., McConnell, D., Shedd, W., Shelander, D., Dai, J., Mrozewski, S., Guerin, G., Cook, A., Dufrene, R., Godfriaux, P. D., Roy, R., and Jones, E., (2009). "Initial Results of the Gulf of Mexico Gas Hydrate Joint Industry Program Leg II Logging-While-Drilling Operations," *Eos Trans. AGU*, 90(52), Fall Meet. Suppl. OS24A-02.
- Boswell, R., Collett, T. S., McConnell, D., Frye, M., Shedd, W., Mrozewski, S., Guerin, G., Cook, A., Shelander, D., Dai, J., Godfriaux, P., Dufrene, R., Jones, E., Roy, R., (2010). "Gulf of Mexico Gas Hydrates Joint Industry Project: Overview of Leg II LWD Results," *Offshore Technology Conference*, Houston, TX, May 3-6, (2010). [OTC 20560](#)
- Boswell, R. [invited], Balczewski, J., and Collett, T. S., (2010). "United States National Strategy in Gas Hydrate Research and Development, Gulf of Mexico Gas Hydrate Joint Industry Project - International Deepwater Natural Gas Hydrate Research Collaboration," *Proceedings of the International Symposium on Methane Hydrate Resources: From Mallik to the Nankai Trough*, November 15-17, 2010, Tokyo, Japan, 2 p.
- Chuvilin, E., Kozlova, E., Boldina, O., and Winters, W., (2004). "Stability of methane gas hydrate formed in marine sediment from the northern Gulf of Mexico, St. Petersburg, Russia, Minerals of the Ocean," *Integrated Strategies*, April 25-30.
- Claypool, G., Wood, W., (2005). "Natural Gas Hydrates: Modeling, Laboratory Studies, Recent JIP Drilling, and Other Field Investigations I," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS31D-Poster.
- Claypool, G., Wood, W., (2005). "Natural Gas Hydrates: Modeling, Laboratory Studies, Recent JIP Drilling, and Other Field Investigations IV," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS42A-Poster.
- Coffin, R., Gardner, J., Pohlman, J., Downer, R., and Wood, W., (2005). "Methane Hydrate Exploration, Atwater Valley, Texas-Louisiana Shelf: Geophysical and Geochemical Profiles," *Fourth International Methane Hydrate Research and Development Workshop*, Victoria, BC, May.
- Coffin, R., Pohlman, J., Wood, W., Gardner, J., Plummer, R., and Gettrust, J., (2005). "Geochemical Evaluation of Piston Core Porewater on Atwater Valley, Gulf of Mexico, Variation in Vertical Methane Gradients," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS42A-03.
- Collett, T. S., (2008). "Assessment of gas hydrate energy resources: December 2, 2008." Presentation in the MIT/USGS ENI Methane Hydrate Seminar Series. Cambridge, MA.
- Collett, T. S., et al., (2009). "U. S. Geological Survey gas hydrate energy resource studies Proceedings of the NRC Committee reviewing the activities authorized under the Methane Hydrate research Development Act (renewal) of 2005," (presentation only).
- Collett, T. S., (2011). "Gas hydrates energy resources - gas hydrate petroleum systems," *Proceedings of the 7th International Conference on Asian Marine Geology, October 11-14, 2011, CSIR-National Institute of Oceanography, Goa, India*, 2 p.
- Collett, T. S., Boswell, R., Frye, M., Shedd, W., Godfriaux, P., Dufrene, R., McConnell, D., Mrozewski, S., Guerin, G., Cook, A., Jones, E., Roy, R., (2010). "Gulf of Mexico Gas Hydrates Joint Industry Project: Logging-While-Drilling Operations and Challenges," *Offshore Technology Conference*, Houston, Texas, May 3-6, [OTC 20452](#)

- Collett, T. S., and Boswell, R., (2009). "Gas Hydrate Research Site Selection and Operational Research Plans," *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., OS24A-01.
- Collett, T., Conte, A., Loh, L., Hoong, H., Goldberg, D., (2005). "Preliminary analysis of the downhole of Mexico Gas Hydrate JIP cruise," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS31D-02.
- Cook, A., Rasmus, J., Li, Q., Sun, K., Anderson, B., Collett, T., and Goldberg, D., (2011). "Analyzing Electrical Anisotropy in Gas Hydrate Reservoirs Using Logging-While-Drilling Directional Resistivity Data from the Gulf of Mexico Gas Hydrate Joint Industry Project." *Proc. of the 7th International Conference on Gas Hydrates (ICGH 2011)*. Edinburgh, Scotland, United Kingdom, July, 17-21, 2011.
- Cook, A., Malinverno, A., (2010). "Can in situ methanogenesis explain a 3 m-thick gas hydrate-filled sand in Walker Ridge Block 313, Gulf of Mexico?," *Abstract OS53A-1353 Poster presented at 2010 Fall Meeting, AGU*, San Francisco, CA, December 13-17.
- Cook, A., and Goldberg, D., (2009). "Two Kinds of Gas Hydrate Reservoirs: Pore-filling Sand vs. Fractured Clay," *Eos Trans. AGU*, 90(52) Fall Meet. Suppl., OS31A-1174.
- Cook, A., Goldberg, D., and R. Kleinberg, (2006). "Cohesive strength of gas hydrate-bearing marine sediments," *The American Association of Petroleum Geologists Annual Meeting*, April 9-12.
- Cook, A. E., Goldberg, D., (2005). "Cohesive Strength of Gas-hydrate-bearing Marine Sediments," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS42A-07.
- Dai, J. and Dutta, N., (2007). "Exploration For Gas Hydrates In Deepwater Northern Gulf Of Mexico," *Eos Trans. AGU*, 88(23), Jt. Assem. Suppl., NS54A-02.
- Dai, J. and Dutta, N., (2007). "Exploration for gas hydrates based on seismic information: with examples from Northern Gulf of Mexico," *69th EAGE*, London, UK, June.
- Dai, J., Dutta, N., and Xu, H., (2006). "Gas hydrate estimation using rock physics modeling and seismic inversion," *Eos Trans. AGU*, 87(36), Jt. Assem. Suppl., NS44A-03.
- Dai, J., Kleinberg, R., Xu, H., and Dutta, N., (2005). "Rock physics models of gas hydrates and their implications in seismic detection," *Offshore Technology Conference*, Houston, TX, May 2-5, [OTC 17266-MS](#).
- Dai, J., Xu, H., Snyder, F., and Dutta, N., (2004). "Detection and quantification of gas hydrates in the Gulf of Mexico: An integrated five-step workflow," *66th European Association of Geoscientists & Engineers*, Paris, France, June 7-10.
- Dai, J., Xu, H., Snyder, F., Muller, L., Koesoemadinata, A., Gillespie, D., Wool, G., and Dutta, N., (2004). "Physical Rock Properties of Gas Hydrate Bearing Sediments, Geophysical Modeling, Inversion and Quantitative Volumetric Estimation in the Deepwater Gulf of Mexico," *The American Association of Petroleum Geologists Annual Meeting*, Dallas, TX, April 18-21.
- Dai, J., Kleinberg, R., Xu, H., and Dutta, N., (2004). "Seismic Detection and Quantification of Gas Hydrates," *The American Association of Petroleum Geologists Hedberg Conference*, Vancouver, BC, September 12-16.

- Dugan, B., Germaine, J., Winters, W., and Flemings, P., (2003). "Near-seafloor overpressure in the Deep water Gulf of Mexico interpreted from laboratory experiments," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 8-12.
- Dugan, B., Germaine, J., Winters, W., and Flemings, P., (2004). "Laboratory constraints and models of pressure, hydrate, and stability in shallow Mississippi Canyon sediments (MC 855), deepwater Gulf of Mexico," *The American Association of Petroleum Geologists Annual Meeting*, Dallas, TX, April 18-21.
- Dutta, N., (2004). "Gas hydrates – detection and quantification for resource assessment and risk mitigation," *Global Energy Forum*, Rice University, Houston, TX, October 12.
- Dutta, N., (2005). "Emerging technology application aimed at characterization of gas hydrates and free gas underneath BSR," *Second International Congress on Geosciences in Petroleum Industry, AMGE*, September 4-7.
- Dutta, N., (2006). "Methane Hydrates Exploration Technology," *Hart Energy Publishing Methane Hydrates Conference*, Houston, TX, Dec. 5-6.
- Dutta, N., J. Dai, and X. Haibin, (2004). "Seismic detection and quantification of gas hydrates in the Gulf of Mexico," *32nd International Geological Conference*, Florence, Italy, August 23-27.
- Dutta, N., R. Kleinberg, J. Dai, and H. Xu, (2005). "Natural gas hydrates estimation using seismic inversion and rock physics," *Eos Trans. AGU*, 86(18), Jt. Assem. Suppl., NS11A-05.
- Dutta, N., H. Xu, and J. Dai, (2005). "Seismic detection and quantification of gas hydrate using rock physics and inversion," New Delhi, India, *PetroTech*, January 15-19.
- Dutta, N., Muller, L., J. Dai, and R. Utech, (2003). "Seismic detection of gas hydrates," *The American Association of Petroleum Geologists International Conference*, Barcelona, Spain, September 21-24.
- Ellis, M., Evans, R., L., Hutchinson, D. R., Hart, P., (2005). "An Electromagnetic Survey of the JIP Drill Sites in Atwater Valley," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS31D-07.
- Frye, M., Shedd, B., and Boswell, R., (2012). "Gas Hydrate Resources of the Terrebonne Basin, Northern Gulf of Mexico," *J. Mar. Pet. Geol.*, v. 34, pp. 150-168.
- Frye, M., Shedd, W., Godfriaux, P., Dufrene, R., McConnell, D., Boswell, R., Collett, T. S., Mrozewski, S., Guerin, G., Cook, A., Shelander, D., Dai, J., (2010). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Initial Results From the Alaminos Canyon 21 site." *Offshore Technology Conference*, Houston, TX, May 3-6, [OTC 20552](#).
- Gardner, J. M., Hagen, R., Hart, P., Czarnecki, M., Nishimura, C., Hutchinson, D. R., (2005). "High Resolution Seafloor Environmental Characterization of Methane Seeps in the Mississippi Canyon Near Atwater Valley 13/14, Gulf of Mexico," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS43A-0618.
- Gilbert, L., Waite, W., Winters, W., and Mason, D., (2004). "Characterization of Gulf of Mexico sediment in hydrate and non-hydrate bearing cores using specific surface area," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 13-17.

- Gilhooly, W. P., Ruppel, C., Dickens, G. R., Berg, P., and Macko, S. A., (2010). "Flux rates and sulfur isotopic composition of pore fluids from three mud volcanoes in the northern Gulf of Mexico," *AGU Fall Meeting*, Abstract OS52B-03.
- Godfriaux, R. [invited], Shedd, W., Frye, M., Collett, T. S., Lee, M. W., Boswell, R. M., Cook, A., Mrozewski, S., Guerin, G., McConnell, D., Dufrene, R., and Jones, E., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Results from the Alaminos Canyon 21 Site," *Fall Meeting of the American Geophysical Union*, Abstract OS31A-1202, San Francisco, California, December 14-18, 2009.
- Gullapalli, I., Moridis, G. J., Silpngarmert, S., Reik, B., Kamal, M., Jones, E., Collett, T. S., (2008). "Designing a Reservoir Flow Rate Experiment for the GOM Hydrate JIP Leg II LWD Drilling," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10, 2008.
- Hagen, R., Gardner, J., and W. Wood, (2004). "Thermal Measurements Over Hydrate Mounds in Atwater Valley, Gulf of Mexico," *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., OS41C-0490.
- Hart, P., Pecher, I. A., (2005). "Natural Gas Hydrates: Modeling, Laboratory Studies, Recent JIP Drilling, and Other Field Investigations II," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS33B-Poster.
- Hart, P., Waite, W., (2005). "Natural Gas Hydrates: Modeling, Laboratory Studies, Recent JIP Drilling, and Other Field Investigations III," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS41C-Poster.
- Hart, P., Hutchinson, D., Dugan, G., Fowler, M., Wood, W., Snyder, F., Dutta, N., Coffin, R., Gardner, J., Hagen, R., Evans, R., and Fornari, D., (2005). "A multidisciplinary investigation of a deepwater gas hydrate mound, Atwater Valley, northern Gulf of Mexico," *Fourth International Workshop on Methane Hydrate R&D*, Victoria, BC, May 9-11.
- Holland, M., Schultheiss, P., Roberts, J., Druce, M., (2008). "Observed Gas Hydrate Morphologies In Marine Sediments," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Hutchinson, D. R., Shelander, D., Dai, J., McConnel, D., Shedd, W., Frye, M., Ruppel, C., Boswell, R., Jones, E., Collett, T. S., Rose, K., Dugan, B., Wood, W., and Latham, T., (2008). "Site Selection for DOE/JIP Gas Hydrate Drilling in the Northern Gulf Of Mexico," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Hutchinson, D., Hart, P., Snyder, F., Lee, M., Dutta, N., Muller, L., Dugan, B., Ruppel, C., Wood, W., Coffin, R., Evans, R., and Jones, E., (2003). "Evidence of subsurface gas hydrate in the northern Gulf of Mexico," *Eos Trans. AGU*, 84(46), Fall Meet. Suppl., OS42C-04.
- Hutchinson, D., Ruppel, C., Pohlman, J., Hart, P., Dugan, B., Snyder, F., and Coffin, R., (2004). "An integrated geological, geophysical, and geochemical analyses of subsurface gas hydrates in the northern Gulf of Mexico," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.

- Hutchinson, D., Snyder, F., Hart, P., Ruppel, C., Pohlman, J., Wood, W., Coffin, R., and Edwards, M., (2005). "Geologic and site survey setting for JIP Gulf of Mexico gas hydrate drilling," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS31D-01.
- Hutchinson, D., Ruppel, C., Pohlman, J., Hart, P., Snyder, F., Dutta, N., Dugan, B., and Coffin, R. 2005. "Geophysical and geochemical characterization of the hydrate stability zone in a region of active salt tectonics, Keathley Canyon, Northern Gulf of Mexico," *Fourth International Workshop on Methane Hydrate Research and Development*, Victoria, BC, May.
- Hutchinson, D., (2006). "Heterogeneity and dynamics in gas hydrate occurrence: lessons learned from the northern Gulf of Mexico," Kauai, HI: *Engineering Conferences International, Science and Technology Issues in Methane Hydrates R&D*, March 5-9.
- Hutchinson, D., Ruppel, C., Collett, T., Pohlman, J., Hart, P., and F. Snyder, (2006). "Minibasins and subsurface gas hydrate in the Gulf of Mexico, Fukuoka, Japan, *17th International Sedimentological Congress*, August 27-September 1, V. B, p. 6.
- Hutchinson, D. R., Hart, P. E., Collett, T. S., Edwards, K. M., Twichell, D. C., and Snyder, F., (2007). "Geologic Framework of the 2005 Keathley Canyon Gas Hydrate Research Well, Northern Gulf of Mexico," *Eos Trans. AGU*, 88(23), Jt. Assemb. Suppl., NS54A-03.
- Hutchinson, D. et al., (2008). Site selection for the Next Phase of JIP Deepwater Gulf of Mexico Methane Hydrates Drilling, Testimony to the NRC Committee reviewing the activities authorized under the Methane Hydrate research Development Act (renewal) of 2005, Washington, DC, March 4.
- Jones, E., (2006). "Overview of GOM JIP Leg 1 Drilling," Kauai, HI, *ECI Science and Technology Issues in Methane Hydrate R&D*, March 5-9.
- Jones, E., (2006). "Technology Needs for Commercial Production of Hydrates," Houston, TX, *Hart Energy Publishing Methane Hydrates Conference*, Dec. 5-6.
- Jones, E., (2005). "Pre-cruise Estimates of Sediment Properties for the 2005 ChevronTexaco Gulf of Mexico Gas Hydrate Research Coring Project," Vancouver, BC, *The American Association of Petroleum Geologists Hedberg Research Conference*, September 12-16.
- Kastner, M., Claypool, G., Robertson, G., Schultheiss, P., and Holland, M., (2005). "Geochemical Evidence for Gas Hydrates at Atwater Valley and Keathley Canyon, Gulf of Mexico," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS31D-03.
- Kleinberg, R., and J., Dai, (2005). "Estimation of the Mechanical Properties of Natural Gas Hydrate Deposits from Petrophysical Measurements," Houston, TX: Offshore Technology Conference. [OTC 17205-MS](#)
- Latham, T., Shelander, D., Boswell, R., Collett, T. S., Lee, M., (2008). "Subsurface Characterization of the Hydrate Bearing Sediments near Alaminos Canyon 818," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, B. C., July 6-10.
- Lorenson, T., J. Dougherty, G. Claypool, (2005). "Preliminary results from the ChevronTexaco Gulf of Mexico Gas Hydrates JIP: Hydrocarbon Gases in Sediments," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS42A-04.

- Loreson, T. D., Winters, W., Hart, P. E., and Paull, C. K., (2002). "Gas Hydrate Occurrence in the Northern Gulf of Mexico Studied with Giant Piston Cores," *EOS, Transactions, American Geophysical Union*, v. 83, n. 51, Dec., pp. 601, 607-608.
- Loreson, T., Winters, W., Paull, C., and Ussler, W., (2003). "Gas hydrate occurrence in the northern Gulf of Mexico studies with giant piston cores from sea-floor vents to minibasins," *The American Association of Petroleum Geologists Annual Meeting*, Seattle, WA, November 2-5.
- Loreson, T., Winters, W., Paull, C., and Ussler, W., (2003). "Gas hydrate occurrence in the northern Gulf of Mexico studies with giant piston cores from sea-floor vents to minibasins," *EGS-AGU-EUG Joint Assembly*, Nice, France, April 6-11.
- Loreson, T., Winters, W., Paull, C., and Ussler, W., (2006.) "Is gas hydrate and the Storegga Slide offshore Norway connected to an active petroleum system?," *The American Association of Petroleum Geologists Annual Meeting*, Houston, TX, April 9-12.
- Loreson, T., Winters, W., Paull, C., and Ussler, W., and Dougherty, J., (2003). Modeling gas hydrate occurrences in the northern Gulf of Mexico from giant piston cores, Seattle, WA, Geological Society of America Annual Meeting, November 2-5.
- Loreson, T., Winters, W., Paull, C., and Ussler, W., and the Shipboard Scientific Party, (2003). "Gas hydrate occurrence in the northern Gulf of Mexico: new insights learned from giant piston coring," *The American Association of Petroleum Geologists Annual Meeting*, Salt Lake City, UT.
- Loreson, T., Winters, W., Hart, P., and C. Paull, (2002)." Gas hydrate occurrence in the Northern Gulf of Mexico studied with giant piston cores," *American Geophysical Union Fall Meeting*, December 6-10.
- McConnell, D., Collett, T. S., Boswell, R., Frye, M., Shedd, W., Dufrene, R., Godfriaux, P., Mrozewski, S., Guerin, G., Cook, A., Jones, E., (2010). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Initial Results From the Green Canyon 955 Site." *Offshore Technology Conference*, Houston, TX, May 3-6, [OTC 20801](#).
- McConnell, D. [invited], Boswell, R. M., Collett, T. S., Frye, M., Shedd, W., Mrozewski, S., Guerin, G., Cook, A., Shelander, D., Dai, J., Dufrene, R., Godfriaux, R., Roy, R., and Jones, E., (2009). "Initial results of Gulf of Mexico Gas Hydrate Joint Industry Program Leg II logging-while-drilling operations in Green Canyon Block 955: Fall Meeting of the American Geophysical Union," *Proceedings, Abstract OS24A-03*, San Francisco, CA, December 14-18, 2009.
- Mrozewski, S., Cook, A., Guerin, G., Goldberg, D., Collett, T. S., Boswell, R., Jones, E., Roy, R., (2010). "Gulf of Mexico Gas Hydrates Joint Industry Project: LWD Logging Program Design, Data Acquisition and Evaluation," *Offshore Technology Conference*, Houston, TX, May 3-6, [OTC 21023](#).
- Paull, C., Ussler, W., Winters, W., and T. Loreson, (2003). "Constraints on the distribution of gas hydrates in the Gulf of Mexico," *EGS-AGU-EUG Joint Assembly*, Nice, France, April 6-11.
- Pohlman, J., Ruppel, C., Hutchinson, D., Hart, P., Plummer, R., D. Kniew, Grabowski, K., and R. Coffin, (2005). "The effects of mass deposition, gas flux and salt diapirs on surface sediment geochemistry in Keathley Canyon (northern Gulf of Mexico)," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS31D-04.

- Pohlman, J., Wood, W., T. Boyd, Coffin, R., Ruppel, C., Hutchinson, D., Hart, P., and Dugan, B., 2004. "Interstitial sulfate gradients as indicators of gas hydrates: How reliable are they?," *International Geological Conference*, Florence, Italy, August 20-28.
- Ruppel, C., (Invited) 2008. "Multiscale heterogeneity in methane flux regimes between and within major marine gas hydrate provinces," *EOS Trans. AGU*, 89(53), Fall Mtg Supplement, Abstract OS31D-02.
- Ruppel, C., (2008). "Before Production....The Challenges of Finding and Evaluating Gas Hydrates," *Presentation in the MIT/USGS ENI Methane Hydrate Seminar Series*, Cambridge, MA, October, 2008.
- Ruppel, C., (2008). "Methane Hydrates and Methane Seeps: The Potential of Biogeophysical Measurements for Identifying Microbial Hotspots," AGU Chapman Conference on Biogeophysics, Portland, ME, October 2008.
- Ruppel, C., Hutchinson, D., Dugan, B., and P. Hart, (2004). "Predicting the subsurface distribution of gas hydrate in the Northern Gulf of Mexico," *The American Association of Petroleum Geologists Annual Meeting*, Dallas, TX, April 18-21.
- Ruppel, C., (2009). "An assessment of methane hydrates as an energy resource, MIT Energy Initiative Natural Gas Study," Cambridge, MA, February 2.
- Ruppel, C., (2009). "Non-seismic geophysical methods for detection and characterization of resource-grade marine hydrates," *Testimony to the NRC Committee reviewing the activities authorized under the Methane Hydrate research Development Act (renewal) of 2005*, Washington, DC, March 4.
- Ruppel, C., (2009). "Methane Hydrate Resource Assessment," *Presentation to the Advisory Committee for the MIT Energy Initiative Natural Gas Study*, Cambridge, MA, March 24.
- Ruppel, C. et al., (2009). "Site selection for JIP Phase III drilling," *JIP meeting*, Houston, TX, August 18.
- Ruppel, C., (2010). "USGS activities under the DOE-USGS interagency agreement," *DOE Investigators' Meeting*, Atlanta, January 25.
- Ruppel, C., (2010). "Gas hydrates and scientific ocean drilling," *Testimony to the NRC review of Scientific Ocean Drilling*, Texas A&M University, July 2010. [remotely]
- Santamarina, J., Yun, T., Lee, J., Martin, A., Francisca, F., and Ruppel, C., (2005). "Mechanical, Thermal and Electromagnetic Properties of Hydrate-Bearing Clay, Silt, and Sand at Various Confining Pressures," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS41C-07.
- Santamarina, J., Yun, T., Lee, J., Martin, A., Francisca, F., and Ruppel, C., (2004). "Mechanical, thermal, and electrical properties of hydrate-bearing sediments," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Santamarina, J., Ruppel, C., Lee, J., and Yun, T., (2007). Making the Case for In Situ Characterization of Gas Hydrate-Bearing Sediments at Observatories: Laboratory and Catwalk Results Testing the Impact of Core Retrieval, presented at the JOI Gas-Hydrate Observatories Workshop, July 18-20.

- Schultheiss, P., Holland, M., Roberts, J., Humphrey, G., (2008). "Pressure Core Analysis: The Keystone of a Gas Hydrate Investigation," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10, (2008).
- Shedd, W., Frye, M., Godfriaux, P., Dufrene, R., McConnell, D., Boswell, R., Collett, T. S., Mrozewski, S., Guerin, G., Cook, A., Shelander, D., Dai, J., (2010). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Initial Results From the Walker Ridge 313 Site." Houston, Texas: *Offshore Technology Conference*, May 3-6, [OTC 20806](#).
- Shedd, W., Frye, M., Godfriaux, P., Dufrene, R., McConnell, D., Boswell, R., Collett, T. S., Mrozewski, S., Guerin, G., Cook, A., Shelander, D., Dai, J., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Initial Results from the Walker Ridge 313 Site," *Eos Trans. AGU*, 90(52) Fall Meet. Suppl., OS24A-04.
- Shedd, W. [invited], Frye, M., Boswell, R. M., Collett, T. S., McConnell, D., Jones, E., Shelander, D., Dai, J., Mrozewski, S., Guerin, G., Cook, A., Dufrene, R., Godfriaux, R., and Hutchinson, D., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Results from Walker Ridge 313 Site," *Fall Meeting of the American Geophysical Union*, December 14-18, 2009, San Francisco, California, Abstract OS24A-04.
- Smith, M., (2004). "Seismic Prediction and Operational Results for Gulf of Mexico Wells in Gas-Hydrate Areas," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Smith, J., Hamdan, L., Wood, W., Coffin., R., (2008). "Geologic Controls on Porewater Geochemistry in Gas Hydrate Bearing Sediments in the Gulf of Mexico." *Eos Trans. AGU*, Fall Meet., San Francisco, December 2008.
- Smith, M., and W. Shedd, (2004). "Effects of Gas Hydrate on Seafloor and Borehole Stability in the Deepwater Gulf of Mexico – Seismic Prediction and Drilling Results," *The American Association of Petroleum Geologists Annual Meeting*, Dallas, TX, April 16-21.
- Smith, M., Shedd, W., and Hunt, J., (2003). "Identification of Deepwater Gulf of Mexico Gas Hydrates – From Seismic Prediction to Joint Industry Project Drilling and Coring," *The American Association of Petroleum Geologists International Conference*, Barcelona, Spain, September 21-24.
- Smith, M., Kou, W., Ahmed, A., and Kuzela, R., (2005). "The Significance of Gas Hydrate as a Geohazard in Gulf of Mexico Exploration and Production," *Offshore Technology Conference*, Houston, TX, May 3. [OTC 17655-MS](#).
- Snyder, F., Muller, L., Dutta, N., Hutchinson, D., Hart, P., Lee, M., Dugan, B., Ruppel, C., Wood, W., Coffin, R., Evans, R., and Jones, E., (2004). "Seismic analysis and characterization of gas hydrates in the northern deepwater Gulf of Mexico," *The American Association of Petroleum Geologists Annual Meeting*, Dallas, TX, April 16-21.
- Snyder, F., (2005). "Seismic analysis and characterization of gas hydrates in the northern deepwater Gulf of Mexico," *The American Association of Petroleum Geologists Annual Meeting*, Dallas, TX, April 16-21.
- Subramanian, S., E. Jones, (2007). "Comparison of Pre-Cruise Predictions to Ground Truth Measurements for Leg I of the GOM Hydrate JIP," New Delhi, India, *Petrotech 2007*, January 14-16.

- Sun, K., Omeragic, D., Minh, C., Rasmus, J., Yang, J., Davydychev, A., Habashy, T., Griffiths, R., Reaper, G. Li, Q., (2010). "Evaluation of Resistivity Anisotropy and Formation Dip from Directional Electromagnetic Tools While Drilling," *SPWLA 51st Annual Logging Symposium*, June 19-23, 2010.
- Suzuki, K., Nakatsuka, Y., Fujii, T., Santamarina, J.C, Waite, W. F., Winters, W. J., Ito, K, Konno, Y, Yoneda, J., Kida, M., Jin, Y., Egawa, K., Nagao, J., (2013). P-wave velocity features of methane hydrate-bearing turbidity sediments sampled by a pressure core tool, from the first offshore production test site in the eastern Nankai Trough, Japan, AGU 2013 Fall Meeting.
- Ussler, W., Paull, C., S. Hallam, E. Delong, Y. Chen, R. Matsumoto, Lorenson, T., and W. Winters, (2003). The anatomy of the sulfate-methane interface in a methane-rich core from the Gulf of Mexico, Seattle, WA, Geological Society of America Annual Meeting, November 2-5.
- Ussler, W., Paull, C., Y. Chen, R. Matsumoto, Lorenson, T., and W. Winters, (2005). The consequences of methane oxidation at the sulfate-methane interface in a methane-rich core from the northern Gulf of Mexico, Trondheim, Norway, Fifth International Conference on Gas Hydrates, June 12-16.
- Winters, W., Novosel, I., O. Boldina, Waite, W., Lorenson, T., Paull, C., and W. Bryant, (2002). Physical properties of sediment related to gas hydrate in the northern Gulf of Mexico, San Francisco, CA, American Geophysical Union Fall Meeting, December 6-10.
- Winters, W., Novosel, I., O. Boldina, Waite, W., Lorenson, T., Paull, C., and W. Bryant, (2002). Physical properties of sediment related to gas hydrate in the Northern Gulf of Mexico, San Francisco, CA, EOS Transactions, American Geophysical Union, Volume 83, n. 47, December 6-10.
- Winters, W., Waite, W., Mason, D., Lorenson, T., Paull, C., Novosel, I., O. Boldina, Dallimore, S., and T. Collett, (2003). Physical properties of northern Gulf of Mexico sediment and laboratory samples containing natural and synthetic methane gas hydrate, Nice, France, EGS-AGU-EUG Joint Assembly, April 6-11.
- Winters, W., Waite, W., Pecher, I., Mason, D., Hutchinson, D., L. Gilbert, R. Birchwood, S. Noeth, and E. Jones, (2004). "Comparison of methane gas hydrate formation on physical properties of fine- and coarse-grained sediments," Vancouver, BC, *The American Association of Petroleum Geologists Hedberg Research Conference*, September 12-16.
- Wood, W., Hart, P., Coffin, R., Gardner, J., and Gettrust, J., J., (2005). "High Resolution Seismic Images of the Gulf of Mexico Joint Industry Program Drilling Transect," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS43A-0619.
- Wood, W., Kirby, S. H., (2005). "Natural Gas Hydrates: Modeling, Laboratory Studies, Recent JIP Drilling, and Other Field Investigations V," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS43A-Poster.
- Wood, W., Hutchinson, D., Hart, P., Snyder, F., Voss, C., Dutta, N., Muller, L., Lee, M., Gardner, J., Dugan, B., Ruppel, C., Coffin, R., R. Evans, and E. Jones, (2003). "Constraints on Subsurface gas and gas Hydrate Distribution in a Gulf of Mexico Mound," *Eos Trans. AGU*, 84(46), Fall Meet. Suppl., OS51B-0857.

- Wood, W., Gardner, J., Hagen, R., Coffin, R., Pohlmann, J., Hart, P., and D. Hutchinson, (2004). "Modeling heat and fluid flux of seafloor mounds in the Gulf of Mexico," *Eos Trans. AGU*, 85(47), Fall Meet. Suppl., OS34B-08.
- Yun, T., Narsilio, G., Lee, J., Santamarina, J., and Ruppel, C., (2005). "Physical properties of a Keathley Canyon pressure core maintained at in situ pressure and measured in a new instrumented pressure testing chamber," *Eos Trans. AGU*, 86(52), Fall Meet. Suppl., OS31D-06.
- Zhang, Z. and McConnell, D., (2010). "Seismic Modeling Analysis and Characterization for a Gas Hydrate and Free Gas Mixed System in Green Canyon, Gulf of Mexico." Houston, Texas: *Offshore Technology Conference*, May 3-6, [OTC 20659-MS](#).

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Peer-Reviewed Publications

Boswell, R., Schoderbek, D., Collett, T.S., Ohtsuki, S., White, M., and Anderson, B., 2017. The Iñnik Sikumi field experiment, Alaska North Slope: Design, operations, and implications for CO₂-CH₄ exchange in gas hydrate reservoirs. *Energy and Fuels*, v. 31, pp. 140-153.

Government Reports

Howard, J., (2009). "Effect of Carbon Dioxide Hydrate Formation on Reservoir Permeability." *Progress Report, 3rd Quarter, 2009, ConocoPhillips Gas Hydrate Production Test*, DOE Award No.: DE-NT0006553, November 12, (2009).

Howard, J., (2009). "Role of Free Water in Hydrate Reformation & Permeability," *Progress Report, 2nd Quarter, 2009, ConocoPhillips Gas Hydrate Production Test*, DOE Award No.: DE-NT0006553, August 28, (2009).

Lankston, R., (2009). "Predicting Methane Hydrate Saturation with the Stanford University Rock Physics Lab Code," *Progress Report, 2nd Quarter, 2009, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. August 28, (2009).

Mailloux, J., (2009). "Petrophysical Evaluation of Potential Hydrate-Bearing Wells on the North Slope of Alaska." *Progress Report, 2nd Quarter, 2009, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. August 28, (2009).

Scheihing, M., (2009). "Geocellular Model for Evaluation of Gas Hydrate Production Mechanism in Selected Sands of the Sagavanirktok Formation." *Semi-Annual Progress Report, 2010, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. August 26, 2010.

Schoderbek, D., (2009). "ConocoPhillips Gas Hydrate Production Test." *Progress Report, First Quarter 2009, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. June 26, 2009.

Schoderbek, D., (2009). "ConocoPhillips Gas Hydrate Production Test." *Progress Report, Second Quarter 2009, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. June 30, 2009.

Schoderbek, D., (2009). "ConocoPhillips Gas Hydrate Production Test." *Progress Report, Third Quarter 2009, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. November 12, 2009.

Schoderbek, D., (2010). "ConocoPhillips Gas Hydrate Production Test." *Progress Report, Fourth Quarter 2009, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. February 24, 2010.

Schoderbek, D., (2010). "ConocoPhillips Gas Hydrate Production Test." *Semi-Annual Progress Report, First Half, 2010, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. August 26, 2010.

- Schoderbek, D., (2011). "ConocoPhillips Gas Hydrate Production Test." *Semi-Annual Progress Report, Second Half, 2010, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. January 31, 2011.
- Schoderbek, D., (2012). "ConocoPhillips Gas Hydrate Production Test." *Semi-Annual Progress Report, First Half, 2011, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. July 31, 2011.
- Schoderbek, D., (2012). "ConocoPhillips Gas Hydrate Production Test." *Semi-Annual Progress Report, Second Half, 2011, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. January 31, 2012.
- Schoderbek, D., (2012). "ConocoPhillips Gas Hydrate Production Test." *Semi-Annual Progress Report, First Half, 2012, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. July 31, 2012.
- Schoderbek, D., (2013). "ConocoPhillips Gas Hydrate Production Test." *Semi-Annual Progress Report, Second Half, 2012, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. January 25, 2013.
- Schoderbek, D., Farrell, H., Hester, K., Howard, J., Raterman, K., Silpngarmlert, S., Martin, K. L., Smith, B., and Klein, P., (2013). "ConocoPhillips Gas Hydrate Production Test." Final Technical Report for Period October 1, 2008-June 30, 2013. DOE Award No.: DE-NT0006553. July 2013.
- Silpngarmlert, S., (2010). "Heat of Hydration Effects." *Semi-Annual Progress Report, 2010, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. August 26, 2010.
- Silpngarmlert, S., (2010). "Thermal Effects of Hot Fluid Production/Injection in Existing Wells." *Semi-Annual Progress Report, 2010, ConocoPhillips Gas Hydrate Production Test*. DOE Award No.: DE-NT0006553. August 26, 2010.

Other Publications

- Farrell, H., Boswell, R., Howard, J., Baker, R., (2010). "CO₂-CH₄ Exchange in Natural Gas Hydrate Reservoirs: Potential and Challenges." *U. S. DOE-NETL Fire in the Ice Newsletter*, March 2010.
- Hester, K. C., Farrell, H., Howard, J. J., Martin, K. L., Raterman, K., Schoderbek, D., Smith, B., and Silpngarmlert, S., (2012). "CO₂ exchange in a methane hydrate reservoir: Ignik Sikumi #1 Alaska field trial operations and summary results. Abstract OS33E-03," *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 3-7,.
- Howard, J. J., Hester, K. C., and Stevens, J. C., (2012). The role of laboratory experiments in the design of the field trial of CO₂ exchange in methane hydrates. Abstract OS33E-01, presented at the American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 3-7,.
- Ignik Sikumi Gas Hydrate Exchange Trial Project Team, (2012). "Ignik Sikumi gas hydrate field trial completed." *U. S. DOE-NETL Fire in the Ice*, v. 12, no. 1, pp. 1-3.
- Schoderbek, D., Boswell, R., (2011). "Ignik Sikumi #1, Gas Hydrate Test Well, Successfully Installed on the Alaska North Slope." *U. S. DOE-NETL Fire in the Ice*, May 2011.

Schoderbek, D., Martin, K., Howard, J., Silpngarmlert, S., and Hester, K., (2012). "North Slope Hydrate Fieldtrial: CO₂/CH₄ Exchange," *Arctic Technology Conference*, Houston, TX, December 2012. OTC 23725.

Silpngarmlert, S., (2011). "Modeling the Thermal Disturbance of Gas Hydrate Related to Oil and Gas Production," *U. S. DOE-NETL Fire in the Ice*, January 2011.

Presentations

Akasaka, C., Ohtsuki, S., and Terao, Y., (2012). CO₂-CH₄ Gas Exchange Field Trial in Alaska, Presented at JOGMEC 4th Comprehensive Symposium on Methane hydrate (CSMH-4), December 2012, Tokyo, Japan.

Akasaka, C., (2013). CO₂-CH₄ Gas Exchange Field Trial in Alaska Field Operation. Presented at JOGMEC TRC Week, State-of-the-Art Technology Development of Resources of Japan, Technology Research Center, Makuhari, Japan, November 2013,.

Farrell, H., Howard, J., (2009). "Experimental Basis CO₂-CH₄ Exchange for Production from Hydrate Reservoirs: Field-Test Plans," *National Research Council*, Washington, DC, March 5, 2009.

Farrell, H. and Hester, K., (2012). "CO₂/CH₄ Hydrate Exchange Field Trial Technical Update," *Methane Hydrate Advisory Committee Meeting*, Houston, TX, July 26,.

Farrell, H., (2013). Methane Hydrates Field Trial Overview. Presented at JOGMEC TRC Week, State-of-the-Art Technology Development of Resources of Japan, Technology Research Center, Makuhari, Japan, November 2013,.

Hester, K., Howard, J., and Stevens, J., (2011). "Composition Studies to Determine Rate and Extent of CO₂ Exchange in a Hydrate-Bearing Core," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July 17-21, 2011.

Hester, K. C., (2011). "Energy production from natural gas hydrate deposits through CO₂exchange: Concept, Advantages, and Challenges," *Symposium on Natural Gas Hydrates at Institute of Advanced Sustainability Studies (IASS)*, Potsdam, Germany, Nov 2011.

Hester, K. C., (2013). "CO₂/CH₄ Hydrate Exchange Field Trial, Results and Interpretation. Presented at JOGMEC TRC Week, State-of-the-Art Technology Development of Resources of Japan," *Technology Research Center*, November 2013, Makuhari, Japan.

Howard, J., Hester, K., Stevens, J. and Rydzy, M., (2011). "Ultrasonic Velocity Measurements During Experimental CH₄ Hydrate Formation and During CO₂ Exchange," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July 17-21, (2011).

Ireland, M., (2009). "CO₂-CH₄ Exchange Field Trial North Slope, Alaska." *Alaska Department of Natural Resources*, February 24.

Klein, D., Schoderbek, D., and Howard, J., (2012). "Comparative Formation Evaluation Methodologies for Gas Hydrate Evaluation in Iñnik Sikumi #1, Alaska North Slope," *AAPG 2012 Annual Convention and Exhibition*, Long Beach, CA, April 22-25,.

- Ohtsuki, S., Akasaka, C., and Yoshizawa M., (2013). "The field trial of methane hydrate production in the North Slope of Alaska," *The Japanese Association for Petroleum Technology*, Tokyo, Japan, June 28.
- Ohtsuki, S., (2013). "The First Field Trial of Gas Production, Using CO₂-CH₄ Exchange in Alaska." *JOGMEC TRC Week, State-of-the-Art Technology Development of Resources of Japan, Technology Research Center*, Makuhari, Japan, November 2013.
- Raterman, K., (2013). "CO₂/CH₄ Hydrate Exchange Field Trial, Basis for Exchange and Field Test Design." *JOGMEC TRC Week, State-of-the-Art Technology Development of Resources of Japan, Technology Research Center*, Makuhari, Japan, November 2013,.
- Schoderbek, D., Howard, J., Farrell, H., (2009). "CO₂-CH₄ Exchange Field Trial North Slope, Alaska." *Kickoff Meeting*, National Energy Technologies Laboratory, Morgantown, West Virginia, January 22, (2009).
- Schoderbek, D., Lankston, R., (2009). "CO₂-CH₄ Exchange Field Trial North Slope, Alaska." *DOE Site Selection Workshop*, ConocoPhillips Gas Hydrate Production Test DOE Award No.: DE-NT0006553, Houston, TX, April 3.
- Schoderbek, D., (2009). "ConocoPhillips North Slope CO₂-CH₄ Exchange Field Trial." *Alaska Industry Support Alliance*, September 24, 2009.
- Schoderbek, D., (2010). "ConocoPhillips North Slope CO₂-CH₄ Exchange Field Trial." *Alaska Department of Natural Resources, Division of Oil and Gas*, January 19, (2010).
- Schoderbek, D., (2010). "CO₂-CH₄ Exchange Field Trial Overview & Update." *Methane Hydrates Federal Advisory Committee Meeting*, Atlanta, Georgia, January 28, (2010).
- Schoderbek, D., Howard, J., Silpngarmert, S., 2010. "CO₂-CH₄ Exchange Field Trial Overview & Update." *National Gas Hydrates Research and Development Program Review*, Georgia Institute of Technology, Atlanta, GA, January, 2010.
- Schoderbek, D., (2011). "ConocoPhillips North Slope CO₂-CH₄ Exchange Field Trial ." *Alaska Department of Natural Resources, Division of Oil and Gas*, January 21, 2011.
- Schoderbek, D., (2011). "Methane Hydrate: Production Challenge or Future Energy Source?" *Alaska Forum on the Environment*, February 8, 2011.
- Schoderbek, D., (2011). "ConocoPhillips Methane Hydrate Project Update." *Alaska Department of Natural Resources, Division of Oil and Gas*, October 26, 2011.
- Schoderbek, D., (2012). "ConocoPhillips North Slope Hydrate Exchange Field Trial: Overview and Update." *Society of Petroleum Engineers, Alaska Section*, February 16, 2012.
- Schoderbek, D., Martin, K., Howard, J., Silpngarmert, S., and Hester, K., (2012). North Slope hydrate fieldtrial: CO₂/CH₄ exchange. *Offshore Technology Conference Paper 23725*, Presented at OTC Arctic Technology Conference, Houston, TX, Dec. 3-5.

Maurer Technology, Inc/Noble Corporation, U. Oklahoma, U. Alaska-Anchorage, U. S. Geological Survey

Peer-Reviewed Publications

- Circone, S., Stern, L., and Kirby, S., (2003). "The Role of Water in Hydrate Dissociation," *Journal of Physical Chemistry*, Volume 108, n. 18, pp. 5747-5755.
- Ebanks, W. Jr., Zogg, W., Sigal, R., Rai, C., Sondergeld, C., Emery, N., McCardle, G., McLoed, W., Schweizer, R., and Van Eerde, J., (2009). "Characterization of potential hydrate bearing reservoirs in the Ugnu and West Sak formations of Alaska's North Slope, Part 1: Geology of the Ugnu and West Sak Sands," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Millheim, K., Kwan, J., Williams, T., Maurer, W., MacDonald, W., Kadaster, A., Thompson, T., Sigal, R., Copeland, D., McGuire, D., Runyon, S., and Liddell, B., (2005). "A project update of methane hydrate production from Alaskan permafrost," in Taylor, C. and J. Kwan, eds., *Advances in the Studies of Gas Hydrates*, New York, Kluwer Academic/Plenum Publishers, pp. 75-85.
- Newsham, K., Sigal, R., and Kwan, J., (2005). "An Application Used For Correcting Thermal Gradients Below Permafrost Using an Empirical Diffusion Model – Anadarko's Hot Ice #1 Gas Hydrates Case Study," in Taylor, C. and J. Kwan, eds., *Advances in the Studies of Gas Hydrates*, New York, Kluwer Academic/Plenum Publishers, pp. 59-72.
- Sigal, R., Rai, C., Sondergeld, C., Ebanks, W., Jr., Zogg, W., Emery, N., McCardle, G., McLoed, W., Schweizer, R., and Van Eerde, J., (2009). "Characterization of potential hydrate bearing reservoirs in the Ugnu and West Sak formations of Alaska's North Slope, Part 2: Porosity, Permeability, Grain Density, and Bulk Modulus Reservoir Properties," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Sigal, R., Rai, C., Sondergeld, C., Ebanks, W., Jr., Zogg, W., Emery, N., McCardle, G., McLoed, W., Schweizer, R., and Van Eerde, J., (2009). "Characterization of potential hydrate bearing reservoirs in the Ugnu and West Sak formations of Alaska's North Slope, Part 3: Resistivity Reservoir Properties," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Sigal, R., Rai, C., Sondergeld, C., Ebanks, W., Jr., Zogg, W., Emery, N., McCardle, G., McLoed, W., Schweizer, R., and Van Eerde, J., (2009). "Characterization of potential hydrate bearing reservoirs in the Ugnu and West Sak formations of Alaska's North Slope, Part 4: Reservoir Acoustic Velocities," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.

- Sigal, R., Rai, C., Sondergeld, C., Ebanks, W., Jr., Zogg, W., Emery, N., McCardle, G., McLoed, W., Schweizer, R., and Van Eerde, J., (2009). "Characterization of potential hydrate bearing reservoirs in the Ugnu and West Sak formations of Alaska's North Slope, Part 5: Nuclear Magnetic Resonance (NMR) Reservoir Properties," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Sigal, R., Rai, C., Sondergeld, C., Ebanks, W., Jr., Zogg, W., Emery, N., McCardle, G., McLoed, W., Schweizer, R., and Van Eerde, J., (2009). "Characterization of potential hydrate bearing reservoirs in the Ugnu and West Sak formations of Alaska's North Slope, Part 6: Gas Hydrate Stability Calculations," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Stern, L., Circone, S., Kirby, S., and Durham, W., (2001). "Anomalous Preservation of Pure Methane Hydrate at 1 atm," *Journal of Physical Chemistry*, Volume 105, pp. 1756-1762.
- Stern, L., Circone, S., Kirby, S., and Durham, W., (2001). "Reply to Comments on 'Anomalous Preservation of Pure Methane Hydrate at 1 atm,'" *Journal of Physical Chemistry*, Volume 106, n. 1, pp. 228-230.
- Stern, L., Circone, S., Kirby, S., and Durham, W., (2003). "Temperature, Pressure, and Compositional Effects on Anomalous or 'Self' Preservation of Gas Hydrates," *Canadian Journal of Physics*, Volume 81, pp. 271-283.

Government Reports

- Barker, C., (2003). "Methane hydrate production form Alaskan permafrost – Coalbed Methane Studies at Hot Ice #1 Gas Hydrate Well," *U. S. DOE Topical Report*, Contract No. DE-FC26-01NT41331, 7 pp.
- Cohen, J., and Williams, T., (2002). "Hydrate Core Drilling Tests," *Maurer Technology Topical Report*, November.
- Kadaster, A., Liddel, B., Thompson, T., Williams, T., and Nidermayr, M., (2005). "Methane hydrate production form Alaskan permafrost – drilling and coring operations," *U. S. DOE-NETL Topical Report*, 258 pp.
- Kirby, S., Circone, S., and Stern, L., (2003). "Methane hydrate production form Alaskan permafrost – Dissociation Rates of Methane Hydrate at Elevated Pressures and of a Quartz Sand-Methane Hydrate Mixture at 0.1 MPa," *U. S. DOE-NETL Topical Report*, 26 pp.
- Kleinberg, R., Griffin, D., and Sigal, R., (2004). "Methane hydrate production form Alaskan permafrost – NMR measurements of permafrost: unfrozen water assay, growth habit of ice, and hydraulic permeability of sediments," *U. S. DOE-NETL Topical Report*, 26 pp.
- McGuire, D., Runyon, S., Sigal, R., Liddel, B., Williams, T., and Moridis, G., (2005). "Methane hydrate production form Alaskan permafrost – Hydrate reservoir characterization and modeling," *U. S. DOE-NETL Topical Report*, 20 pp.
- McGuire, D., Williams, T., Paulsson, B., and Goertz, A., (2005). "Methane hydrate production form Alaskan permafrost – 3D vertical seismic profile survey," *U. S. DOE-NETL Topical Report*, 30 pp.

- Runyon, S., M. Globe, K. Newsham, R. Kleinberg, and D. Griffin, (2005). "Methane hydrate production from Alaskan permafrost – logging operations," *U. S. DOE-NETL Topical Report*, 22 pp.
- Sigal, R., Newsham, K., Williams, T., Friefeld, B., Kneafsey, T., Sondegard, C., Rai, S., Kwan, J., Kirby, S., Kleinberg, R., and Griffin, D., (2005). "Methane hydrate production from Alaskan permafrost – core and fluid analysis," *U. S. DOE-NETL Topical Report*, 225 pp.
- Sigal, R., (2004). "Methane hydrate production from Alaskan permafrost – Hydrate reservoir characterization and modeling – X-ray and Density Log data from the Hot Ice #1 well," *U. S. DOE-NETL Topical Report*, 6 pp.
- Williams, T., Millheim, K., and Liddel, B., (2005). "Methane hydrate production from Alaskan permafrost," *U. S. DOE-NETL Final Report*, Contract No. DE-FC26-01NT41331.

Other Publications

- Kirby, S., Circone, S., Stern, L., and Pinkston, J., (2004). "USGS Laboratory Studies Shed Light On Hydrate Decomposition Behavior Under Possible Gas Production Scenarios," *U. S. DOE-NETL Fire in the Ice Newsletter*, Summer, pp. 5-9.
- Kirby, S., Circone, S., Stern, L., and Pinkston, J., (2004). "Hydrate decomposition under scrutiny," *U. S. DOE-NETL Fire in the Ice Newsletter*, Winter, pp. 3-8.

Presentations

- Barker, C., Clough, J., Roberts, S., Clark, A., and Fisk, B., (2003). "Physical Limitations on Coalbed Gas Content of Low Rank Coals, North Slope, Alaska, An Apparent Widespread Depletion of Coalbed Gas in Permafrost," Billings, MT, *18th International Low-Rank Fuels Symposium*, June 24-26.
- Kadaster, A., Millheim, K., and Thompson, T., (2005). "The Planning and Drilling of Hot Ice #1 – Gas Hydrate Exploration Well in the Alaskan Arctic," Amsterdam, The Netherlands, *SPE/IADC Drilling Conference & Exhibition*, February 23-25.
- Kadaster, A., and Millheim, K., (2004). "Onshore Mobile Platform: A Modular Platform for Drilling and Production Operations in Remote and Environmentally Sensitive Areas," Dallas, TX, *IADC/SPE Drilling Conference*, March 2-4.
- McGuire, D., Runyon, S., Williams, T., Paulsson, B., Goertz, A., and Karrenbach, M., (2004). "Gas Hydrate Exploration with 3D VSP Technology, North Slope, Alaska," *Society of Exploration Geophysicists 74th Annual Meeting*, Denver, CO, October 11-15.
- McGuire, D., Runyon, S., Williams, T., and Sigal, R., (2004). "Integration of VSP Seismic Data with Core and Well Log Data to Investigate Lateral Variations of Potential Hydrate-Bearing Sands, Alaska North Slope, *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Millheim, K., Kwan, J., and Maurer, B., (2002). "A Field Oriented Natural Gas Hydrate Research Project for the Alaska North Slope – Resource Evaluation and Possible Testing," Orlando, FL, *223rd American Chemical Society National Meeting*, April 9.
- Millheim, K., (2002). "Methane Hydrate Production from Alaska Permafrost," Houston, TX, *The American Association of Petroleum Geologists Hydrate Meeting*, March 12.

- Sigal, R., Rai, C., Sondergeld, C., Ebanks, W., Zogg, W., and Kleinberg, R., (2004). "Characterization of Potential Hydrate Bearing Reservoirs in the Ugnu and West Sak Formations of Alaska's North Slope," Vancouver, BC, *The American Association of Petroleum Geologists Hedberg Research Conference*, September 12-16.
- Stern, Laura A., Kirby, Stephen H., (2008). "Natural Gas Hydrates Up Close: A Comparison Of Grain Characteristics Of Samples From Marine And Permafrost Environments As Revealed By Cryogenic Sem." *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10, (2008).
- Stern, L., Circone, S., Kirby, S., and Durham, W., (2002). "New insights into the phenomenon of anomalous or "self" preservation of gas hydrates," Newfoundland, *International Symposium on the Physics and Chemistry of Ice*, July 14-19.
- Williams, T., Liddell, B., Kadaster, A., and Thompson, T., (2004). "Hot Ice Well No. 1 – Well Planning, Operations and Results of the First Dedicated Gas Hydrate Well in the Alaskan Arctic," Vancouver, BC, *The American Association of Petroleum Geologists Hedberg Research Conference*, September 12-16.
- Williams, T., (2003). "Methane Hydrate Production – Application of Arctic Hydrate Research to Deep Water," *American Association of Drilling Engineers, Deep Water Quarterly Forum*, Houston, TX, February 11.

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Government Reports

- McConnell, D., (2013). "Advanced Hydrate Reservoir Modeling Using Rock Physics Techniques," DOE Award No.: DE-FE0010160, Quarterly Research Performance Progress Report (Period ending 12/31/2012), January 2013.
- McConnell, D., (2014). "Advanced Hydrate Reservoir Modeling Using Rock Physics Techniques," DOE Award No.: DE-FE0010160, Quarterly Research Performance Progress Report (Period ending 12/31/2013), January 2014.
- McConnell, D., (2014). "Advanced Hydrate Reservoir Modeling Using Rock Physics Techniques," DOE Award No.: DE-FE0010160, Quarterly Research Performance Progress Report (Period ending 03/31/2014), April 2014.
- McConnell, D., (2014). "Advanced Hydrate Reservoir Modeling Using Rock Physics Techniques," DOE Award No.: DE-FE0010160, Quarterly Research Performance Progress Report (Period ending 06/30/2014), July 2014.
- McConnell, D., (2014). "Advanced Hydrate Reservoir Modeling Using Rock Physics Techniques," DOE Award No.: DE-FE0010160, Quarterly Research Performance Progress Report (Period ending 09/30/2014), December 2014.
- McConnell, D., (2015). "Advanced Hydrate Reservoir Modeling Using Rock Physics Techniques," DOE Award No.: DE-FE0010160, Quarterly Research Performance Progress Report (Period ending 12/31/2014), February 2015.
- McConnell, D., (2015). "Advanced Hydrate Reservoir Modeling Using Rock Physics Techniques," DOE Award No.: DE-FE0010160, Quarterly Research Performance Progress Report (Period ending 03/31/2015), April 2015.
- McConnell, D., (2015). "Advanced Hydrate Reservoir Modeling Using Rock Physics Techniques," DOE Award No.: DE-FE0010160, Quarterly Research Performance Progress Report (Period ending 06/30/2015), August 2015.
- McConnell, D., (2015). "Advanced Hydrate Reservoir Modeling Using Rock Physics Techniques," DOE Award No.: DE-FE0010160, Quarterly Research Performance Progress Report (Period ending 09/30/2015), November 2015.
- McConnell, D., (2016). "Advanced Hydrate Reservoir Modeling Using Rock Physics Techniques," DOE Award No.: DE-FE0010160, Quarterly Research Performance Progress Report (Period ending 12/31/2015), February 2016.
- McConnell, D., (2016). "Advanced Hydrate Reservoir Modeling Using Rock Physics Techniques," DOE Award No.: DE-FE0010160, Quarterly Research Performance Progress Report (Period ending 3/31/2016), June 2016.
- McConnell, D. (2017). "Advanced Gas Hydrate Reservoir Modeling Using Rock Physics Techniques," DOE Award No.: DE-FE0010160, Final Technical Report (Period ending 3/31/2016), December 2017.

Planning of a Marine Methane Hydrate Pressure Coring Program for the Walker Ridge and Green Canyon Areas of the Gulf of Mexico (DE-FE0010175)

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Government Reports

- Humphrey, G., (2013). "Planning of a Marine Methane Hydrate Pressure Coring Program for the Walker Ridge and Green Canyon Areas of the Gulf of Mexico," DOE Award No.: DE-FE0010175, Quarterly Research Performance Progress Report (Period ending 12/31/2012), Submitted July 2013.
- Humphrey, G., (2013). "Planning of a Marine Methane Hydrate Pressure Coring Program for the Walker Ridge and Green Canyon Areas of the Gulf of Mexico," DOE Award No.: DE-FE0010175, Quarterly Research Performance Progress Report (Period ending 03/31/2013), Submitted July 2013.
- Humphrey, G., (2013). "Planning of a Marine Methane Hydrate Pressure Coring Program for the Walker Ridge and Green Canyon Areas of the Gulf of Mexico," DOE Award No.: DE-FE0010175, Quarterly Research Performance Progress Report (Period ending 06/30/2013), Submitted July 2013.
- Humphrey, G., (2014). "Planning of a Marine Methane Hydrate Pressure Coring Program for the Walker Ridge and Green Canyon Areas of the Gulf of Mexico," DOE Award No.: DE-FE0010175, Quarterly Research Performance Progress Report (Period ending 09/30/2013), Submitted February 2014.
- Humphrey, G., (2014). "Planning of a Marine Methane Hydrate Pressure Coring Program for the Walker Ridge and Green Canyon Areas of the Gulf of Mexico," DOE Award No.: DE-FE0010175, Quarterly Research Performance Progress Report (Period ending 12/31/2013), Submitted March 2014.
- Humphrey, G., (2014). "Planning of a Marine Methane Hydrate Pressure Coring Program for the Walker Ridge and Green Canyon Areas of the Gulf of Mexico," DOE Award No.: DE-FE0010175, Quarterly Research Performance Progress Report (Period ending 03/31/2014), Submitted April 2014.
- Humphrey, G., (2015). "Planning of a Marine Methane Hydrate Pressure Coring Program for the Walker Ridge and Green Canyon Areas of the Gulf of Mexico," DOE Award No.: DE-FE0010175, Quarterly Research Performance Progress Report (Period ending 06/30/2014), Submitted April 2015.
- Humphrey, G., (2015). "Planning of a Marine Methane Hydrate Pressure Coring Program for the Walker Ridge and Green Canyon Areas of the Gulf of Mexico," DOE Award No.: DE-FE0010175, Quarterly Research Performance Progress Report (Period ending 09/30/2014), Submitted April 2015.

Humphrey, G., (2015). "Planning of a Marine Methane Hydrate Pressure Coring Program for the Walker Ridge and Green Canyon Areas of the Gulf of Mexico," DOE Award No.: DE-FE0010175, Quarterly Research Performance Progress Report (Period ending 12/31/2014), Submitted April 2015.

Humphrey, G., (2015). "Planning of a Marine Methane Hydrate Pressure Coring Program for the Walker Ridge and Green Canyon Areas of the Gulf of Mexico," DOE Award No.: DE-FE0010175, Quarterly Research Performance Progress Report (Period ending 03/31/2015), Submitted May 2015.

Humphrey, G., (2015). "Planning of a Marine Methane Hydrate Pressure Coring Program for the Walker Ridge and Green Canyon Areas of the Gulf of Mexico," DOE Award No.: DE-FE0010175, Quarterly Research Performance Progress Report (Period ending 06/30/2015), Submitted July 2015.

Section III: Publications Related to the Program's Efforts with Universities and Other Research Institutions

Gas Hydrate Characterization in the Gulf of Mexico (DE-NT0005668) and Mapping Permafrost and Gas Hydrate using Marine CSEM Methods (DE-FE0010144)

Scripps Institution of Oceanography, University of California – San Diego

Peer-Reviewed Publications

- Constable, S., Kannberg, P. K., and Weitemeyer, K., (2016). Vulcan: A deep-towed CSEM receiver. *Geochemistry, Geophysics, Geosystems*, v. 17, doi:10.1002/2015GC006174.
- Du Frane, W. L., Stern, L. A., Weitemeyer, K. A., Constable, S., Pinkston, J. C., and Roberts, J. J., (2011). "Electrical properties of polycrystalline methane hydrate," *Geophysical Research Letters*, v. 38. doi:10.1029/2011GL047243.
- Du Frane, W., Stern, L. A., Constable, S., Weitemeyer, K., Smith, M. M., and Roberts, J. J., (2015). "Electrical properties of methane hydrate and sediment mixtures," *Journal of Geophysical Research*, v. 120, pp. 4773-4787. doi:10.1002/2015JB011940.
- Weitemeyer, K., Gao, G., Constable, S., and Alumbaugh, D., (2010). "The practical application of 2D inversion to marine controlled-source electromagnetic sounding," *Geophysics*, v. 75, pp. F199-F211.
- Weitemeyer, K. A., Constable, S., and Trehu, A. M., (2011). "A marine electromagnetic survey to detect gas hydrate at Hydrate Ridge, Oregon," *Geophysical Journal International*, v. 187, pp. 45-62.
- Weitemeyer, K. and Constable, S., (2014). "Navigating marine electromagnetic transmitters using dipole field geometry," *Geophysical Prospecting*, v. 62, pp. 573-593, doi: 10.1111/13652478.12092.

Government Reports

- Constable, S. and Weitemeyer, K., (2009). "Marine Electromagnetic Methods for Gas Hydrate Characterization, Gulf of Mexico," *Cruise Report – R. V. Roger Revelle, October 7th-26th, (2008)*. Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. January 2009.
- Constable, S., (2008). "Gas Hydrate Characterization in the GoM using Marine EM Methods," *Quarterly Progress Report, October 2008 – December 2008*. Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. February 2009.
- Constable, S., (2009). "Gas Hydrate Characterization in the GoM using Marine EM Methods," *Quarterly Progress Report, January 2009 – March 2009*. Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. April 2009.

- Constable, S., (2009). "Gas Hydrate Characterization in the GoM using Marine EM Methods," *Quarterly Progress Report, April 2009 – June 2009*. Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. April 2009.
- Constable, S., (2009). "Gas Hydrate Characterization in the GoM using Marine EM Methods," *Phase 1 Final Report*. Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. April 2009.
- Constable, S., (2009). "Gas Hydrate Characterization in the GoM using Marine EM Methods," *Quarterly Progress Report, October 2009 – December 2009*. Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. December 2009.
- Constable, S., (2010). "Gas Hydrate Characterization in the GoM using Marine EM Methods. *Quarterly Progress Report, January 2010 – March 2010,*" Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. April, (2010).
- Constable, S., (2010). "Gas Hydrate Characterization in the GoM using Marine EM Methods. *Quarterly Progress Report, April 2010 – June 2010,*" Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. August 2010.
- Constable, S., (2010). "Gas Hydrate Characterization in the GoM using Marine EM Methods. *Quarterly Progress Report, July 2010 – September 2010,*" Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. November 2010.
- Constable, S., (2011). "Gas Hydrate Characterization in the GoM using Marine EM Methods. *Quarterly Progress Report, October 2010 – December 2010,*" Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. February 2011.
- Constable, S., (2011). "Gas Hydrate Characterization in the GoM using Marine EM Methods," *Summary of Phase II Research*. Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. May 2011.
- Constable, S., (2011). "Gas Hydrate Characterization in the GoM using Marine EM Methods. *Quarterly Progress Report, April 2011 – July 2010,*" Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. August 2011.
- Constable, S., (2011). "Gas Hydrate Characterization in the GoM using Marine EM Methods. *Quarterly Progress Report, July 2011 – September 2011,*" Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. October 2011.
- Constable, S., (2012). "Gas Hydrate Characterization in the GoM using Marine EM Methods. *Quarterly Progress Report, January 2012 –March 2012,*" Scripps Institution of Oceanography, University of California San Diego, DOE Award No.: DE-NT0005668. April 2012.
- Constable, S., (2013). "Mapping Permafrost and Gas Hydrate using Marine CSEM Methods" DOE Award No.: DE-FE0010144, Quarterly Research Performance Progress Report (Period ending 12/31/2012). January 2013.

- Constable, S., (2013). "Mapping Permafrost and Gas Hydrate using Marine CSEM Methods" DOE Award No.: DE-FE0010144, Quarterly Research Performance Progress Report (Period ending 3/31/2013). May 2013.
- Constable, S., (2013). "Mapping Permafrost and Gas Hydrate using Marine CSEM Methods" DOE Award No.: DE-FE0010144, Quarterly Research Performance Progress Report (Period ending 6/30/2013). August 2013.
- Constable, S., (2013). "Mapping Permafrost and Gas Hydrate using Marine CSEM Methods" DOE Award No.: DE-FE0010144, Quarterly Research Performance Progress Report (Period ending 9/30/2013). November 2013.
- Constable, S., (2014). "Mapping Permafrost and Gas Hydrate using Marine CSEM Methods" DOE Award No.: DE-FE0010144, Quarterly Research Performance Progress Report (Period ending 12/31/2013). January 2014.
- Constable, S., (2014). "Mapping Permafrost and Gas Hydrate using Marine CSEM Methods" DOE Award No.: DE-FE0010144, Quarterly Research Performance Progress Report (Period ending 3/30/2014). April 2014.
- Constable, S., (2014). "Mapping Permafrost and Gas Hydrate using Marine CSEM Methods" DOE Award No.: DE-FE0010144, Quarterly Research Performance Progress Report (Period ending 6/30/2014). July 2014.
- Constable, S., (2014). "Mapping Permafrost and Gas Hydrate using Marine CSEM Methods" DOE Award No.: DE-FE0010144, Quarterly Research Performance Progress Report (Period ending 9/30/2014). October 2014.
- Constable, S., (2016). "Mapping Permafrost and Gas Hydrate using Marine CSEM Methods" DOE Award No.: DE-FE0010144, Quarterly Research Performance Progress Report (Period ending 12/31/2015). February 2016.
- Constable, S., (2016). "Mapping Permafrost and Gas Hydrate using Marine CSEM Methods" DOE Award No.: DE-FE0010144, Quarterly Research Performance Progress Report (Period ending 3/31/2016). April 2016.
- Constable, S., (2016). "Mapping Permafrost and Gas Hydrate using Marine CSEM Methods" DOE Award No.: DE-FE0010144, Quarterly Research Performance Progress Report (Period ending 6/30/2016). July 2016.
- Constable, S., (2016). "Mapping Permafrost and Gas Hydrate using Marine CSEM Methods" DOE Award No.: DE-FE0010144, Quarterly Research Performance Progress Report (Period ending 9/30/2016). November 2016.

Other Publications

- Du Frane, W. L., Stern, L. A., Weitemeyer, K. A., Constable, S., and Roberts, J. J., (2011). "Electrical properties of methane hydrate + sediment mixtures," *U. S. DOE-NETL Fire in the Ice Newsletter*, December, pp. 10-13.

Weitemeyer, K., and Constable, S., (2009). "Cruise report: Imaging gas hydrate in the Gulf of Mexico using marine electromagnetic methods," *U. S. DOE-NETL Fire in the Ice Newsletter*, Winter, pp. 4-6.

Weitemeyer, K., and Constable, S., (2010). "Mapping shallow geology and gas hydrates with marine CSEM surveys," *First Break*, v. 28, pp. 97-102.

Weitemeyer, K., and Constable, S., (2010). "Tests of new marine EM survey method at Mississippi Canyon 118, Gulf of Mexico," *U. S. DOE-NETL Fire in the Ice Newsletter*, Spring, pp. 13-17.

Presentations

Constable, S., and Weitemeyer, K., (2010). "Mapping gas hydrates and shallow sedimentary structure in the Gulf of Mexico using marine CSEM," *20th Electromagnetic Induction Workshop*, Giza, Egypt September 18-25, (2010).

Constable, S., Weitemeyer, K., Kannberg, P., and Key, K., (2012). "Mapping marine gas hydrate systems using electromagnetic methods." Abstract OS34A-06, presented at American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 3-7,.

Constable, S., (2015). "Water and electricity do mix: Studying plates, petroleum, and permafrost using marine electromagnetism," presented at American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 14-18.

Du Frane, W. L., Stern, L. A., Weitemeyer, K., Constable, S., Pinkston, J. C., and Roberts, J. J., (2011). "Electrical Conductivity of Laboratory-Synthesized Methane Hydrate." *Proc. of the 7th International Conference on Gas Hydrates (ICGH 2011)*. Edinburgh, Scotland, United Kingdom, July, 17-21, (2011).

Du Frane, W. L., L. A. Stern, S. Constable, K. A. Weitemeyer, and J. J. Roberts, (2011). "Electrical properties of methane hydrate + sediment mixtures." Abstract OS12A-03 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 5-9 Dec.

Kannberg, P. K., S. Constable, K. A. Weitemeyer, and A. M. Trehu, (2011). "Resistivity structure at the summit of South Hydrate Ridge," Abstract OS13C-1547 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 5-9 Dec.

Kannberg, P. K. and Constable, S., (2012). "Mapping methane hydrate with a towed marine transmitter-receiver array," presented at American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 3-7.

Kannberg, P. K., Constable, S., and Key, K., (2013). "Hydrates in the California Borderlands: 2D inversion results from CSEM towed and seafloor arrays," presented at American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 9-13.

Kannberg, P. K., Constable, S., and Key, K., (2014). "Hydrates in the California Borderlands: Results from controlled-source electromagnetic surveys," presented at Gordon Research Conference, Galveston, TX, Mar. 23-28.

Kannberg, P. K. and Constable, S., (2014). "Hydrates in the California Borderlands revisited: Results from a controlled-source electromagnetic survey of the Santa Cruz Basin," presented at American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 15-19.

- Kannberg, P. K. and Constable, S., (2015). "Resistivity structure of the Del Mar methane seep," presented at American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 14-18.
- Kannberg, P. K. and Constable, S., (2016). "Surveying hydrates in the California Borderlands using electromagnetic methods," presented at the Natural Gas Hydrate Systems Gordon Research Conference, Galveston, TX.
- Sherman, J., Constable, S., and Kannberg, P. K., (2015). "Surface towed CSEM systems for shallow water mapping," presented at American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 14-18.
- Stern, L. A., Du Frane W. L., Weitemeyer, K. A., Constable, S., and Roberts, J. J., (2012). Electrical conductivity of lab-formed methane hydrate + sand mixtures, technical developments and new results. Presented at American Geophysical Union Fall Meeting, Dec. 3-7, San Francisco, CA.
- Weitemeyer, K, and Constable, S., (2009). "Preliminary results from the Gulf of Mexico Gas Hydrate CSEM experiment," *Eos Trans. AGU*, 90 (52), Fall Meet. Suppl. GP33A-0735
- Weitemeyer, K. and Constable, S., 2010. "Results from the GoM gas hydrate studies," *SIO Seafloor Electromagnetics Consortium Annual Meeting*, La Jolla, CA March 17-18, (2010).
- Weitemeyer, K., and Constable, S., (2011). "Mapping Gas Hydrates with Marine Controlled Source Electromagnetics." *Proc. of the 7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July, 17-21, 2011.

Assessing the Efficacy of the Aerobic Methanotropic Biofilter in Methane Hydrate Environments (DE-NT0005667)

University of California – Santa Barbara

Peer-Reviewed Publications

- Kessler, J. D., Valentine, D. L., Redmond, M. C., Du, M., Chan, E. W., Mendes, S. D., Quiroz, E. W., Villanueva, C. J., Shusta, S. S., Werra, L. M., Yvon-Lewis, S. A., and Weber, T. C., (2011). "A Persistent Oxygen Anomaly Reveals the Fate of Spilled Methane in the Deep Gulf of Mexico," *Science Express*. DOI: 10.1126/science.1199697. January 2011.
- Mau, S., Heintz, M. B., Kinnaman, F. S., Valentine, D. L., (2010). "Compositional variability and air-sea flux of ethane and propane in the plume of a large, marine seep field near Coal Oil Point, CA," *Geo-Marine Letters* 30(3-4) 367-378. DOI 10.1007/s00367-010-0185-z.
- Redmond, M. C., Valentine, D. L., Sessions, A. L., (2010). "Novel Methane, Ethane, and Propane Oxidizing Bacteria at Marine Hydrocarbon Seeps Identified by Stable Isotope Probing," *Applied and Environmental Microbiology* 76(19) 6412-6422.
- Redmond, M. C., and Valentine, D. L., (2011). "Natural gas and temperature structured a microbial community response to the Deepwater Horizon oil spill." Proceedings of the National Academy of Sciences, USA. doi/10.1073/pnas.1108756108.
- Ryerson, T. B., Camilli, R., Kessler, J. D., Kujawinski, E. B., Reddy, C. M., Valentine, D. L., Atlas, E., Blake, D. R., de Gouw, J., Meinardi, S., Parrish, D. D., Peischl, J., Seewald, J. S., and Warneke, C., 2012. Chemical data quantify Deepwater Horizon hydrocarbon flow rate and environmental distribution. Proceedings of the National Academy of Sciences. doi: 10.1073/pnas.1110564109.
- Valentine, D. L., Kessler, J. D., Redmond, M. C., Mendes, S. D., Heintz, M. B., Farwell, C., Hu, L., Kinnaman, F. S., Yvon-Lewis, S., Du, M., Chan, E. W., Garcia-Tigreros, F., Villanueva, C. J., (2010). "Propane respiration jump starts microbial response to a deep oil spill," *Science Express*. DOI: 10.1126/science.1196830.
- Valentine, D. L., Mezić, I., Maćešić, S., Črnjarić-Žic, N., Ivić, S., Hogan, P. J., Fonoberov, V. A., and Loire, S., (2012). Dynamic autoinoculation and the microbial ecology of a deep water hydrocarbon irruption. Proceedings of the National Academy of Sciences, v. 109, no. 50, pp. 20286-20291. doi:10.1073/pnas.1108820109.

Government Reports

- Valentine, D., (2009). "Assessing the Efficacy of the Aerobic Methanotropic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, October 2008 – December 2008*. University of California Santa Barbara, DOE Award No.: DE-NT0005667. February 2009.
- Valentine, D., (2009). "Assessing the Efficacy of the Aerobic Methanotropic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, January 2009 – March 2009*. University of California Santa Barbara, DOE Award No.: DE-NT0005667. April 2009.

- Valentine, D., (2009). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, April 2009 – June 2009*. University of California Santa Barbara, DOE Award No.: DE-NT0005667, July 2009.
- Valentine, D., (2010). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, July 2009 – September 2009*. University of California Santa Barbara, DOE Award No.: DE-NT0005667. November 2009.
- Valentine, D., (2010). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, October 2009 – December 2009*. University of California Santa Barbara, DOE Award No.: DE-NT0005667. January 2010.
- Valentine, D., (2010). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, January 2010 – March 2010*. University of California Santa Barbara, DOE Award No.: DE-NT0005667. April 2010.
- Valentine, D., (2010). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, April 2010 – June 2010*. University of California Santa Barbara, DOE Award No.: DE-NT0005667, July 2010.
- Valentine, D., (2010). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, July 2010 – September 2010*. University of California Santa Barbara, DOE Award No.: DE-NT0005667, October 2010.
- Valentine, D., (2011). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, October 2010 – December 2010*. University of California Santa Barbara, DOE Award No.: DE-NT0005667, January 2011.
- Valentine, D., (2011). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, January 2011 – March 2011*. University of California Santa Barbara, DOE Award No.: DE-NT0005667, April 2011.
- Valentine, D., (2011). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, April 2011 – June 2011*. University of California Santa Barbara, DOE Award No.: DE-NT0005667, July 2011.
- Valentine, D., (2011). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, July 2011 – September 2011*. University of California Santa Barbara, DOE Award No.: DE-NT0005667, October 2011.
- Valentine, D., (2012). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, October 2011 – December 2011*. University of California Santa Barbara, DOE Award No.: DE-NT0005667, February 2012.
- Valentine, D., (2012). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," *Quarterly Progress Report, January 2012 – March 2012*. University of California Santa Barbara, DOE Award No.: DE-NT0005667, April 2012.

Valentine, D., (2012). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," Quarterly Progress Report, April 2012 – June 2012. University of California Santa Barbara, DOE Award No.: DE-NT0005667, July 2012.

Valentine, D., (2012). "Assessing the Efficacy of the Aerobic Methanotrophic Biofilter in Methane Hydrate Environments," Final Report. University of California Santa Barbara, DOE Award No.: DE-NT0005667, September 2012.

Other Publications

Valentine, D., (2010). "An Opportunity to Assess the Behavior of Methane Released in the Deep Ocean," *U. S. DOE-NETL Fire in the Ice Newsletter*, August, pg. 5.

Kalaugher, L., (2010). "Microbes munch up propane from Deepwater Horizon." Environmentalresearchweb, a community web site from IOP Publishing, Sep. 17 ed. <http://environmentalresearchweb.org/cws/article/news/43764>

Voosen, P., (2010). "Natural Gas From Ruptured Gulf Well Remained Trapped in Deep Waters," *Greenwire*, New York Times, Energy & Environment, Sep. 17 ed.

Presentations

Heintz, M. B., Mau, S., and Valentine, D. L., (2010). "Methane Consumption in the Water Column of the Santa Monica Basin: A Comparison From Two Sampling Expeditions," *Eos Trans. AGU*, 91(26), Ocean Sci. Meet. Suppl. CO45B-12

Heintz, M. B., Pohlman, J. W., Valentine, D. L., Wooller, M. J., (2010). "Ice Cover Modulates Methanotrophic Efficacy in Arctic Thermokarst Lakes," *7th Annual Southern California Geobiology Symposium*. CALTECH. Pasadena, CA.

Heintz, M. B., Pohlman, J., Wooller, M. J., Elvert, M., Ruppel, C. D., and Valentine, D. L., (2010). "Ice Cover Enhances Methane Consumption in Alaskan Thermokarst Lakes," Abstract GC51J-03 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.

Kessler, J. D., Valentine, D. L., Yvon-Lewis, S. A., Heintz, M. B., Hu, L., Garcia Tigreros, F., Du, M., Chan, E. W., (2010). "Using the Deepwater Horizon Disaster to Investigate Natural Biogeochemical Cycling Associated with Rapid Methane Emissions (invited)," Abstract GC41F-04 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.

Kinnaman, F. S., Heintz, M., and Valentine, D., (2010). "Identifying the source and strength of a Santa Barbara Channel mid-water methane plume," *7th Annual Southern California Geobiology Symposium*. CALTECH. Pasadena, CA.

Mendes, S. D., Valentine, D. L., Farwell, C., (2010). "Microbial Consumption of Natural Gases Released from the BP Deepwater Horizon Oil Spill," Abstract OS533B-1476 presented at the 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.

Redmond, M. C., Valentine, D. L., and Joye, S. B., (2010). "Microbial Community Response to the Deepwater Horizon Oil Spill," Abstract OS522B-07 presented at the 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.

Valentine, D. L., Heintz, M. B., Mau, S., Kinnaman, F. S., Bagby, S., Camilli, R., Yoerger, D., Pizarro, O., Jakuba, M., (2010). "Methane Biogeochemistry of the Santa Barbara Basin," *Eos Trans. AGU*, 91(26), Ocean Sci. Meet. Suppl., CO44A-04

Valentine, D. L., Kessler, J. D., Redmond, M. C., Mendes, S. D., Heintz, M. B., Farwell, C., Hu, L., Kinnaman, F., Yvon-Lewis, S. A., Du, M., Chan, E. W., Garcia Tigreros, F., Villanueva, C., (2010). "A Horizon of Natural Gas in the Deep Gulf of Mexico Dominates the Microbial Landscape (invited)," Abstract OS22B-02 presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.

Characterization of Methane Degradation and Methane-Degrading Microbes in Alaska Coastal Waters (DE-NT0005666)

University of Delaware

Peer-Reviewed Publications

- Gonsalves, M. J., Fernandes, C., Fernandes, S., Kirchman, D. L., and Bharathi, P. A. L., (2011). Effects of composition of labile organic matter on biogenic production of methane in the coastal sediments of the Arabian Sea. *Environ Monit Assess* 182: 385-395.
- Kirchman, D. L., Cottrell, M. T., and Lovejoy, C., (2010). "The structure of bacterial communities in the western Arctic Ocean as revealed by pyrosequencing of 16S rRNA genes.," *Environmental Microbiology*, 12: 1132–1143. doi: 10.1111/j.1462-2920.2010.02154.x

Book

Kirchman, D. L., (2012). *Processes in Microbial Ecology*. Oxford University Press.

Government Reports

- Kirchman, D., (2009). "Characterization of Methane Degradation and Methane-Degrading Microbes in Alaska Coastal Water," *Quarterly Progress Report, October – December, (2008)*. DOE Award No.: DE-NT0005666. January 2009.
- Kirchman, D., (2009). "Characterization of Methane Degradation and Methane-Degrading Microbes in Alaska Coastal Water," *Quarterly Progress Report, January – March, (2009)*. DOE Award No.: DE-NT0005666. January 2009.
- Kirchman, D., (2009). "Characterization of Methane Degradation and Methane-Degrading Microbes in Alaska Coastal Water," *Quarterly Progress Report, April – June, (2009)*. DOE Award No.: DE-NT0005666. January 2009.
- Kirchman, D., (2009). "Characterization of Methane Degradation and Methane-Degrading Microbes in Alaska Coastal Water," *Quarterly Progress Report, July –September, (2009)*. DOE Award No.: DE-NT0005666. November 2009.
- Kirchman, D., (2009). "Microbial Ecological Work on the 'Methane in the Arctic Shelf/Slope (MITAS)' Expedition," *Cruise Report*. October 2009.
- Kirchman, D., (2010). "Characterization of Methane Degradation and Methane-Degrading Microbes in Alaska Coastal Water," *Quarterly Progress Report, October – December, (2009)*. DOE Award No.: DE-NT0005666. February 2010.

- Kirchman, D., (2010). "Characterization of Methane Degradation and Methane-Degrading Microbes in Alaska Coastal Water," *Quarterly Progress Report, January – March, (2010)*. DOE Award No.: DE-NT0005666. April 2010.
- Kirchman, D., (2010). "Characterization of Methane Degradation and Methane-Degrading Microbes in Alaska Coastal Water," *Quarterly Progress Report, April – June, (2010)*. DOE Award No.: DE-NT0005666. August 2010.
- Kirchman, D., (2010). "Characterization of Methane Degradation and Methane-Degrading Microbes in Alaska Coastal Water," *Quarterly Progress Report, July - September, (2010)*. DOE Award No.: DE-NT0005666. October 2010.
- Kirchman, D., (2010). "Characterization of Methane Degradation and Methane-Degrading Microbes in Alaska Coastal Water," *Quarterly Progress Report, October - December, (2010)*. DOE Award No.: DE-NT0005666. February 2011.
- Kirchman, D., (2011). "Characterization of Methane Degradation and Methane-Degrading Microbes in Alaska Coastal Water," *Quarterly Progress Report, April 2011 - June 2011*. DOE Award No.: DE-NT0005666. August 2011.
- Kirchman, D., (2011). "Characterization of Methane Degradation and Methane-Degrading Microbes in Alaska Coastal Water," *Quarterly Progress Report, July 2011 - September 2011*. DOE Award No.: DE-NT0005666. October 2011.
- Kirchman, D., (2012). "Characterization of Methane Degradation and Methane-Degrading Microbes in Alaska Coastal Water," *Final Report*. DOE Award No.: DE-NT0005666. March 2012.

Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaskan North Slope in Response to Arctic Climate Change (DE-NT0005665)

University of Alaska Fairbanks

Peer-Reviewed Publications

- He, R., Wooller, M. J., Pohlman, W., Catranis, C., Quensen, J., Tiedje, J. M., Leigh, M. B., (2012). "Identification J. of functionally active aerobic methanotrophs in sediments from an arctic lake using stable isotope probing." *Environmental Microbiology*. doi:10.1111/j.1462-2920.2012.02725.x
- He, R., Wooller, M. J., Pohlman, W., Catranis, C., Quensen, J., Tiedje, J. M., Leigh, M. B., (2012). Shifts in identity and activity of methanotrophs in arctic lake sediments in response to temperature changes. *Applied and Environmental Microbiology*. 78(13), pp. 4715-4723.
- He, R., Wooller, M. J., Pohlman, W., Quensen, J., Tiedje, J. M., Leigh, M. B., (2012). "Diversity of active aerobic methanotrophs along depth profiles of arctic and subarctic lake water column and sediments," *ISME Journal*, v. 6, pp. 1937-1948, doi:10.1038/ismej.2012.34.
- Hunt, A. G., Stern, L., Pohlman, J. W., Ruppel, C., Moscati, R. J., Landis, G. P., (2013). "Mass fractionation of noble gases in synthetic methane hydrate: Implications for naturally occurring gas hydrate dissociation," *Chemical Geology*, v. 239, pp. 242-250, doi: 10.1016/j.chemgeo.2012.09.033.
- Isaksen, I. S. A., Gauss, M., Myhre, G., Anthony, K. M. W., Ruppel, C., (2011). "Strong atmospheric chemistry feedback to climate warming from Arctic methane emissions," *Global Biogeochemical Cycles*, Volume: 25. DOI: 10.1029/2010GB003845
- Ruppel, C. D., (2011) Methane Hydrates and Contemporary Climate Change. *Nature Education Knowledge* 2(12):12
- Sepulveda-Jauregui, A., Martinez-Cruz, K. , Strohm, A. , Walter Anthony, K. M., and Thalasso, F., (2012). "New method for on-site measurement of dissolved gas in water using Infrared tunable diode laser absorption spectroscopy," *Limnology and Oceanography Methods*, v. 10, pp. 560-567, DOI: 10.4319/lom.2012.10.560.
- Walter Anthony, K. M., Vas, D., Brosius, L., Chapin, F. S., Zimov, S. A., and Zhuang, Q. L., (2010). "Estimating methane emissions from northern lakes using ice-bubble surveys." *Limnology and Oceanography*, v. 8, pp. 569-609.
- Walter Anthony, K. M., Anthony, P., Grosse, G., and Chanton, J., (2012). "Geologic methane seeps along boundaries of arctic permafrost thaw and melting glaciers," *Nature Geoscience*, DOI doi:org/10.1038/Ngeo1480.

Wooller, M. J., Pohlman, J. W., Gaglioti, B. V., Langdon, P., Jones, M., Walter Anthony, K. M., Becker, K. W., Hinrichs, K. U., and Elvert, M., (2012). "Reconstruction of past methane availability in an Arctic Alaska wetland indicates climate influenced methane release during the past ~12,000 years," *Journal of Paleolimnology*. DOI 10.1007/s10933-012-9591-8.

Wooller, M. J., Kurek, J., Gaglioti, B. V., Cwynar, L. C., Bigelow, N., Reuther, J. D., Gelvin-Reymiller, C., and Smol, J. P. , (2012). "An ~11,200 year paleolimnological perspective for emerging archeological findings at Quartz Lake, Alaska," *Journal of Paleolimnology*, DOI 10.1007/s10933-012-9594-9.

Government Reports

Wooller, M., (2009). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, October – December 2008*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. January 2009.

Wooller, M., (2009). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, January – March 2009*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. April 2009.

Wooller, M., (2009). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, April 2009 – June 2009*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. July 2009.

Wooller, M., (2009). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, July 2009 – October 2009*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. November 2009.

Wooller, M., (2010). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, November 2009 - February 2010*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. February 2010.

Wooller, M., (2010). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, March 2010 - June 2010*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. August 2010.

Wooller, M., (2010). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, July 2010 – September 2010*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. November 2010.

Wooller, M., (2011). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, October 2010 – December 2010*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. February 2011.

- Wooller, M., (2011). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, January 2011 – March 2011*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. May 2011.
- Wooller, M., (2011). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, April 2011 – June 2011*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. August 2011.
- Wooller, M., (2011). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, July 2011 – September 2011*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. October 2011.
- Wooller, M., (2012). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, October 2011 – December 2011*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. February 2012.
- Wooller, M., (2012). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, January – March 2012*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. May 2012.
- Wooller, M., (2012). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Quarterly Progress Report, April – June 2012*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. September 2012.
- Wooller, M., (2013). "Source Characterization and Temporal Variation of Methane Seepage from Thermokarst Lakes on the Alaska North Slope in Response to Arctic Climate Change," *Final Report*. University of Alaska Fairbanks, DOE Award No.: DE-NT0005665. May 2013.

Other Publications

- Ruppel, C., Pohlman, J., and Worley, C., (2009). "Studying the link between Arctic methane seeps and degassing methane hydrates, Sound Waves," *USGS national newsletter*, October.
- Wooller, M. J., Ruppel, C., Pohlman, J. W., Leigh, M. B., Heintz, M., and Anthony, W. K., (2009). "Permafrost Gas Hydrates and Climate Change: Lake-Based Seep Studies on the Alaskan North Slope," *U. S. DOE-NETL Fire in the Ice Newsletter*, Summer, pg. 6.

Presentations

- Brosius, L., Walter Anthony, K. M., Chanton, J., (2009). Determining Organic Matter Sources to CH₄ Production and Bubbling from Alaskan Lakes using Stable Isotopes and Radiocarbon Ages. Abstract B41C-0327 presented at 2009 Fall Meeting, AGU, San Francisco, CA, Dec., (2009).
- Chanton, J., Walter Anthony, K. M., Prater, J, Whiting, G., (2009). Contrasting natural abundance radiocarbon signatures of methane released upon permafrost decomposition. Abstract B44B-04 presented at 2009 Fall Meeting, AGU, San Francisco, CA, Dec., (2009).

- Disenhof, C., Wooller, M. J., Pohlman, J., Rose, K., (2011). "Lithology of Alaskan Thermokarst Lake Facilitates Methane Flux," AGU Fall Meeting, San Francisco, CA, 5-9 Dec. Abstract GC41B-0806.
- Elvert, M., Hinrichs, K. U., Wooller, M., Gaglioti, B., Becker, K., Pohlman, J. W., (2011). "Carbon and hydrogen isotope biomarker records of methane release and hydroclimatic variability from a thermokarst lake in the Alaskan Arctic," *International Meeting on Organic Geochemistry*, Interlaken, Switzerland, Sept. 18-23.
- Gaglioti, B., Mann, D. H., Pohlman, J., Kunz, M. L., Jones, B. M., Jones, M., and Wooller, M. J., (2012). "Radiocarbon Age Offsets in Arctic Lake Sediments Describe the Vulnerability of Permafrost Carbon to Past Climate Warming," *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 3-7.
- Geai, M. L., Walter Anthony, K. M., and Grosse, G., (2010). "Climate Change and Methane Emissions: Pan Arctic Lake Ice Methane Monitoring Network (PALIMMN)," *International Polar Year Conference*, Oslo, Norway, 8-12 June, 2010.
- Grosse, G., Jones, B., Walter Anthony, K., Romanovsky, V., and Marchenko, S., (2010). Classification of Lakes in Pan-Arctic Permafrost Regions. Third European Conference on Permafrost, Longyearbyen, Svalbard, Norway, June 13-17, 2010.
- Grosse, G., Walter Anthony, K., Jones, B., Plug, L., and Romanovsky, V., (2010). "Thermokarst lake drainage in the continuous permafrost zone of NW Alaska and climate feedbacks," *EGU General Assembly*, Vienna, Austria, 2-7 May 2010.
- Grosse, G., Walter Anthony, K., Romanovsky, V., Marchenko, S., Jones, B., Plug, L., Edwards, M., (2010). "Pan-Arctic thermokarst lakes, methane emissions, and future permafrost thaw," *International Polar Year Conference*, Oslo, Norway, 8-12 June, 2010.
- He., R., Leigh, M., Pohlman J., Wooller M. J., (2011). "Active Methanotrophs and their Response to Temperature Changes in Arctic Lake Sediments," Abstract B13F-0641 presented at 2011 Fall Meeting, AGU, San Francisco, CA, December 5-9.
- He., R., Leigh, M., Pohlman J., Wooller M. J. 2011. "Methane oxidizing microbes in Alaskan lakes," *ASM meeting*.
- He, R., Wooller, M., and Leigh, M. B., (2011). "Methane oxidizing microbes in Alaskan lakes," *American Society for Microbiology Alaska Branch Meeting*, Anchorage, AK.
- Heintz, M. B., Pohlman, J., Wooller, M. J., Elvert, M., Ruppel, C. D., and Valentine, D. L., (2010). "Ice Cover Enhances Methane Consumption in Alaskan Thermokarst Lakes," *2010 Fall Meeting, AGU*, San Francisco, CA, December 13-17. Abstract GC51J-03.
- Leigh, M. B., (2011). "Into the black box: Carbon and contaminant cycling in Alaskan ecosystems," *Institute of Arctic Biology Life Sciences Seminar*, University of Alaska Fairbanks.
- Nolan, J., Parsekian, A., Slater, L., Plug, L., Walter Anthony, K., and Grosse, G., (2010). "Thaw Bulb Dimension Imaging Using Continuous Resistivity Soundings, Seward Peninsula, Alaska," *State of the Arctic Conference*, Miami, FL.
- Pohlman, J. W., Elvert, M., Hinrichs, K-U., Gaglioti, B., and Wooller, M., (2011). "Holocene methane emissions from an Alaskan thermokarst lake: A multiproxy reconstruction," *USGS-DOE Climate-Hydrates workshop*, Boston, MA.

- Ruppel, C., Walter, K., Pohlman, J., and M. Wooller, (2009). "Gas Hydrates and Perturbed Permafrost: Can Thermokarst Lakes Leak Hydrate-Derived Methane?," *EOS Trans. AGU*, 89(53), Fall Mtg Supplement, Abstract U23D-0084.
- Ruppel, C., (2010). "Global warming on the North Slope: A tale of permafrost and methane ice (hydrate)," *BASC-Barrow Schoolyard lecture series*, Barrow, AK, July 10.
- Ruppel, C., (2010). "Methane hydrate degassing and global climate change—past, present, and future," *Lawrence Livermore National Laboratory*, April 2010.
- Ruppel, C., (2011). "USGS Gas Hydrates Project: Arctic methane-climate research," *E. U. COST PERGAMON Arctic Methane meeting*, Brussels, Belgium, February.
- Ruppel, C., (2011.) "Overview of USGS climate-methane hydrates research," *USGS-DOE Climate-Hydrates workshop*, Boston, MA, March.
- Walter Anthony, K. W., (2010). "Methane emissions from thermokarst lakes," *ABISKO Scientific Research Station Invited Presentation*, December 17.
- Walter Anthony, K. W., (2011). "Methane ebullition from thermokarst lakes in the Arctic, Invited Talk, Physics of Sustainable Energy II: Using Energy Efficiently and Producing It Renewably," *The American Physical Society's Forum on Physics and Society Topical Group on Energy Research and Application & The American Association of Physics Teachers*, University of California, Berkeley, CA, March 5.
- Walter Anthony, K. M., Grosse, G., and Jones, B. M., (2009). "Positive and negative feedbacks to climate change associated with methane emissions from arctic permafrost systems," *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract B43F-06.
- Walter Anthony, K. M. and Zimov, S. A., (2009). "Greenhouse gas release from arctic permafrost: positive feedback to climate warming," *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract U44A-02.
- Walter Anthony, K. M., Grosse, G., Finlay, J., Chandra, S., and Michelle, M. C., (2009). "Disappearing permafrost and the response of Arctic lakes. Advancing the Science of Limnology and Oceanography Meeting," Nice, France, January, 25-30.
- Wooller, M. J., C. Ruppel and UAF-USGS-UCSB project group, (2010.) "Source characterization and temporal variation of methane seepage from thermokarst lakes on the Alaska North Slope in response to arctic climate change," *DOE Investigators' Conference*, Atlanta, GA, January 25.
- Wooller, M. J., Leigh, M., Pohlman J. W., Ruppel, C. and Walter, K., (2009). "Source characterization and temporal variation of methane seepage from thermokarst lakes on the Alaska North Slope in response to Arctic climate change." *Developing Long Term International Collaboration on Methane Hydrate Research and Monitoring in the Arctic Region*, Texel, The Netherlands, February 18-20.

Remote Sensing and Sea-Truth Measurements of Methane Flux to the Atmosphere (HYFLUX project) (DE-NT0005638)

Texas A&M University - Corpus Christi

Peer-reviewed Publications

- Garcia-Pineda, O., MacDonald, I. R., et al. (2010). "Remote sensing evaluation of geophysical anomaly sites in the outer continental slope, northern Gulf of Mexico," *Deep-sea Research Part II* 57(21-23), pp. 1859-1869.
- Hu, L., Yvon-Lewis, S. A., Kessler, J. D., and MacDonald I. R., (2012). "Methane fluxes to the atmosphere from deepwater hydrocarbon seeps in the northern Gulf of Mexico," *J. Geophys. Res.*, 117(C1), C01009.
- Solomon, E. A., Kastner, M., Robertson, G., Leifer, I., MacDonald, I., and Chanton J., (2011). "Sea-air hydrocarbon fluxes associated with a 900-m seafloor gas hydrate deposit in the Gulf of Mexico," *Proceedings of the 7th International Conference on Gas Hydrates*, Edinburgh, Scotland, U. K.(17-21 July 2011).

Government Reports

- MacDonald, I., and Naehr, T., (2009). "Remote Sensing and Sea-Truth Measurements of Methane Flux to the Atmosphere (HYFLUX project)," *Quarterly Progress Report, October 2009 - December 2009*. Texas A&M University - Corpus Christi, DOE Award No.: DE-NT0005638. January 2010.
- MacDonald, I., and Naehr, T., (2009). "Remote Sensing and Sea-Truth Measurements of Methane Flux to the Atmosphere (HYFLUX project)," *Cruise Report*. Texas A&M University - Corpus Christi, DOE Award No.: DE-NT0005638. November 2009.
- MacDonald, I. and Naehr, T., (2010). "Remote Sensing and Sea-Truth Measurements of Methane Flux to the Atmosphere (HYFLUX project)," *Quarterly Progress Report, January 2010 - March 2010*, Texas A&M University-Corpus Christi, DOE Award No.: DE-NT0005638. April 2010.
- MacDonald, I., and Naehr, T., (2010). "Remote Sensing and Sea-Truth Measurements of Methane Flux to the Atmosphere (HYFLUX project)," *Quarterly Progress Report, April 2010 - June 2010*, Texas A&M University-Corpus Christi, DOE Award No.: DE-NT0005638. July 2010.
- MacDonald, I., and Naehr, T., (2010). "Remote Sensing and Sea-Truth Measurements of Methane Flux to the Atmosphere (HYFLUX project)," *Quarterly Progress Report, July - September, 2010*, Texas A&M University-Corpus Christi, DOE Award No.: DE-NT0005638. November 2010.
- MacDonald, I., and Naehr, T., (2011). "Remote Sensing and Sea-Truth Measurements of Methane Flux to the Atmosphere (HYFLUX project)," *Quarterly Progress Report, October - December 2010*, Texas A&M University-Corpus Christi, DOE Award No.: DE-NT0005638. January 2011.

MacDonald, I., and Naehr, T., (2011). "Remote Sensing and Sea-Truth Measurements of Methane Flux to the Atmosphere (HYFLUX project)," *Quarterly Progress Report, January - March 2011*, Texas A&M University-Corpus Christi, DOE Award No.: DE-NT0005638. April 2011.

MacDonald, I., and Naehr, T., (2011). "Remote Sensing and Sea-Truth Measurements of Methane Flux to the Atmosphere (HYFLUX project)," *Final Report, October 01, 2008 - May 31, 2011*, Texas A&M University-Corpus Christi, DOE Award No.: DE-NT0005638.

Other Publications

MacDonald, I., (2009). "The HYFLUX Sea-Truth Expedition, 4-19 July 2009," *U. S. DOE-NETL Fire in the Ice Newsletter*, Vol. 9, Issue 4, pp. 12-15.

Presentations

Garcia-Pineda, O. G., MacDonald, I. R., Shedd, W., and Zimmer, B., (2009). "HYFLUX: Satellite Exploration of Natural Hydrocarbon Seeps and Discovery of a Methane Hydrate Mound at GC600," *Eos Trans. AGU*, 90(52), OS31A-1185 Poster.

Garcia, O., I. Macdonald, R., B. Zimmer, W. Shedd and M. Frye, (2009). "Satellite SAR inventory of Gulf of Mexico oil seeps and shallow gas hydrates," *Geophysical Research Abstracts 11: EGU2009-11633*.

Hu, L., Yvon-Lewis, S. A., Kessler, J. D., and MacDonald, I., (2009). "Air-Sea Flux of Methane from Selected Marine Hydrate/Seep Sites in the Northern Gulf of Mexico During HYFLUX," *Eos Trans. AGU*, 90(52), OS23B-04.

Körber J. H., Pineda, O., MacDonald, I., Sahling, H., Bohrmann, G., (2010). "Analysis and inventory of natural hydrocarbon seepage in the Black Sea using remote sensing techniques," *10th International Conference on Gas in Marine Sediments*, 6-12 September, 2010.

MacDonald, I. R., Garcia-Pineda, O. G., Chanton, J., Kastner, M., Solomon, E. A., Leifer, I., Naehr, T. H., Yvon-Lewis, S. A., and Kessler, J. D., (2009). "HYFLUX: Satellite Inventory and Sea-Truth for Gulf of Mexico Gas Hydrate System," *Eos Trans. AGU*, 90(52), OS23B-03.

MacDonald, I., Garcia-Pineda, O., Chanton, J., Kastner, M., Solomon, E., Leifer, I., Naehr, T., Yvon-Lewis, S., Kessler, D., (2010). "HYFLUX: Remote Sensing and Sea Truth of CH₄ Flux from the Gulf of Mexico Seep System," *10th International Conference on Gas in Marine Sediments*, 6-12 September, 2010.

MacDonald, I. R., Asper, V., Garcia, O. P., Kastner, M., Leifer, I., Naehr, T., Solomon, E., Yvon-Lewis S., and Zimmer, B., (2008). "HyFlux - Part I: Regional Modeling of Methane Flux From Near-Sea-floor Gas Hydrate Deposits on Continental Margins," *Eos Trans. AGU* 89(53): OS33A-1322.

MacDonald, I. R., Garcia-Pineda, O. G., Chanton, J., Kastner, M., Solomon, E. A., Leifer, I., Naehr, T. H., Yvon-Lewis, S. A., and Kessler, J. D., (2009). "HYFLUX: Satellite Inventory and Sea-Truth for Gulf of Mexico Gas Hydrate System," *Eos Trans. AGU*, 90(52), p. OS23B-03.

Naehr, T. H., Asper, V. L., Garcia, O., Kastner, M., Leifer, I., MacDonald, I. R., Solomon, E. A., Yvon-Lewis, S., and Zimmer, B., (2008). "HyFlux - Part II: Subsurface sequestration of methane-derived carbon in gas-hydrate-bearing marine sediments.," *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., 89(53): OS33A-1323.

Shapiro, R. A., Naehr, T. H., MacDonald, I., Kastner, M., Robertson, G., and Solomon, E. A., (2009)., "Pore Water Data From Three Gas Hydrate Sites in the Gulf of Mexico: First Results from the HyFlux Project," *Eos Trans. AGU*, 90(52), OS31A-1186.

Solomon, E. A., Kastner, M., and Leifer, I., (2009). "Ethane and Propane Emissions to the Ocean and Atmosphere from 550-1200 m Seeps in the Gulf of Mexico," *Eos Trans. AGU*, 90(52), OS31A-1182.

University of Chicago

Peer-reviewed Publications

Archer, D., Buffett, B. A., and McGuire, P. C., (2012). "A two-dimensional model of the passive coastal margin deep sedimentary carbon and methane cycles," *Biogeosciences*, 9, 1-20, (2012).

Archer, D. and Buffett, B. A., (2012). "A two-dimensional model of the methane cycle in a sedimentary accretionary wedge," *Biogeosciences*, 9, 3323-3336, (2012).

Government Reports

Archer, D., 2009-2011. "Integrating Natural Gas Hydrates in the Global Carbon Cycle," *Quarterly Progress Reports*. University of Chicago, DOE Award No.: DE-NT0006558.

October 2008 - December 2008. University of Chicago, DOE Award No.: DE-NT0006558. January 2009.

January 2009 - March 2009. University of Chicago, DOE Award No.: DE-NT0006558. April 2009.

April 2009 - June 2009. University of Chicago, DOE Award No.: DE-NT0006558. July 2009.

July 2009 - September 2009. University of Chicago, DOE Award No.: DE-NT0006558. October 2009.

October 2009 - December 2009. University of Chicago, DOE Award No.: DE-NT0006558. December 2009.

January 2010 - March 2010. University of Chicago, DOE Award No.: DE-NT0006558. March 2010.

April 2010 - June 2010. University of Chicago, DOE Award No.: DE-NT0006558. June 2010.

April 2011 - June 2011. University of Chicago, DOE Award No.: DE-NT0006558. August 2011.

July 2011 - September 2011. University of Chicago, DOE Award No.: DE-NT0006558. November 2011.

Other Publications

Archer, D., (2010). "The Role of Methane Hydrates in the Earth System: 'Burps of Death' or Seductive Irrelevance?" *U. S. DOE-NETL Fire in the Ice Newsletter*, August, pp. 12-14.

Stiftelsen GRID-Arendal

Government Reports

- Beaudoin, Y., (2010). "UNEP Global Outlook on Methane Gas Hydrates," *Semi-Annual Progress Report*, Stiftelsen GRID-Arendal, DOE Award No.: DE-FE0003060. September 2010.
- Beaudoin, Y., (2011). "UNEP Global Outlook on Methane Gas Hydrates," *Semi-Annual Progress Report*, Stiftelsen GRID-Arendal, DOE Award No.: DE-FE0003060. May 2011.
- Beaudoin, Y., (2011). "UNEP Global Outlook on Methane Gas Hydrates," *Semi-Annual Progress Report*, Stiftelsen GRID-Arendal, DOE Award No.: DE-FE0003060. October 2011.
- Beaudoin, Y., (2012). "UNEP Global Outlook on Methane Gas Hydrates," *Semi-Annual Progress Report*, Stiftelsen GRID-Arendal, DOE Award No.: DE-FE0003060. April 2012.
- Beaudoin, Y. C., (2012). "UNEP Global Outlook on Methane Gas Hydrates." DOE Award No.: DE-FE0003060, Semiannual Progress Report (April – September, 2012). October 2012.
- Beaudoin, Y. C., (2013). "UNEP Global Outlook on Methane Gas Hydrates." DOE Award No.: DE-FE0003060, Semiannual Progress Report (October 2012 – March 2013). April 2013.
- Beaudoin, Y. C., (2014). "UNEP Global Outlook on Methane Gas Hydrates." DOE Award No.: DE-FE0003060, Semiannual Progress Report (April 2013 - September 2013). October 2013.
- Beaudoin, Y. C., (2014). "UNEP Global Outlook on Methane Gas Hydrates." DOE Award No.: DE-FE0003060, Semiannual Progress Report (October 2013 - March 2014). April 2014.
- Beaudoin, Y. C., (2014). "UNEP Global Outlook on Methane Gas Hydrates." DOE Award No.: DE-FE0003060, Semiannual Progress Report (April 2014 - September 2014). October 2014.

Presentations

- Kullerud, L. and Beaudoin, Y., (2012). "Frozen Heat: UNEP Global Outlook on Methane Gas Hydrates," *Arctic Frontiers 2012*, January 25-27, Tromso, Norway.
- Beaudoin, Y., (2011). "Frozen Heat: UNEP Global Outlook on Methane Gas Hydrates," *Platts 2nd Annual Unconventional Gas*, September 19-20, Düsseldorf, Germany.
- Beaudoin, Y., (2010). "Frozen Heat: UNEP Global Outlook on Methane Gas Hydrates," Abstracts-*World Energy Congress 2010*, September 12-16, 2010, Montreal, Canada.
- Beaudoin, Y., (2010). "Frozen Heat: UNEP Global Outlook on Methane Gas Hydrates," Abstracts-*Joint International Conference Minerals of the Ocean-5 and Deep Sea Minerals and Mining-2*, June 28-July 01, 2010, St Petersburg, Russia.
- Beaudoin, Y. and Kullerud, L. (2010). "Methane Gas Hydrates, a new phase of resource exploitation in the Arctic? What we can learn from the Global Assessment of Methane Gas Hydrates," Abstracts-*2010 International Polar Year Oslo Science Conference*, June 8-12, 2010, Oslo, Norway.

Thygesen, K., Beaudoin, Y. and Kullerud, L., (2010). "Methane Gas Hydrates, a new phase of resource exploitation in the Arctic? What we can learn from the Global Assessment of Methane Gas Hydrates," Abstracts-*Arctic Days 2010*, May 31 to June 4, 2010, Tromso, Norway.

University of Texas at Austin

Government Reports

- Juanes R., and Bryant, S. L., (2007). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, October - December 2006*, University of Texas, DOE Award No.: DE-FC26-06NT43067. March 2007.
- Juanes R., and Bryant, S. L., (2007). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, January – March 2007*, University of Texas, DOE Award No.: DE-FC26-06NT43067. April 2007.
- Juanes R., and Bryant, S. L., (2007). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Creation of Sediment Models – Task 3 Technical Report*, University of Texas, DOE Award No.: DE-FC26-06NT43067. April 2007.
- Juanes R., and Bryant, S. L., (2007). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, April – June 2007*, University of Texas, DOE Award No.: DE-FC26-06NT43067. July 2007.
- Juanes R., and Bryant, S. L., (2007). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, July –September 2007*, University of Texas, DOE Award No.: DE-FC26-06NT43067. October 2007.
- Juanes R., and Bryant, S. L., (2008). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, October – December 2007*, University of Texas, DOE Award No.: DE-FC26-06NT43067. January 2008.
- Juanes R., and Bryant, S. L., (2007). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, January – March 2008*, University of Texas, DOE Award No.: DE-FC26-06NT43067. May 2008.
- Juanes R., and Bryant, S. L., (2008). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Fracture Initiation and Propagation – Task 4 Technical Report*, University of Texas, DOE Award No.: DE-FC26-06NT43067. May 2008.
- Juanes R., and Bryant, S. L., (2008). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Compute Critical Curvatures for Pore-level Events – Task 5.1 Technical Report*, University of Texas, DOE Award No.: DE-FC26-06NT43067. June 2008.
- Juanes R., and Bryant, S. L., (2008). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, April – June 2008*, University of Texas, DOE Award No.: DE-FC26-06NT43067. August 2008.
- Juanes R., and Bryant, S. L., (2008). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, July – September 2008*, University of Texas, DOE Award No.: DE-FC26-06NT43067. October 2008.

- Juanes R., and Bryant, S. L., (2008). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Compute gas/water interface geometry during drainage and imbibition in model sediments – Task 5.2 Technical Report*, University of Texas, DOE Award No.: DE-FC26-06NT43067. October 2008.
- Juanes R., and Bryant, S. L., (2008). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Compute gas/water interface geometry within fracture – Task 5.3 Technical Report*, University of Texas, DOE Award No.: DE-FC26-06NT43067. October 2008.
- Juanes R., and Bryant, S. L., (2009). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, October – December 2008*, University of Texas, DOE Award No.: DE-FC26-06NT43067. February 2009.
- Juanes R., and Bryant, S. L., (2009). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Couple gas/water interface dynamics with fracture propagation – Task 6 Technical Report*, University of Texas, DOE Award No.: DE-FC26-06NT43067. February 2009.
- Juanes R., and Bryant, S. L., (2009). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, January – March 2009*, University of Texas, DOE Award No.: DE-FC26-06NT43067. May 2009.
- Juanes R., and Bryant, S. L., (2009). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, April – June 2009*, University of Texas, DOE Award No.: DE-FC26-06NT43067. July 2009.
- Juanes R., and Bryant, S. L., (2009). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Coupled gas/water/sediment dynamics with rigid hydrate films – Task 7.1 Technical Report*, University of Texas, DOE Award No.: DE-FC26-06NT43067. October 2009.
- Juanes R., and Bryant, S. L., (2010). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, October - December 2009*, University of Texas, DOE Award No.: DE-FC26-06NT43067. January 2010.
- Juanes R., and Bryant, S. L., (2010). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, January - March 2010*, Massachusetts Institute of Technology, DOE Award No.: DE-FC26-06NT43067. March 2010.
- Juanes R., and Bryant, S. L., (2010). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, April - June 2010*, University of Texas, DOE Award No.: DE-FC26-06NT43067. August 2010.
- Juanes R., and Bryant, S. L., (2010). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, July - September 2010*, University of Texas, DOE Award No.: DE-FC26-06NT43067. November 2010.
- Juanes R., and Bryant, S. L., (2011). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, October - December 2010*, University of Texas, DOE Award No.: DE-FC26-06NT43067. February 2011.

- Juanes R., and Bryant, S. L., (2011). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, January – March 2011*, University of Texas, DOE Award No.: DE-FC26-06NT43067. April 2011.
- Juanes R., and Bryant, S. L., (2011). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, April –June 2011*, University of Texas, DOE Award No.: DE-FC26-06NT43067. July 2011.
- Juanes R., and Bryant, S. L., (2011). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments," *Quarterly Progress Report, July –September 2011*, University of Texas, DOE Award No.: DE-FC26-06NT43067. October 2011.
- Juanes R., and Bryant, S. L., (2012). "Mechanisms Leading to Co-Existence of Gas and Hydrate in Ocean Sediments *Final Report*. University of Texas, DOE Award No.: DE-FC26-06NT43067. April 2012.

Theses/Dissertations

- Behseresht, J., (2008). "Infinite-Acting Physically Representative Networks for Capillarity-Controlled Displacements". M. S. Thesis – The University of Texas at Austin.
- Jain, A. K., (2009). "Preferential Mode of Gas Invasion in Sediments: Grain-Scale Model of Coupled Multiphase Fluid Flow and Sediment Mechanics," M. S. Thesis - Massachusetts Institute of Technology.
- Peng, Y., (2011). "Study of Methane Hydrate Formation and Distribution in Arctic Regions: From Pore Scale to Field Scale" Ph. D. Dissertation – The University of Texas at Austin.
- Scandella, B. P., (2010). "Numerical modeling of methane venting from lake sediments." M. S. Thesis, Massachusetts Institute of Technology.

Other Publications

- Behseresht, J., Bryant, S., and Seperhnoori, K., (2009). "Infinite-Acting Physically Representative Networks for Capillarity-Controlled Displacements," *Society of Petroleum Engineers Journal*, Volume 14, Number 4, pp. 568-578, December 2009. DOI: 10.2118/110581-PA, published online 16 July 2009.
- Behseresht, J., and Bryant, S., (2011). "Sedimentological Control on Saturation Distribution in Arctic Gas-Hydrate-Bearing Sands," *U. S. DOE-NETL Fire in the Ice Newsletter*, Vol. 11, Issue 1.
- Holtzman, R., Szulczewski, M. L., and Juanes, R., (2012). Capillary fracturing in granular media. *Physical Review Letters*, 28, June, doi:10.1103/PhysRevLett.108.264504
- Juanes, R., and Bryant, S. L., (2009). "Models provide clues to how methane gas and hydrate coexist in nature," *U. S. DOE-NETL Fire in the Ice Newsletter*, Vol. 9, Issue 4, pp. 7-11.
- Prodanović, M. and Bryant, S., (2009). "Physics-Driven Interface Modeling for Drainage and Imbibition in Fractures," *Society of Petroleum Engineers Journal*, Volume 14, Number 3, pp. 532-542, September 2009. DOI: 10.2118/110448-PA, published online 27 July 2009.

Prodanović, M., Bryant, S. L., and Karpyn, Z. T., (2009). "Investigating Matrix/Fracture Transfer via a Level Set Method for Drainage and Imbibition," *Society of Petroleum Engineers Journal*, Volume 15, Number 1, pp. 125-136, March 2010. DOI: 10.2118/116110-PA, published online November 12, 2009.

Prodanović, M., Holder, J. and Bryant, S., (2012). "Pore Scale Coupling of Fluid Displacement and Unconsolidated Sediment Mechanics," accepted for publication in the *International Journal of Oil, Gas and Coal Technology*, v. 5, nos. 2/3.

Presentations

Behseresht, J. and Bryant, S., (2011). "Effect of Relative Permeability Characteristics and Gas/Water Flow on Gas-Hydrate Saturation Distribution," SPE 147221 prepared for presentation at the SPE Annual Technical Conference and Exhibition to be held in Denver, Colorado, October 30 –November 2, 2011.

Behseresht, J. and Bryant, S., (2011). "Sedimentological Control On Hydrate Saturation Distribution In Arctic Gas-Hydrate-Bearing Deposits," Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), Edinburgh, Scotland, United Kingdom, July 17-21, 2011.

Behseresht, J., Peng, Y., Bryant, S. and Winters, W. (2010). "Sedimentological Control on Arctic Gas-Hydrate-Bearing Deposits," Gordon Research Conference on Natural Gas Hydrate Systems, Colby College, Waterville, ME, June 6-10, 2010.

Behseresht, J., Peng, Y., Bryant, S. and Winters, W. (2010). "Sedimentological Control on Arctic Gas-Hydrate-Bearing Deposits," AAPG 2010 Annual Convention and Exhibition, New Orleans, LA, April 13, 2010.

Behseresht, J., Peng, Y., Prodanovic, M., and Bryant, S. L., (2008). "Mechanisms by Which Methane Gas and Methane Hydrate Coexist in Ocean Sediments," *Offshore Technology Conference*, Houston, TX, May 5-8, 2008.

Behseresht, J., Peng, Y., Prodanovic, M., and Bryant, S. L., (2008). "Grain Scale Study of Hydrate Formation in Sediments from Methane Gas: Role of Capillarity," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10, 2008.

Behseresht, J., Bryant, S. and Sepehrnoori, K., "Infinite-Acting Physically Representative Networks for Capillarity-Controlled Displacements," SPE 110581, *Proceedings of the 2007 SPE Annual Technical Conference and Exhibition*, Anaheim, CA, November 11-14, 2007.

Holtzman, R., and Juanes, R., (2009). "Hydrate Formation in Gas-Rich Marine Sediments: A Grain-Scale Model," *Eos Trans. AGU* 90(52), Fall Meet. Suppl. OS41A-08.

Jain, A. K., and Juanes, R., (2008). "Pore-scale Mechanistic Study of the Preferential Mode of Hydrate Formation in Sediments: Coupling of Multiphase Fluid Flow and Sediment Mechanics," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10, 2008.

Jain, A., and Juanes, R., (2008). "Grain scale modeling of coupled flow and mechanics: implications for methane hydrate in ocean sediments," *World Congress on Computational Mechanics (WCCM8) – European Congress on Computational Methods in Applied Sciences and Engineering*, Venice, Italy, June 30-July 4.

- Jain, A. K., and Juanes, R., (2008). "Conditions under Which Gaseous Methane Will Fracture Ocean Sediments and Penetrate Through the Hydrate Stability Zone: Modeling Multiphase Flow and Sediment Mechanics at the Pore Scale," *AGU Fall Meeting*, San Francisco, CA, December 15-19, 2008.
- Juanes, R., and Jain, A. K., (2008). "A Grain-Scale Coupled Model of Multiphase Fluid Flow and Sediment Mechanics – Application to Methane Hydrates in Natural Systems," *AGU Fall Meeting*, San Francisco, CA, December 15-19, 2008.
- Peng, Y., Behseresht, J., Bryant, S., and Winters, W (2009). "Sedimentological Control on Arctic Gas-Hydrate-Bearing Deposits," poster GC51A-0707, American Geophysical Union Fall Meeting, San Francisco, CA, December 14-18, 2009.
- Peng, Y., Prodanović, M., and Bryant, S., (2009). "Improving Fidelity of Network Models for Drainage and Imbibition," *SPE 124440 prepared for presentation at the 2009 SPE Annual Technical Conference and Exhibition*, New Orleans, LA, October 4–7, 2009.
- Prodanović, M., Holder, J., and Bryant, S., (2009). "Coupling Capillarity-Controlled Fluid Displacement With Unconsolidated Sediment Mechanics: Grain Scale Fracture Opening," *SPE 124717 prepared for presentation at the 2009 SPE Annual Technical Conference and Exhibition*, New Orleans, LA, October 4–7, 2009.
- Prodanović, M., and Bryant, S., (2008). "Capillarity Controlled Displacements in Sediments With Movable Grains: Implications for Growth of Methane Hydrates," *SPE 116663, Proceedings of the 2008 SPE Annual Technical Conference and Exhibition*, Denver, CO, September 21–24, 2008.
- Prodanović, M., and Bryant, S., (2008). "Investigating Matrix-Fracture Transfer via a Level Set Method for Drainage and Imbibition," *SPE 116110, Proceedings of the 2008 SPE Annual Technical Conference and Exhibition*, Denver, CO, September 21–24, 2008.
- Prodanović, M., and Bryant, S., (2007). "Physics-Driven Interface Modeling for Drainage and Imbibition in Fractures," *SPE110448, Proceedings of the 2007 SPE Annual Technical Conference and Exhibition*, Anaheim, CA, November 11–14, 2007.

Rice University

Peer-Reviewed Publications

- Bhatnagar, G., Chapman, W. G., Dickens, G. R., Dugan, B., and Hirasaki, G. J., (2006). "Scaling of thermodynamic and transport processes for predicting methane hydrate saturation in marine sediments worldwide," *Society of Petroleum Engineers (SPE) Annual Technical Conference and Exhibition, 24-27 September 2006, San Antonio, Texas, USA*, SPE 106519-STU, 10.2118/106519-STU.
- Bhatnagar, G., Chapman, W. G., Dickens, G. R., Dugan, B., and Hirasaki, G. J., (2007). "Generalization of gas hydrate distribution and saturation in marine sediments by scaling of thermodynamic and transport processes," *American Journal of Science*, 307(6), 861-900, doi:10.2475/06.2007.01.
- Bhatnagar, G., Chapman, W. G., Dickens, G. R., Dugan, B., and Hirasaki, G. J. (2008). "Effect of overpressure on gas hydrate distribution," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, B. C., July 6-10, 2008.
- Bhatnagar, G., Chapman, W. G., Dickens, G. R., Dugan, B., and Hirasaki, G. J. (2008). "Relating gas hydrate saturation to depth of sulfate-methane transition," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10, 2008.
- Bhatnagar, G., Chapman, W. G., Dickens, G. R., Dugan, B., and Hirasaki, G. J. (2008). "The sulfate-methane transition as a proxy for average methane hydrate saturation in marine sediments," *Geophysical Research Letters*, 35, L03611, doi:10.1029/2007GL032500.
- Bhatnagar, G., Chatterjee, S., Chapman, W. G., Dickens, G. R., Dugan, B., and Hirasaki, G. J. (2011). "Analytical theory relating the depth of the sulfate-methane transition to gas hydrate distribution and saturation," *Geochemistry, Geophysics, Geosystems*, 12, Q03003, doi: 10.1029/2010GC003397.
- Chatterjee S., Gu, G., Bhatnagar, G., Chapman, W. G., Dugan, B., Dickens G. R., and Hirasaki, G. J., (2011). "Effects of heterogeneous lithology and focused fluid flow on gas hydrate distribution in marine sediments," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July 17-21, 2011.
- Chatterjee S., Dickens, G. R., Bhatnagar, G., Chapman, W. G., Dugan, B., Snyder G. T., and Hirasaki, G. J., (2011). "Pore water sulfate, alkalinity and carbon isotope profiles in shallow sediment above marine gas hydrate systems: A numerical modeling perspective," *Journal of Geophysical Research - Solid Earth*, 116, B09103, doi: 10.1029/2011JB008290.
- Daigle, H., Dugan, B., (2009). "Extending NMR data for permeability estimation in fine-grained sediments," *Marine and Petroleum Geology*, Volume 26, Issue 8, September 2009, pp. 1419-1427, ISSN 0264-8172, DOI: 10.1016/j.marpetgeo.2009.02.008.
- Daigle, H., Dugan, B., (2010). "Effects of multiphase methane supply on hydrate accumulation and fracture generation," *Geophysical Research Letters*, 37, L20301, doi:10.1029/2010GL044970.

- Daigle, H., Dugan, B., (2010). "Origin and evolution of fracture-hosted methane hydrate deposits," *Journal of Geophysical Research*, 115, B11103, doi:10.1029/2010JB007492.
- Daigle, H., Dugan, B., (2011). "Capillary controls on methane hydrate distribution and fracturing in advective systems," *Geochemistry, Geophysics, Geosystems*, 12, Q01003, doi:10.1029/2010GC003392.
- Daigle, H., Dugan, B., (2011). "An improved technique for computing permeability from NMR measurements in mudstones," *Journal of Geophysical Research*, 116, B08101, doi:10.1029/2011JB008353.
- Daigle, H., Dugan, B., (2011). "Permeability anisotropy and fabric development: A mechanistic explanation," *Water Resources Research*, 47, W12517, doi:10.1029/2011WR011110.
- Daigle, H., Bangs, N., Dugan, B., (2011). "Transient hydraulic fracturing and gas release in methane hydrate settings: A case study from southern Hydrate Ridge," *Geochemistry, Geophysics, Geosystems*, 12, Q12022, doi:10.1029/2011GC003841.
- Dickens, G. R. , (2011). "Down the Rabbit Hole: toward appropriate discussion of methane release from gas hydrate systems during the Paleocene-Eocene thermal maximum and other past hyperthermal events," *Clim. Past*, 7, 831-846, doi:10.5194/cp-7-831-2011.
- Dugan, B., (2008). "Fluid Flow in the Keathley Canyon 151 Mini-Basin, Northern Gulf of Mexico." *Marine and Petroleum Geology*, 25, 919-923, doi:10.1016/j.marpetgeo.2007.12.005.
- Gu, G., Dickens, G. R., Bhatnagar, G., Colwell, F. S., Hirasaki, G. J., Chapman, W. G., (2011). "Abundant Early Palaeogene marine gas hydrates despite warm deep ocean temperatures," *Nature Geoscience*, 4, 848-851, doi:10.1038/ngeo1301.
- Hustoft, S., Dugan, B., Mienert, J., (2009). "Effects of rapid sedimentation on developing the Nyegga pockmark-field, Constraints from hydrological modeling and 3-D seismic data, offshore mid-Norway." *Geochemistry, Geophysics, Geosystems*, 10(6), Q06012, doi:10.1029/2009GC002409.
- Hutchinson, D. R., Hart, P. E., Ruppel, C. D., Snyder, F., Dugan, B., (2009). "Seismic and thermal characterization of a bottom-simulating reflection in the northern Gulf of Mexico." In Collett, T., Johnson, A., Knapp, C., Boswell, R. (eds), *Natural gas hydrates – energy resource potential and associated geologic hazards*, *AAPG Memoir*, 89, 266-286, doi:10.1306/13201105M893343.
- Jaiswal P., Dewangan, P., Ramprasad, T., and Zelt, C. A., (2012). "Seismic characterization of hydrates in faulted, fine-grained sediments of Krishna-Godavari Basin: Full Waveform Inversion," *Journal of Geophysical Research – Solid Earth*, 117, B10305, doi:10.1029/2012JB009201.
- Jones, E., Latham, T., McConnell, D., Frye, M., Hunt, J., Jr., Shedd, W., Shelander, D., Boswell, R., Rose, K., Ruppel, C., Hutchinson, D., Collett, T., Dugan, B., Wood, W., (2008). "Scientific Objectives of the Gulf of Mexico Gas Hydrate JIP Leg II Drilling," Paper OTC 19501, *Proceedings 2009 Offshore Technology Conference*, Houston TX, May 5-8, 2008.
- Phirani, J., Pitchumani, R., and Mohanty, K. K., (2009). "Transport Properties of Hydrate Bearing Formations from Pore-Scale Modeling," SPE 124882, *Proceedings of SPE ATCE*, New Orleans, LA, Oct. 4-7, 2009.

- Phirani, J., Mohanty, K. K. and G. Hirasaki, (2009). "Warm Water Flooding of Unconfined Gas Hydrate Reservoirs," *Energy & Fuels*, doi:10.1021/ef900291j.
- Phirani, J. And Mohanty, K. K., (2009). "Warm Water Flooding of Confined Gas Hydrate Reservoirs," *Chem. Eng. Sci.*, 64, 2361-2369, doi:10.1016/j.ces.2009.02.019.
- Scholz, N. A., Riedel, M., Spence, G. D., Hyndman, R. D., James, T., Naegeli, K., Dugan, B., Pohlman, J., and Hamilton, T., (2011). "Do dissociating gas hydrates play a role in triggering submarine slope failures? A case study from the northern Cascadia margin," *Proc. 7th International Conf. Gas Hydrates*, 17-21 July 2011, Edinburgh, Scotland.
- Snyder, G. T., A. Hiruta, R. Matsumoto, G. R. Dickens, H. Tomaru, R. Takeuchi, J. Komatsubara, Y. Ishida, and H. Yu, (2007). "Pore water profiles and authigenic mineralization in shallow marine sediments above the methane-charged system on Umitaka Spur, Japan Sea," *Deep-Sea Res. II*, 54, 1216-1239, 10.1016/j.dsr2.2007.04.001.
- Waite, W.F, Santamarina, C., Cortes, D., Dugan, B., Espinoza, N., Germaine, J., Jang, J., Jung, J., Kneafsey, T., Shin, H., Soga, K., Winters, W., Yun, T-S., (2009). "Physical properties of hydrate-bearing sediments." *Reviews of Geophysics*, 47, RG4003, doi:10.1029/2008RG000279.
- Winters, W. J., Dugan, B., Collett, T. S., (2008). "Physical Properties of Sediments from Keathley Canyon and Atwater Valley, JIP Gulf of Mexico Gas Hydrate Drilling Program." *Marine and Petroleum Geology*, 25, 896-905, doi:10.1016/j.marpetgeo.2008.01.018.

Other Publications

- Dickens, G. R., and Snyder, G. T., (2009). "Interpreting upward methane flux from pore water profiles," *U. S. DOE-NETL Fire in the Ice Newsletter*, Winter, p.7-10.
- Jaiswal, P., (2012). "Detecting hydrates with patchy BSR: Krishna Godavari Basin, India," *U. S. DOE-NETL Fire in the Ice Newsletter*, 11(2), pp. 5-9.

Government Reports

- Hirasaki, G., (2007). "Detection and Production of Methane Hydrates." *Semi-Annual Progress Report, April – June 2007*, Rice University, DOE Award No.: DE-FC26-06NT42960. June 2007.
- Hirasaki, G., (2007). "Detection and Production of Methane Hydrates." *Semi-Annual Progress Report, July – September 2007*, Rice University, DOE Award No.: DE-FC26-06NT42960. December 2007.
- Hirasaki, G., (2008). "Detection and Production of Methane Hydrates." *Semi-Annual Progress Report, January – March 2008*, Rice University, DOE Award No.: DE-FC26-06NT42960. April 2008.
- Hirasaki, G., (2008). "Detection and Production of Methane Hydrates," *Phase 2 Topical Report – June 2007 – June 2008*, Rice University, DOE Award No.: DE-FC26-06NT42960. June 2008.
- Hirasaki, G., (2008). "Detection and Production of Methane Hydrates." *Semi-Annual Progress Report, July 2008 – October 2008*, Rice University, DOE Award No.: DE-FC26-06NT42960. November 2008.

Hirasaki, G., (2009). "Detection and Production of Methane Hydrates." *Semi-Annual Progress Report, November 2008 – April 2009*, Rice University, DOE Award No.: DE-FC26-06NT42960. May 2009.

Hirasaki, G., (2009). "Detection and Production of Methane Hydrates." *Semi-Annual Progress Report, May – October 2009*, Rice University, DOE Award No.: DE-FC26-06NT42960. November 2009.

Hirasaki, G., (2010). "Detection and Production of Methane Hydrates." *Semi-Annual Progress Report, November 2009 – March 2010*, Rice University, DOE Award No.: DE-FC26-06NT42960. May 2010.

Hirasaki, G., (2010). "Detection and Production of Methane Hydrates." *Semi-Annual Progress Report, April 2010 – September 2010*, Rice University, DOE Award No.: DE-FC26-06NT42960. November 2010.

Theses/Dissertations

Bhatnagar, G., (2008). "Accumulation of gas hydrates in marine sediments," Ph. D. thesis, *Rice University*. Houston, Texas.

Daigle, H., (2011). "Pore-scale controls on permeability, fluid flow, and methane hydrate distribution in fine-grained sediments," Ph. D. thesis, *Rice University*. Houston, Texas.

Presentations

Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2006). "Scaling of thermodynamic and transport processes for predicting gas hydrate distribution in marine sediments," *Annual General Meeting - Asia Oceania Geosciences Society*, Singapore.

Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2006). "Accumulation of natural gas hydrates in marine sediments," *5th International Workshop on Methane Hydrate Research and Development*, Edinburgh, Scotland, United Kingdom.

Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2006). "Scaling of thermodynamic and transport processes for predicting methane hydrate saturation in marine sediments worldwide," *Society of Petroleum Engineers (SPE) Annual Technical Conference and Exhibition*, San Antonio, Texas, USA, 24-27 September 2006.

Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2006). "Quantifying methane hydrate saturation in different geologic settings," *American Geophysical Union (AGU) Fall Meeting*, San Francisco, California, USA, December 2006.

Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2007). "Quantifying methane hydrate saturation in worldwide marine sediments," *Science and Technology Issues in Methane Hydrate R&D*, Kauai, Hawaii, USA, (2007).

Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2007). "Gas hydrate saturation in marine sediment: Basic Relationships to methane flux and depth of SMT," *American Geophysical Union (AGU) Joint Assembly meeting*, Acapulco, Mexico, May 2007.

- Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2007). "Gas hydrate abundance: relationship to anaerobic oxidation of methane and the sulfate-methane transition," *Marine Biogeochemistry Seminar*, Corvallis, Oregon, USA, (2007).
- Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2008). "Effect of Overpressure on Gas Hydrate Distribution," *6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, B. C., July 6-10, (2008).
- Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2008). "The sulfate-methane transition as a proxy for average methane hydrate saturation in marine sediments," *6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, B. C., July 6-10, (2008).
- Chatterjee S., Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2008). "Effect of lithologic heterogeneities on gas hydrate distribution," *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract OS41D-1257.
- Chatterjee S., Bhatnagar G., Chapman, W. G., Dickens, G. R., Dugan, B., and Hirasaki, G. J., (2009). "Sulfate, Methane, Alkalinity, Calcium and Carbon Isotope ($\delta^{13}\text{C}$) Profiles as an Indicator of Upward Methane Flux." *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract OS42A-05.
- Chatterjee S., Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2010). "Pore water chemistry profiles across the sulfate-methane transition above marine gas hydrate systems," *Society of Petroleum Engineers (SPE) Gulf Coast Regional Student Paper Contest*, Lubbock, Texas, April 2010.
- Chatterjee S., Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2010). "Sulfate-methane transition depth as a proxy for methane flux above gas hydrate systems," *Gordon Research Conference on Natural Gas Hydrate Systems*, Waterville, Maine, USA, June 6-11, (2010).
- Chatterjee S., Gu, G., Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2010). "Focused fluid flow and gas hydrate distribution in heterogeneous marine sediments," Abstract OS43B-03 presented at 2010 Fall Meeting, AGU, San Francisco, CA 13-17 Dec.
- Chatterjee S., Bhatnagar G., Chapman, W. G., Dugan, B., Dickens, G. R., and Hirasaki, G. J., (2011). "Effects of heterogeneous lithology and focused fluid flow on gas hydrate distribution in marine sediments," *Society of Petroleum Engineers (SPE) Gulf Coast Regional Student Paper Contest, Texas A&M University*, College Station, Texas, USA, April 2011.
- Chatterjee S., Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2011). "Lithologic heterogeneity, focused fluid flow and gas hydrate distribution in marine sediments," *Offshore Technology Conference (OTC) University R&D Showcase*, Houston, TX, USA, May 2011.
- Chatterjee S., Bhatnagar G., Hirasaki, G. J., Chapman, W. G., Dugan, B., and Dickens, G. R., (2011). "Lithologic heterogeneity, focused fluid flow and gas hydrate distribution in marine sediments," *Society of Petroleum Engineers Gulf Coast Section Emerging Engineers Conference (EEC)*, Houston, TX, USA, June 2011.

- Chatterjee S., Gu, G., Bhatnagar, G., Chapman, W. G., Dugan, B., Dickens, G. R., and Hirasaki, G. J., (2011). "Effects of heterogeneous lithology and focused fluid flow on gas hydrate distribution in marine sediments," *7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July 17-21, 2011.
- Chatterjee, S., Dickens, G. R., Bhatnagar, G., Chapman, W. G., Dugan, B., Snyder, G. T., and Hirasaki, G. J., (2012). "Modeling shallow pore water chemistry as a proxy for methane hydrate abundance in marine sediments," *1st International Conference on Upstream Engineering and Flow Assurance, American Institute of Chemical Engineers (AIChE)*, Houston, TX, April 1-5.
- Chatterjee, S., (2012). "Lithologic heterogeneities and focused fluid flow governing gas hydrate distribution in marine sediments," *1st International Conference on Upstream Engineering and Flow Assurance, American Institute of Chemical Engineers (AIChE)*, Houston, TX, April 1-5.
- Chatterjee, S., Dickens, G. R., Chapman, W. G., Dugan, B., Snyder, G. T., and Hirasaki, G. J., (2012). "Modeling pore water profiles of marine gas hydrate systems: The extreme case of ODP Site 685/1230m Peru Margin," *Gordon Research Conference on Natural Gas Hydrate Systems*, Ventura, CA, March 18-23.
- Chatterjee, S., (2012). "Methane hydrate distribution in heterogeneous marine sediments," *5th Oil and Gas High Performance Computing Workshop*, Houston, TX, March 1, 2012.
- Daigle, H., and Dugan, B., (2008). "Extending nuclear magnetic resonance data for permeability estimation in fine-grained sediments." *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract H43J-04.
- Daigle, H., and Dugan, B., (2009). "Extending NMR data for permeability estimation in fine-grained sediments." *Society of Petrophysicists and Well Log Analysts 50th Annual Logging Symposium*, The Woodlands, TX, June 23, 2009.
- Daigle, H., and Dugan, B., (2009). "Fracture Genesis and Fracture Filling in Hydrate Systems." *Eos Trans. AGU*, 90(52), Fall Meet. Suppl., Abstract OS41A-02.
- Daigle, H., and Dugan, B., (2010). "Lithologically partitioned hydrates in advective systems." *Gordon Research Conference on Natural Gas Hydrates*, Waterville, ME, June 9, 2010.
- Daigle, H., and Dugan, B., (2010). "Free gas in the regional hydrate stability zone: Implications for hydrate distribution and fracturing behavior," *Abstract OS53A-1355 Poster presented at 2010 Fall Meeting, AGU*, San Francisco, CA, December 13-17, 2010.
- Daigle, H., Bangs, N., and Dugan, B., (2011). "Transient pressures, hydraulic fracturing, and gas migration at southern Hydrate Ridge: Geophysical observations and flow modeling," *7th International Conference on Gas Hydrates*, Edinburgh, Scotland, July 18, 2011.
- Dugan, B., Chapman, W. G., Dickens, G. R., Hirasaki, G. J., Mohanty, K., Zelt, C., Bhatnagar, G., Chatterjee, S., Daigle, H., Gu, G., Jaiswal, P., Phirani, J., Snyder, G., (2008). "Detection and production of methane hydrate." *Shell Exploration Lunch and Learn*, 22 July 2008.
- Dugan, B., Daigle, H., Chatterjee, S., Gu, G., Hirasaki, G. J., (2010). "Continuum models of large-scale phenomena associated with hydrate-bearing sediments." *Gordon Research Conference on Natural Gas Hydrates*, Waterville, ME, 10 June 2010.

- Dugan, B., Daigle, H., Chatterjee, S., Bhatnagar, G., Gu, G., Dickens, G. R., Hirasaki, G. J., Chapman, W. G., (2011). "Effects of flow focusing and geologic structures on gas hydrate saturation and distribution." *Geological Society of America Annual Meeting*, Minneapolis, MN, October 11, 2011.
- Hustoft, S., Dugan, B., Mienert, J., (2008). "Integrated Hydrological Flow-Modeling and 3D Seismic Analysis of the Nyegga Pockmark-Field at the Mid-Norwegian Constrain Times of Methane Leakage, Subsurface Sediment Remobilization and Fluid Flow in Sedimentary Basins Conference," *The Geological Society*, London, England, October 21-22, 2008.
- Gu G., Jaiswal, P., Chapman, W. G., Zelt, C., and Hirasaki, G. J., (2008). "Compositional effect on hydrate/free gas transition and BSR," *Eos Trans. AGU*, 89(53), Fall Meet. Suppl., Abstract OS41D-1256.
- Gu G., Jaiswal, P., Chapman, W. G., and Hirasaki, G. J., (2009). "Effect of Hydrocarbon Components on Hydrate/Gas Distribution and BSR," *Society of Petroleum Engineers (SPE) Gulf Coast Section Regional Student Paper Contest*, Houston, Texas, April 17-18, 2009.
- Gu G., Chatterjee, S., Hirasaki, G. J., Chapman, W. G., Dugan, B., Bhatnagar, G., Zelt, C., Dickens, G. R., and Jaiswal, P., (2010). "2-D simulation on hydrate accumulation in different heterogeneous lithology structures," *Gordon Research Conference on Natural Gas Hydrate Systems*, Waterville, Maine, June 6-11, 2010.
- Jaiswal, P., Dewangan, P., and Zelt, C. A., (2011). "Gas Hydrate Imaging with Traveltime and Waveform Inversion," *7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, UK, July 17-21, 2011.
- Phirani, J., Pitchumani, R., and Mohanty, K. K., (2009). "Transport Properties of Hydrate Bearing Formations from Pore-Scale Modeling," SPE 124882, presented at the SPE ATCE, New Orleans, LA, Oct. 4-7, 2009.
- Phirani, J., Pitchumani, R., and Mohanty, K. K., (2009). "History Matching of Hydrate Formation and Dissociation Experiments in Porous Media," SPE 118900, *Proceedings of the SPE Reservoir Simulation Symposium*, Woodlands, TX, February 2-4, 2009.
- Phirani, J. and Mohanty, K. K., 2010. "Kinetic Simulation of CO₂ Flooding of Methane Hydrates," SPE 134178, *Proceedings of SPE ATCE*, Florence, Italy, September 19-22, (2010).
- Phirani, J. & Mohanty, K. K., (2011). "Production Strategy for Marine Hydrate Reservoirs," *7th International Conference on Gas Hydrates*, Edinburgh, UK, July 17-21, (2011).
- Scholz, N. A., Riedel, M., Spence, G. D., Hyndman, R. D., James, T., Naegeli, K., Dugan, B., Pohlman, J., and Hamilton, T., (2011). "Do dissociating gas hydrates play a role in triggering submarine slope failures? A case study from the northern Cascadia margin," *7th International Conference on Gas Hydrates*, Edinburgh, Scotland (17-21 July 2011).
- Scholz, N., Riedel, M., Spence, G., Dugan, B., Daigle, H., Hyndman, R. D., James, T. S., and Naegeli, K., (2010). "Slope failure of continental frontal ridges offshore Vancouver Island, B. C.," Abstract OS13EA-1291 Poster presented at 2010 Fall Meeting, AGU, San Francisco, CA, 13-17 Dec.

Electrical Resistivity Investigation of Gas Hydrate Distribution in Mississippi Canyon Block 118, Gulf of Mexico (DE-FC26-06NT42959)

Baylor University

Government Reports

- Dunbar, J., (2007). "Electrical Resistivity Investigation of Gas Hydrate Distribution in Mississippi Canyon Block 118, Gulf of Mexico." *Quarterly Progress Report, October – December 2006*, Baylor University, DOE Award No.: DE-FC26-06NT42959. January 2007.
- Dunbar, J., (2007). "Electrical Resistivity Investigation of Gas Hydrate Distribution in Mississippi Canyon Block 118, Gulf of Mexico." *Quarterly Progress Report, April – June 2007*, Baylor University, DOE Award No.: DE-FC26-06NT42959. July 2007.
- Dunbar, J., (2008). "Electrical Resistivity Investigation of Gas Hydrate Distribution in Mississippi Canyon Block 118, Gulf of Mexico." *Quarterly Progress Report, January – March 2008*, Baylor University, DOE Award No.: DE-FC26-06NT42959. April 2008.
- Dunbar, J., (2010). "Electrical Resistivity Investigation of Gas Hydrate Distribution in Mississippi Canyon Block 118, Gulf of Mexico." *Quarterly Progress Report, October – December 2009*, Baylor University, DOE Award No.: DE-FC26-06NT42959. January 2010.
- Dunbar, J., (2010). "Electrical Resistivity Investigation of Gas Hydrate Distribution in Mississippi Canyon Block 118, Gulf of Mexico." *Quarterly Progress Report, January-March 2010*, Baylor University, DOE Award No.: DE-FC26-06NT42959. April 2010.
- Dunbar, J., (2010). "Electrical Resistivity Investigation of Gas Hydrate Distribution in Mississippi Canyon Block 118, Gulf of Mexico." *Quarterly Progress Report, April - June 2010*, Baylor University, DOE Award No.: DE-FC26-06NT42959. July 2010.
- Dunbar, J., (2010). "Electrical Resistivity Investigation of Gas Hydrate Distribution in Mississippi Canyon Block 118, Gulf of Mexico." *Quarterly Progress Report, July - September 2010*, Baylor University, DOE Award No.: DE-FC26-06NT42959. October 2010.
- Dunbar, J., (2011). "Electrical Resistivity Investigation of Gas Hydrate Distribution in Mississippi Canyon Block 118, Gulf of Mexico." *Quarterly Progress Report, October – December 2010*, Baylor University, DOE Award No.: DE-FC26-06NT42959. January 2011.
- Dunbar, J., (2011). "Electrical Resistivity Investigation of Gas Hydrate Distribution in Mississippi Canyon Block 118, Gulf of Mexico." *Quarterly Progress Report, January – March 2011*, Baylor University, DOE Award No.: DE-FC26-06NT42959. April 2011.
- Dunbar, J., (2011). "Electrical Resistivity Investigation of Gas Hydrate Distribution in Mississippi Canyon Block 118, Gulf of Mexico." *Quarterly Progress Report, April –June 2011*, Baylor University, DOE Award No.: DE-FC26-06NT42959. July 2011.
- Dunbar, J., (2011). "Electrical Resistivity Investigation of Gas Hydrate Distribution in Mississippi Canyon Block 118, Gulf of Mexico." *Quarterly Progress Report, July –September 2011*, Baylor University, DOE Award No.: DE-FC26-06NT42959. October 2011.

Dunbar, J., (2012). "Electrical Resistivity Investigation of Gas Hydrate Distribution in Mississippi Canyon Block 118, Gulf of Mexico." *Quarterly Progress Report, January 2012 – March 2012*, Baylor University, DOE Award No.: DE-FC26-06NT42959. April 2012.

Presentations

Dunbar, J., Gunnell, A., Higly, P., and Lagmanson, M., (2010). "Seafloor resistivity investigation of methane hydrate distribution in Mississippi Canyon, Block 118, Gulf of Mexico," (expanded abstract) *Symposium on the Application of Geophysics to Engineering and Environmental Problems*, v. 23, pp. 835-844.

Dunbar, J., Higley, P., (2010). "Mapping hydrate deposits in deepwater sediments using DC resistivity techniques." *Subsea Survey Conference*, Galveston, Texas, Nov. 9-11.

Dunbar, J. A., (2012). Extrusion model for the distribution of hydrate at Woolsey Mound, Mississippi Canyon, Block 118, Gulf of Mexico. Presented at 2012 Ocean Sciences Annual Meeting, February 19-24, Salt Lake City, UT.

Gunnell, A. and Dunbar, J., (2010). "Correlations between direct current resistivity and seismic attribute tests across an active methane hydrate vent in Mississippi Canyon, Block 118, Gulf of Mexico." (expanded abstract) *Symposium on the Application of Geophysics to Engineering and Environmental Problems*, v. 23, p. 709.

Theses/Dissertations

Gunnell, A. , (2012). "Correlations between direct current resistivity and seismic attribute tests across an active methane hydrate vent in Mississippi Canyon, Block 118, Gulf of Mexico." M. S. Thesis, Baylor University.

Gulf of Mexico Sea Floor Stability and Gas Hydrates Monitoring Project (DE-FC26 - 00NT40920, DE-FC26-02NT41628, DE-FC26 -06NT42877) and Temporal Characterization of Hydrates System Dynamics beneath Seafloor Mounds: Integrating Time-Lapse Electrical Resistivity Methods and in situ Observations of Multiple Oceanographic Parameters (DE-FE0010141)

University of Mississippi Center for Marine Resources and Environmental Technology

Peer-Reviewed Publications

- Abrams, M., and Whelan, J., eds., (2005). "Special issue on Near-Surface Hydrocarbon Migration, Mechanisms and Seepage Rates," *Marine and Petroleum Geology*, Volume 22, pp. 456-596.
- Addison, A. D., Battista, B. M., and Knapp, C. C., (2009). "Improved Hydrogeophysical Parameter Estimation from Empirical Mode Decomposition Processed Ground Penetrating Radar Data," *Journal of Environmental and Engineering Geophysics*, Vol. 14, No. 4, pp. 171-178.
- Battista, B. M., Addison, A. D., and Knapp, C. C., (2009). "Empirical Mode Decomposition Operator for Dewowing GPR Data," *Journal of Environmental and Engineering Geophysics*, Vol. 14, No. 4, pp.163-169.
- Battista, B., Knapp, C., McGee, T., and Goebel, V., (2007). "Application of the Empirical Mode Decomposition and Hilbert-Huang Transform to seismic reflection data," *Geophysics*, 72(2), pp. H29-H37.
- Battista, B. M., Macelloni, L., Knapp, C., and McGee, T., (in review). "A Band-Modulated Empirical Mode Decomposition Operator for use with High-Resolution Seismic Reflection Data," *IEEE Transactions on Geoscience and Remote Sensing*.
- Brooks, L. A., Gerstoft, P., (2009). "Green's function approximation from cross-correlation of active sources in the ocean," *Journal of Acoustical Society of America*, 126, 46-55.
- Brooks, L. A., Gerstoft, P., and Knobles, D. P., (2008). "Multichannel array diagnosis using noise cross-correlation," *Journal of Acoustical Society of America* EL124,EL203-EL209, DOI:10.1121/1.2960937.
- Brooks, L. A., Gerstoft, P., (2009). "Green's function approximation from cross-correlations of 20–100 Hz noise during a tropical storm," *Journal of Acoust. Soc. Am* 125, p.723-734.
- Camilli, R., Bowen, A., Farr, N., (2010). "Bright Blue: Advanced Technologies for Marine Environmental Monitoring and Offshore Energy," *Oceans 2010*. pp 1-7.
- Carrière, O. and Gerstoft, P., (2013). Deepwater subseafloor imaging using active OBS interferometry. *Geophysics*, v. 78, pp. Q15-Q24. [dx.doi.org/10.1190/geo2012-0241.1](https://doi.org/10.1190/geo2012-0241.1)
- Chen, D., Cathles, L., and Roberts, H., (2004). "The geochemical signatures of variable gas venting at gas hydrate sites," *Marine and Petroleum Geology*, Volume 21, pp. 317-326.

- Dearman, J., Wilson, W., Rogers, R., and Zhang, G., (2009). "Gas hydrate promotion by smectite-bioproduction interactions," *Marine Chemistry*, V. 115, Issues 1-2, 20 June 2009, pp. 21-30, ISSN 0304-4203, DOI: 10.1016/j.marchem.2009.05.004.
- Dobbs, G., and Mizaikoff, B., (2006). "Shining New Light on Old Principles: Localization of Evanescent Field Interactions at Infrared-Attenuated Total Reflection Sensing Interfaces," *Applied Spectroscopy*, V. 60, No. 6, pp. 573-583.
- Geresi, E., Lutken, C., McGee, T., and Lowrie, A., (2002). "Complex geology and gas hydrate dynamics characterize Mississippi Canyon Block 798 on the upper continental slope of the northern Gulf of Mexico," *GCAGS Transactions*, 52, pp. 309-321.
- Geresi, E., Chapman, R., McGee, T., and Woolsey, B., (2009). "Monitoring seafloor instability caused by the presence of gas hydrate using ocean acoustical and geophysical techniques in the Northern Gulf of Mexico," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Hardage, B., Roberts, H., Murray, P., Remington, R., Sava, D., Shedd, W., and Hunt, J., (2009). "Multicomponent seismic technology assessment of fluid-gas expulsion geology and gas hydrate systems: Gulf of Mexico," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Hvozdar, L., Pennington, N., Kraft, M., Karlowatz, M., and Mizaikoff, B., (2002). "Quantum Cascade Lasers for Mid-Infrared Spectroscopy," *Vibrational Spectroscopy*, V. 30, pp. 53-58.
- Janotta, M., Katzir, A., and Mizaikoff, B., (2003). "Sol-gel Coated Mid-Infrared Fiberoptic Sensors," *Applied Spectroscopy*, V. 57, pp. 823-828.
- Janotta, M., (2004). "Analysis of Corrosion Processes at DLC Protected ZnSe Waveguide Surfaces," *Langmuir*, Volume 20, pp. 8634-8640.
- Janotta, M., (2004). "Direct Analysis of Oxidizing Agents in Aqueous Solution with Attenuated Total Reflectance Mid-Infrared Spectroscopy and DLC Protected Waveguides," *Analytical Chemistry*, Volume 76, pp. 384-391.
- Karlowatz, M., Kraft, M., and Mizaikoff, B., (2004). "Simultaneous Quantitative Determination of Benzene, Toluene and Xylenes in Water with Mid-Infrared Evanescent Field Spectroscopy," *Analytical Chemistry*, Volume 76, pp. 2643-2648.
- Kelleher, B., Simpson, A., Rogers, R., Dearman, J., and Kingery, W., (2007). "Effects of natural organic matter from sediments on the growth of marine gas hydrates," *Marine Chemistry*, Volume 103, pp. 237- 249.
- Lapham, L., Chanton, J., Martens, C., and Mendlovitz, H., (2004). "Innovations in sampling pore fluids at deep sea hydrate sites," in B. J Thompson, ed., *Energy, Simulation-Training, Ocean Engineering and Instrumentation*, Research Papers of the Link Foundation Fellows, Volume 3, p. 4.
- Lapham, L., Chanton, J., Martens, C., Sleeper, K., and Robert Woolsey, J., (2008). "Microbial activity in surficial sediments overlying acoustic wipeout zones at a Gulf of Mexico cold seep," *Geochemistry, Geophysics, Geosystems*, Volume 9, No. 6, June 4.

- Lapham, L. L., Chanton, J. P., Martens, C. S., Higley, P. D., Jannasch, H. W., and Woolsey, J. R., (2008). "Measuring long term changes in dissolved ion and gas concentrations and stable isotopes at a hydrate site: Mississippi Canyon 118, Gulf of Mexico," *Environmental Science and Technology*, 42, pp. 7368-7373.
- Lapham, L. L., Alperin, M. J., Chanton, J. P., and Martens, C. S., (2008). "Upward advection rates and dissolved methane and sulfate concentrations at two Gulf of Mexico brine seeps," *Marine Chemistry*, 112, 65-71. <http://dx.doi.org/10.1016/j.marchem.2008.06.001>
- Lapham, L. L., Chanton, J. P., Chapman, R. and Martens, C. S., (2010). "Methane under-saturated fluids in deep-sea sediments: Implications for gas hydrate stability and rates of dissolution," *Earth and Planetary Science Letters*, 298 275-285. doi:10.1016/j.epsl.2010.07.016
- Lapham, L. L., Wilson, R., and Chanton, J., (2012). "Pressurized laboratory experiments show no stable carbon isotope fractionation of methane during gas hydrate dissolution and dissociation," *Rapid Communications in Mass Spectrometry*. v. 26, issue 1, pp. 32-36, doi:10.1002/rcm.5290, January 2012.
- Lewis, M. and Gerstoft, P., (2012). "Shear wave anisotropy from cross-correlation of seismic noise in the Parkfield pilot hole," *Geophys. Res. Int.* v. 188, pp. 626-630, doi: 10.1111/j.1365-246X.2011.05285.x.
- Lloyd, K., Lapham, L., and Teske, A., (2006). "An Anaerobic Methane Oxidizing Community of ANME-1b archaea in Hypersaline Gulf of Mexico Sediments," *Applied and Environmental Microbiology*, Volume 72, pp. 7218-7230.
- Lloyd, K. G., Albert, D., Biddle, J. F., Chanton, J., Pizarro, O., and Teske, A., (2010). "Spatial structure and activity of sedimentary microbial communities underlying a Beggiatoa spp. mat in a Gulf of Mexico hydrocarbon seep," *PLoS One*, 5(1): e8738.
- Lloyd, K. G., MacGregor, B. J., and Teske, A., (2010). "Quantitative PCR methods for RNA and DNA in marine sediments: Maximizing yield while overcoming inhibition," *FEMS Microbiology Ecology*, 72.
- Lowrie, A., Lutken, C., Geresi, E., Bennett, R., Faas, R., and McGee, T., (2002). "Natural Gas Hydrates: Permanent Earth Constituents Impacting Sediment Strength and Continental Margin Evolution," *Canadian Recorder, Natural Gas Hydrates*, Volume 27, n. 8, pp. 13-27.
- Lowrie, A. and Lutken, C., (2005). "Free gas exploitation within the northern Gulf of Mexico, a viable potential?," *Transactions of the 55th Annual Meeting of the GCAGS*, New Orleans, LA, pp. 456-461.
- Lutken, C., Lowrie, A., Geresi, E., Bennett, R., Fass, R., Battista, B., McGee, T., (2003). "Interpretation of high resolution seismic data from a geologically complex continental margin, northern Gulf of Mexico," *GCAGS/GCSSEPM Transactions Volume 53*, pp. 504-516.
- Macelloni, L., Battista, B., Knapp, C., (2011). "Optimal Filtering High-Resolution Seismic Reflection Data Using a Weighted-Mode Empirical Mode Decomposition Operator," *Journal of Applied Geophysics*, v. 75, pp. 603-614.

- Macelloni, L., Simonetti, A., Knapp, J., Knapp, C., and Lutken, C., (2012). "Multiple resolution seismic imaging of a shallow hydrocarbon plumbing system, Woolsey Mound, Northern Gulf of Mexico Gulf of Mexico," *Marine and Petroleum Geology*, v. 38, pp. 128-142.
- Macelloni, L., Brunner, C., Caruso, S., Lutken, C., D'Emidio, M., and Lapham, L., (2013). "Spatial distribution of seafloor biogeological and geochemical processes as proxies of fluid flux regime and evolution of a carbonate/hydrates mound, northern Gulf of Mexico," *Deep Sea Research, Part 1*, Manuscript Number: DSR1-D-12-00118R1.
- Macelloni, L., Lutken, C. B., Garg, S., Simonetti, A., D'Emidio, M., Wilson, R. M., Sleeper, K., Lapham, L. L., Lewis, T., Pizzi, M., Knapp, J. H., Knapp, C. C., Brooks, J., and McGee, T. M., (2015). "Heat-flow regimes and the hydrate stability zone of a transient, thermogenic, fault-controlled hydrate system (Woolsey Mound, northern Gulf of Mexico)," *Marine and Petroleum Geology*, v. 59, pp. 491-504.
- McGee, T., Lutken, C., Rogers, R., Brunner, C., Dearman, J., Lynch, F., and Woolsey, J., (2009). "Can fractures in soft sediments host significant quantities of gas hydrates?," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- McGee, T., (2000). "A single-channel seismic reflection method for quantifying lateral variations in BSR reflectivity," *Marine Geology*, Volume 164, pp. 29-35.
- McGee, T., (2000). "Pushing the limits of high resolution in marine seismic profiling," *Journal of Environmental and Engineering Geophysics*, Volume 5, pp. 43-53.
- McGee, T. M., (2000). "High-resolution seismic profiling on water," *Majorana Center of Scientific Culture School of Applied Geophysics, 10th Course: Development of Geophysical Methods with Application to Shallow Targets, Annali di Geofisica*, 43, pp. 1045-1073.
- McGee, T. M., and Woolsey, J. R., (2000). "A remote station to monitor gas hydrate outcrops in the Gulf of Mexico," *Annals of the New York Academy of Science*, 912, pp. 527-532.
- McGee, T., Macelloni, L., A. Bosman, C. Lutken, Brunner, C., Rogers, R., Dearman, J., K. Sleeper and J. R. Woolsey, (2008). "Hydrocarbon gas hydrates in sediments of the Mississippi Canyon area, northern Gulf of Mexico," *Special Publication of the Geological Society of London, Sediment-hosted gas hydrates: New insights on natural and synthetic systems*, D. Long (ed.)
- McGee, T, J. Woolsey, R., Macelloni, L., B. Battista, S. Caruso, Lapham, L., V. Goebel and J. Carroll, (2008). "Progress toward a sea-floor observatory at a carbonate/hydrate mound in the northern Gulf of Mexico," *US/EU Baltic 2008 International Symposium*, Tallin, Estonia May 27-29
- Mizaikoff, B., (2003). "Infrared Optical Sensors for Water Quality Monitoring," *Water Science & Technology*, Volume 47, n. 2, pp. 35-42.
- Mizaikoff, B., (2003). "Mid-Infrared Fiberoptic Sensors," *Analytical Chemistry*, Volume 75, pp. 258-267.
- Morley, M. G., Dosso, S. E. and Chapman, N. R., (2009). "Array element localization using ship noise," *J. Acoust. Soc. Am.* Volume 125, Issue 3, pp. 1403-1409.

- Radich, J., Rogers, R. E., French, W. T., and Zhang, G., (2009). "Biochemical reaction and diffusion in seafloor gas hydrate capillaries: Implications for gas hydrate stability," *Chemical Engineering Science* 64, p 4278-4285.
- Roberts, H., (2001). "Fluid and gas expulsion on the northern Gulf of Mexico continental slope: Mud-prone to mineral-prone responses," in C. Paull and Dillon, W., eds., *Natural Gas Hydrates: Occurrence, distribution, and detection*, American Geophysical Union, Geophysical Monograph, Volume 124, pp. 145-161.
- Rogers, R., Kothapalli, C., Lee, M., and Woolsey, R., (2003). "Catalysis of Gas Hydrates by Biosurfactants in Seawater-Saturated Sand/Clay," *The Canadian Journal of Chemical Engineering*, Volume 81, n. 5, pp. 973-980.
- Rogers, R., Zhang, G., Dearman, J., and Woods, C., (2007). "Investigation into surfactant/gas-hydrate relationship," in D. Mahajan, Taylor, C., and G. Ali Mansoori, eds., *Journal of Petroleum Science and Engineering – Natural Gas Hydrate/Clathrate* (Elsevier), Volume 56, Issues 1-3, March.
- Sassen, R., Roberts, H., Jung, W., Phaneuf, B., Milkov, A., Lutken, C., DeFreitas, D., Sweet, S., and Guinasso, N., (2009). "Geologic and geochemical setting of the Mississippi Canyon 118 gas hydrate site, Gulf of Mexico: significance to hydrate volume?," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Sassen, R., Losh, S., Cathles III, L., Roberts, H., Whelan, J., Milkov, A., Sweet, S., and DeFreitas, D., (2001). "Massive vein-filling gas hydrate: relation to ongoing gas migration from the deep subsurface in the Gulf of Mexico," *Marine Petroleum Geology*, Volume 18, pp. 551-560.
- Sassen, R., Sweet, S., Milkov, A., DeFreitas, D., Kennicutt II, M., and Roberts, H., (2001). "Stability of thermogenic gas hydrate in the Gulf of Mexico: Constraints on models of climate change," in C. Paull and Dillon, W., eds., *Natural Gas Hydrates: Occurrence, Distribution, and Detection*, American Geophysical Union, Geophysical Monograph, Volume 124, pp. 131-143.
- Sassen, R., Milkov, A., Roberts, H., Sweet, S., and DeFreitas, D., (2003). "Geochemical evidence of rapid hydrocarbon venting from a seafloor-piercing mud diapir, Gulf of Mexico continental shelf," *Marine Geology*, Volume 198, pp. 319-329.
- Sassen, R., Milkov, A., Ozgul, E., Roberts, H., Hunt, J., Beeunas, M., Chanton, J., DeFreitas, D., and Sweet, S., (2003). "Gas venting and subsurface charge in the Green Canyon area, Gulf of Mexico continental slope: evidence of a deep bacterial methane source?," *Organic Geochemistry*, Volume 34, n. 10, pp. 1555-1464.
- Sassen, R., Roberts, H., Carney, R., Milkov, A., DeFreitas, D., Lanoil, B., and Zhang, C., (2004). "Free hydrocarbon gas, gas hydrate, and authigenic minerals in chemosynthetic communities of the northern Gulf of Mexico continental slope: relation to microbial processes," *Chemical Geology*, Volume 205, pp. 195-217.
- Simonetti, A., Knapp, J. H., Sleeper, K., Lutken, C. B., Macelloni, L, and Knapp, C. C., (2013). "Spatial distribution of gas hydrates from high-resolution seismic and core data, Woolsey Mound, northern Gulf of Mexico. *Marine and Petroleum Geology*, v. 44, pp. 21-33.

- Teske, A., (2009). "Sulfate-reducing and methanogenic hydrocarbon-oxidizing microbial communities in the marine environment." Chapter 104. In K. Timmis (ed.), *Handbook of Hydrocarbon Microbiology*, Springer.
- Traer, James, Gerstoft, P., Bromirski, P. D., Hodgkiss, W. S., and Brooks, L. A., (2008). "Shallow-water seismo-acoustic noise generation by Tropical Storms Ernesto and Florence," *J. Acoust. Soc. Am* EL, 124, EL170-EL176, DOI:10.1121/1.2968296 (PDF).
- Vogt, F., (2004). "Chemometric Correction of Drift Effects in Optical Spectra," *Applied Spectroscopy*, Volume 58, pp. 683-692.
- Vogt, F., and Mizaikoff, B., (2004). "Fault Tolerant Spectroscopic Data Evaluation Based on Extended Principal Component Regression Correcting for Spectral Drifts and Uncalibrated Spectral Features," *Journal of Chemometrics*, Volume 17, pp. 660-665.
- Vogt, F., Karlowatz, M., Jakusch, M., and Mizaikoff, B., (2003). "An Automated Sample Preparation System MixMaster for Investigation of Volatile Organic Compounds with Mid-Infrared Evanescent Wave Spectroscopy," *The Analyst*, Volume 128, n. 4, pp. 397-403.
- Vogt, F., and Mizaikoff, B., (2003). "Introduction and Application of Secured Principal Component Regression (SPCR) for Analysis of Uncalibrated Spectral Features: Optical Spectroscopy and Chemical Sensing," *Analytical Chemistry*, Volume 75, pp. 3050-3058.
- Vogt, F., and Mizaikoff, B., (2003). "Secured PCR (SPCR) for Detection, Correction, and Characterization of PCR Calibration Model Failures Induced by Uncalibrated Spectral Features," *Journal of Chemometrics*, Volume 17, pp. 225-236.
- Vogt, F., Kraft, M., and Mizaikoff, B., (2002). "First Results on Infrared Attenuated Total Reflection Spectroscopy for Quantitative Analysis of Salt Ions in Seawater," *Applied Spectroscopy*, Volume 56, pp. 1376-1380.
- Wilson, R. M., Macelloni, L., Simonetti, A., Lapham, L., Lutken, C., Sleeper, K., D'Emidio, M., Pizzi, M., Knapp, J., and Chanton, J., (2014). "Subsurface methane sources and migration pathways within a gas hydrate mound system, Gulf of Mexico," *Geochemistry, Geophysics, Geosystems*, v. 15, pp. 89-107.
- Whelan, J., (2004). "When seafloor meets ocean, the chemistry is amazing: in more and more places, scientists are finding vast amounts of natural gas on the ocean bottom," *Oceanus*, Volume 42, n. 2, pp. 66-71.
- Whelan, J., L. Eglinton, L. Cathles III, S. Los, and H. Roberts, (2005). "Surface and Subsurface Manifestations of Gas Movement Through a N-S Transect of the Gulf of Mexico," *Marine and Petroleum Geology*, pp. 479-497.
- Zhang, Jian, Gerstoft, P. and Bromirski, P. D., (2010). "Pelagic and coastal sources of P-wave microseisms: Generation under tropical cyclones," *Geophys. Res. Lett.*, doi:10.1029/2010GL044288.
- Zhang, J., Gerstoft, P. and Bromirski, P. D., (2010). "Resolving P-wave travel-time anomalies using seismic array observations of oceanic storms," *Earth and Planetary Science Letters*, 292, 419-427, doi:10.1016/j.epsl.2010.02.014.
- Zhang, G., Rogers, R., French, W., and Lao, W., (2007). "Investigation of microbial influences on seafloor gas-hydrate formations," *Marine Chemistry*, Volume 103, pp. 359- 369.

Zhong, Y., and Rogers, R., (2000). "Surfactant Effects on Gas Hydrate Formation," *Chemical Engineering Science*, Volume 55, n. 19, pp. 4175-4187.

Government Reports

- Hirasaki, G., (2007). "Detection and Production of Methane Hydrates." *Semi-Annual Progress Report, April – June 2007*, Rice University, DOE Award No.: DE-FC26-06NT42960. June 2007.
- Lutken, C. B., Welch, D. R., (2010). "Hydrate Research Activities That Both Support and Derive From the Monitoring Station/Sea-Floor Observatory, Mississippi Canyon 118, Northern Gulf of Mexico," *Semi-Annual Progress Report, January – June 2010*, Center for Marine Resources and Environmental Technology, DOE Award No.: DE-FC26-06NT42877. August 2010.
- Lutken, C. B., Welch, D. R., (2011). "Hydrate Research Activities That Both Support and Derive From the Monitoring Station/Sea-Floor Observatory, Mississippi Canyon 118, Northern Gulf of Mexico," *Semi-Annual Progress Report, July – December 2010*, Center for Marine Resources and Environmental Technology, DOE Award No.: DE-FC26-06NT42877. March 2011.
- Lutken, C. B. and Welch, D. R., (2011). "Hydrate Research Activities That Both Support and Derive From the Monitoring Station/Sea-Floor Observatory, Mississippi Canyon 118, Northern Gulf of Mexico," *Semi-Annual Progress Report, January – June 2011*, Center for Marine Resources and Environmental Technology, DOE Award No.: DE-FC26-06NT42877. August 2011.
- Lutken, C., (2012). "Hydrate Research Activities that both Support and Derive from the Monitoring Station/Seafloor Observatory, Mississippi Canyon 118, Northern Gulf of Mexico," *Semi-annual Progress Report, July – December 2011*, University of Mississippi, DOE Award No.: DE-FC26-06NT42877. February 2012.
- Lutken, C., (2012). "Hydrate Research Activities that both Support and Derive from the Monitoring Station/Seafloor Observatory, Mississippi Canyon 118, Northern Gulf of Mexico," *Semi-annual Progress Report, January – June 2012*, University of Mississippi, DOE Award No.: DE-FC26-06NT42877. August 2012.
- Lutken, C. B., (2013). "Hydrate Research Activities that both Support and Derive from the Monitoring Station/Seafloor Observatory, Mississippi Canyon 118, Northern Gulf of Mexico," *Semi-annual Progress Report, July – December 2012*, University of Mississippi, DOE Award No.: DE-FC26-06NT42877. February 2013.
- Lutken, C. B., (2013). "Temporal Characterization of Hydrates System Dynamics beneath Seafloor Mounds: Integrating Time-Lapse Electrical Resistivity Methods and in situ Observations of Multiple Oceanographic Parameters," *Quarterly Progress Report (January – March 2013)*. DOE Award No.: DE-FE0010141, April 2013.
- Lutken, C. B., (2013). "Temporal Characterization of Hydrates System Dynamics beneath Seafloor Mounds: Integrating Time-Lapse Electrical Resistivity Methods and in situ Observations of Multiple Oceanographic Parameters," *Quarterly Progress Report (April – June 2013)*. DOE Award No.: DE-FE0010141, July 2013.

- Lutken, C. B., (2013). "Hydrate Research Activities that both Support and Derive from the Monitoring Station/Seafloor Observatory, Mississippi Canyon 118, Northern Gulf of Mexico," *Semiannual Progress Report (January – June 2013)*. DOE Award No.: DE-FC26-06NT42877, August 2013.
- Lutken, C. B., (2013). "Temporal Characterization of Hydrates System Dynamics beneath Seafloor Mounds: Integrating Time-Lapse Electrical Resistivity Methods and in situ Observations of Multiple Oceanographic Parameters," *Quarterly Progress Report covering the period July – September, 2013*. DOE Award No.: DE-FE0010141, University of Mississippi. November, 2013.
- Lutken, C. B., (2013). "Hydrate Research Activities that both Support and Derive from the Monitoring Station/Seafloor Observatory, Mississippi Canyon 118, Northern Gulf of Mexico," *Final Technical Report covering the period July 1, 2006 – July 31, 2013*, DOE Award No.: DE-FC26-06NT42877. Submitted for The Gulf of Mexico Hydrates Research Consortium by The Center for Marine Resources and Environmental Technology, University of Mississippi. December, 2013.
- Lutken, C. B., (2014). "Temporal Characterization of Hydrates System Dynamics beneath Seafloor Mounds: Integrating Time-Lapse Electrical Resistivity Methods and in situ Observations of Multiple Oceanographic Parameters," *Quarterly Progress Report covering the period October – December, 2013*. DOE Award No.: DE-FE0010141. Submitted by The Center for Marine Resources and Environmental Technology, University of Mississippi. February, 2014.
- Lutken, C. B., (2014). "Gas Hydrate Monitoring Station Project: A Remote Station to Monitor the Gas Hydrate Stability Zone in the Northern Gulf of Mexico," *Final Technical Report for Cooperative Agreement M08AC12912 between the Minerals Management Services, Department of the Interior, and the Center for Marine Resources and Environmental Technology, University of Mississippi, covering the period January 1, 2008 – December 31, 2010*. Submitted for The Gulf of Mexico Hydrates Research Consortium by The Center for Marine Resources and Environmental Technology, University of Mississippi. March, 2014.
- Lutken, C. B., (2014). "Temporal Characterization of Hydrates System Dynamics beneath Seafloor Mounds: Integrating Time-Lapse Electrical Resistivity Methods and in situ Observations of Multiple Oceanographic Parameters," *Quarterly Progress Report covering the period January – March, 2014*. DOE Award No.: DE-FE0010141. Submitted by The Center for Marine Resources and Environmental Technology, University of Mississippi. April, 2014.
- Lutken, C. B., (2014). "Gas Hydrate Monitoring Station Project: A Remote Station to Monitor the Gas Hydrate Stability Zone in the Northern Gulf of Mexico," *Final Technical Report for Cooperative Agreement M08AC12912 between the Minerals Management Services, Department of the Interior and the Center for Marine Resources and Environmental Technology, University of Mississippi, covering the period January 1, 2011 – December 31, 2013*. Submitted for The Gulf of Mexico Hydrates Research Consortium by The Center for Marine Resources and Environmental Technology, University of Mississippi. July, 2014.

Lutken, C. B., (2014). "Temporal Characterization of Hydrates System Dynamics beneath Seafloor Mounds: Integrating Time-Lapse Electrical Resistivity Methods and in situ Observations of Multiple Oceanographic Parameters," *Quarterly Progress Report covering the period April – June, 2014*. DOE Award No.: DE-FE0010141. Submitted by The Center for Marine Resources and Environmental Technology, University of Mississippi. August, 2014.

Theses/Dissertations

- Battista, B. M., (2008). "Advanced Nonlinear Signal Processing Tools for use with High-Resolution Seismic Reflection and Ground-Penetrating Radar Data," Ph. D. Thesis, University of South Carolina.
- Conti, A., (2013). "Analysis and interpretation of Seismo-acoustic data for the Morpho-acoustic Characterization of a Cold Seep of the Northern Gulf of Mexico Slope Area," M. S. Thesis, University of Rome.
- Dearman, J. L., (2007). "Gas hydrates formation in Gulf of Mexico sediments," Ph. D. Dissertation, Mississippi State University.
- Geresi, E., (2007). "Vertical line array performance in gas hydrate bearing sediment in the northern Gulf of Mexico," Ph. D. dissertation, University of Victoria, B. C.
- Johnson, J., (2003). "Passive microwave remote sensing of sea surface salinity: application of the scanning low frequency microwave radiometer in a coastal zone environment," M. S. thesis, University of Southern Mississippi.
- Kothapalli, C. R., (2002). "Catalysis of gas hydrates by biosurfactants in seawater-saturated sand/clay," M. S. Thesis, Mississippi State University.
- Lapham, L., (2007). "In situ measurements of methane cycling in cold seep sediments containing gas hydrates and brines," Ph. D. Thesis, University of North Carolina.
- Lee, M. S., (2001). "The effects of biosurfactants on gas hydrate formation in ocean sediments," M. S. Thesis, Mississippi State University.
- Lloyd, K. G., (2009). "Microbially driven methane and sulfur cycling in a Gulf of Mexico methane seep and the White Oak River estuary," Ph. D. thesis, University of North Carolina.
- Macelloni, Leonardo, (2005). "High-resolution marine digital seismic method: theoretical constraints, digital processing, new developments," Ph. D. dissertation, University of Rome La Sapienza.
- Martin, Kevin, M. S., (2006). "Development of a technique to quantify the volume of bubbles released from hydrocarbon seeps, using an inductive conductivity cell," M. S. thesis, University of Southern Mississippi.
- Radich, J. G., (2009). "Laboratory and theoretical investigations of direct and indirect microbial influences on seafloor gas hydrates," M. S. Thesis, Mississippi State University.
- Woods, C. E., Jr., (2004). Examination of the effects of biosurfactant concentration on natural gas hydrate formation in seafloor porous media. M. S. Thesis, Mississippi State University.

Xiong, Shangmin, (2009). Microbially induced and disrupted memory phenomena during gas-hydrate occurrences in seafloor sediments, M. S. Thesis, Mississippi State University.

Other Publications

Backus, M. M., Murray, Paul, Hardage, B. A., and Graebner, R. J., (2006). "High-resolution multicomponent seismic imaging of deepwater gas-hydrate systems," *The Leading Edge*, V. 25, No. 5, pp. 578– 598.

Bernabini, M., Chiocci, F. L., Mele, F., Orlando, L., Bosman, A., Macelloni, L., (2005). "Rilievo batimetrico multibeam e sismico dell'alveo del Fiume Tevere," *Atti del XXIV Convegno Nazionale GNGTS*, Rome, Italy, November, 15-18 2005.

Bowles, M. W., (2011). "Carbon, nitrogen, and sulfur cycling interactions in organic carbon rich extreme environments," PhD thesis, Marine Sciences, University of Georgia.

Camilli, R., and Duryea, A., (2007). "Characterizing marine hydrocarbons with In Situ mass spectrometry." In *Proceeding of MTS/IEEE OCEANS 2007*, Vancouver, Canada 2007. doi:10.1109/OCEANS.2007.4449412

Camilli, R., Martens, C., Whelan, J., Pizarro, O., Farr, N., Goudreau, J., Mendlovitz, H., Ferrini, V., (2006). "Coordinated mapping and characterization of ocean floor methane sources with manned submersibles, AUVs and modular observatory arrays." In *EOS: Trans. Amer. Geophysical Union Fall Meeting Supplement*, Abstract.

Camilli, R., Bingham, B., Jakuba, M., Singh, H., and Whelan, J., (2004). "Integrating In Situ Chemical Sampling with AUV Control Systems," In *Collected papers for 2004 Oceans Conference*, 9 pp. Victoria, B. C., Sept 2004.

Chapman, R., Pohlman, J., Coffin, R., Chanton, J., and Lapham, L., (2004). "Thermogenic gas hydrates in the Northern Cascadia Margin," *Eos Trans. AGU*, 85 (38), p. 361.

Dobbs, Gary, Balamurali Balu, T., Young, C., Kranz, C., Hess, D. W., and Mizaikoff, B., (2007). "Mid-Infrared Chemical Sensors Utilizing Plasma-Deposited Fluorocarbon Membranes," *Anal. Chem.*, 79(24), pp. 9566-9571.

Gallager, S. and Whelan, J., (2004). "The Next Generation of in situ Biological and Chemical Sensors in the Ocean," *Workshop report and Executive summary of workshop held at Woods Hole Oceanographic Institution*, Sept 2003, 18pp.

Geresi, E., Lutken, C., and McGee, T., (2002). "Complex geology and gas hydrate dynamics characterize Mississippi Canyon Block 798 on the upper continental slope of the northern Gulf of Mexico," *Proceedings Gulf Coast Association of Geological Societies*, Volume 52, pp. 309-321.

Geresi, E., Chapman, R., McGee, T. and Woolsey, J. R., (2004). "Seismic calibration of the proposed DOE/JIP drill site in Atwater Valley 14," *AAPG Annual Convention*, Dallas, TX, Abstracts Volume, pA51.

Hardage, B. A., DeAngelo, M., Sava, D., and Remington, R., (2006). "Technology can avoid the fizzles," *AAPG Explorer, Geophysical Corner*, March, pp. 28–29.

Hardage, B. A., and Murray, Pa., (2006). "High resolution P-P imaging of deepwater near-seafloor geology," *AAPG Explorer*, V. 27, No. 7, p. 30.

- Hardage, B. A., and Murray, P. E., (2006) "Detailed imaging of deepwater hydrate geology with horizontal arrays of seafloor sensors," *Offshore Technology Conference, paper 17929*, 3 p.
- Hardage, B. A., Murray, Paul, Sava, Diana, Backus, M. M., Remington, R. L., Graebner, R. J., and Roberts, H. H., (2006). "Evaluation of deepwater gas-hydrate systems," *The Leading Edge*, V. 25, No. 5, pp. 572– 577.
- Hardage, B. A., Remington, R. L., and Roberts, H. H., (2006) "Gas hydrate--a source of shallow water flow?" *The Leading Edge*, V. 25, No. 5, pp. 634– 636.
- Hardage, B. A., and Roberts, H. H., (2006). "Gas hydrate in the Gulf of Mexico: what and where is the seismic target?" *The Leading Edge*, V. 25, No. 5, pp. 566– 571.
- Hardage, B. A., (2007). "Gas hydrate and LNG tankers," *AAPG Explorer*, V. 28, No. 5, Geophysical Corner, p. 36.
- Hardage, B. A., Sava, Diana, DeAngelo, Michael, and Remington, R. L., (2007). "Which seismic wave mode is best?" *AAPG Explorer*, V. 28, No. 4, Geophysical Corner, p. 32.
- Higley, Paul, (2007). "New Concepts in Robotic Operated Vehicle (ROV) Design," *Mid-South Area Science and Engineering Conference, Oxford, MS, MAESC 10071*.
- Ingram, Wesley, Meyers, S., Brunner, C., and Martens, C., (2008). "Centennial millennial scale stability of a large gas hydrate field in the northern Gulf of Mexico," *The Geological Society of America, Southeastern Section, 57th Annual Meeting, Abstracts and Program, V. 40, No. 4, April 10 -11*.
- Knapp, James H., Knapp, Camelia C., Macelloni, Leonardo, Simonetti, Antonello, Lutken, Carol, (2010). "Subsurface Structure and Stratigraphy of a Transient, Fault-Controlled Thermogenic Hydrate System at MC-118," *Gulf of Mexico AAPG 2010 Annual Convention Oral Presentation, Abstracts Volume*, p. 134.
- Knapp, Camelia C., Knapp, James H., Addison, Adrian, Macelloni, Leonardo, Waddell, Michael, (2010). "Geophysical Baseline Characterization of Subsurface Gas Hydrates at MC-118, Gulf of Mexico," *AAPG 2010 Annual Convention Poster Presentation, Abstracts Volume*, p. 134.
- Lapham, L. L., Chanton, J. P., Martens, C. S., Mendlovitz, H. P., Higley, P. D., Lutken, C. B., and Woolsey, J. R., (2008). "Unique tools sample sediment pore water near seafloor hydrate mounds in the Gulf of Mexico," *Fire in the Ice Methane Hydrate Newsletter*, Winter, 20 p.
- Lapham, Laura, Chanton, Jeffery, Woolsey, Robert, Sleeper, Kenneth, (2007). "Biogeochemical Sensors: Design and Applications of the Pore Fluid Array for the Mississippi Canyon 118, Gas Hydrate Seafloor Observatory," *Mid-South Area Science and Engineering Conference, Oxford, MS, MAESC 10075*.
- Lapham, L. L., Chanton, J. P., Martens, C. S., Higley, P. D., Jannasch, H. W., Woolsey, J. R., (2006). "Pore Fluid Array Construction and Deployment at Mississippi Canyon 118, Gulf of Mexico," *Offshore Technology Conference, Houston, TX, #18170*.
- Lloyd, K. G., Lapham, L., and Teske, A., (2006). "An anaerobic methane-oxidizing community of ANME-1 archaea in hypersaline Gulf of Mexico sediments," *Applied and Environmental Microbiology, Volume 72*, pp. 7218-7230.

- Lapham, L. L., Martens, C. S. and Coffin, R. B., (2003). "Controls on the isotopic composition of dissolved methane in the pore waters of sediments containing disseminated gas hydrate off of Cascadia Margin," *American Society of Limnology and Oceanography annual meeting program*, p. 82.
- Lowrie, A., and McGee, T., (2002). "Sediment Strength and Hydrates Along the Northern Gulf of Mexico, Houston, TX," *Proceedings of the 2002 Offshore Technology Conference*, pp. 401-407.
- Lowrie, A., McGee, T., and Lerche, I., (2002). "Natural Gas Hydrates: Geologic Constituents from the Birth of Planet Earth to the Present, Houston, TX," *Proceedings of the 2002 Offshore Technology Conference*, pp. 359-366.
- Lowrie, A., and Lutken, C., (2005). "Free gas exploitation within the northern Gulf of Mexico, a viable potential?, New Orleans, LA," *Transactions of the 55th Annual Meeting of the GCAGS*, pp. 456-461.
- Lowrie, A., Lutken, C., and McGee, T., (2004). "Multiple Outer Shelf Deltas and Downslope Massive Mass-Wastings Characterize the Mississippi Canyon, Northern Gulf of Mexico," *GCAGS/GCSSEPM Transactions, Volume 54*, pp. 383-392.
- Lowrie, A., Dean, P. A., and Lutken, C., (2004). "Within five years, hydrate exploitation can be a reality in the northern Gulf of Mexico," *GCAGS/GCSSEPM Transactions, Volume 54*, pp. 371-382.
- Lowrie, A., Dean, P. A., Lutken, Carol, Blanton, Geresi, Erika, and McGee, Tom, (2004). "The lower Mississippi Canyon: Possible Loci of Multiple Mass-Wasting Events," *AAPG Annual Convention Abstracts, Vol. pA88*, Dallas, TX.
- Lowrie, A., Dean, P. A., Lutken, Carol Blanton, Geresi, Erika, and McGee, Tom, (2004). "Hydrate Exploration and Exploitation within Five Years in the Northern Gulf of Mexico," *AAPG Annual Convention Abstracts, vol. pA87*, Dallas, TX.
- Lutken, C. B., Brunner, C. A., Lapham, L., Chanton, J., Rogers, R., Sassen, R., Dearman, J., Lynch, L., Kuykendall, J., Lowrie, A., (2006). "Analyses of Core Samples from Mississippi Canyon 118," *Offshore Technology Conference, #18208*, Houston, TX.
- Lutken, C., (2005). "Mississippi Canyon Block 118 Seafloor Monitoring Station Update," *U. S. DOE-NETL Fire in the Ice Newsletter, Spring*.
- Lutken, C., Lowrie, A., Geresi, E., Bennett, R., Faas, R., Battista B., and McGee, T., (2003). "Interpretation of high resolution seismic data from a geologically complex continental margin, northern Gulf of Mexico," *GCAGS/GCSSEPM Transactions, Volume 53*, pp. 504-516.
- Lutken, C., McGee, T., Lowrie, A., Brunner, C., Rogers, R., Macelloni, L., Bosman, A., Sleeper, K., Dearman, J., Woolsey, J., and Lynch, L., (2006). "Comparison of Two Gas Hydrates Sites for Sea Floor Monitoring," *Transactions of the 56th Annual Meeting of the GCAGS*, pp. 515-526, Lafayette, LA.
- Lutken, C., and T. McGee, (2004). "Remote Observatory to Provide Detailed Data on Near-Sea-Floor Fluid Dynamics," *U. S. DOE-NETL Fire in the Ice Newsletter, Summer*.

- Lutken, Carol Blanton, Geresi, Erika, McGee, Tom, Wood, Warren T., and Lowrie, A., (2004). Complex Geology Creates Difficult Interpretational Scenarios in Hydrated Areas Along Western Flank of Mississippi Canyon, Northern Gulf of Mexico, AAPG Annual Convention, Dallas, TX, Abstracts Volume, pA89.
- Lutken, C. B. and J. Woolsey, R., (2007). A Sea Floor Observatory for Real -Time Investigation of Gas Hydrates. Mid-South Area Science and Engineering Conference, Oxford, MS, MAESC 10070.
- Lutken, C., (2008). "In Memoriam: J. Robert Woolsey, Jr.," *Fire in the Ice Newsletter, Fall*, pp. 22-24.
- Lutken, C. B., D'Emidio, M., Macelloni, L., Ingrassia, M., Pierdomenico, M., Asper, V., Diercks, A., Woolsey, M. U., and Jarnagin, R., (2013). "Challenges in imaging the deep seabed: Examples from Gulf of Mexico cold seeps," *GCAGS Transactions*, New Orleans.
- Macelloni, L., (2007). "AUV Multibeam Sonar: Survey, Mapping Application and Relevant Data Processing," *Mid-South Area Science and Engineering Conference*, Oxford, MS, MAESC 10078.
- Martens, Christopher, Mendlovitz, Howard, Camilli, Rich, Farr, Norman, Woolsey, J. Robert, Sleeper, Kenneth, (2007). "Design and application of the Chimney Sampler and Benthic Boundary Layer Arrays for the Mississippi Canyon 118, Gas hydrate seafloor observatory," *Mid-South Area Science and Engineering Conference*, Oxford, MS, MAESC10074.
- McGee, T., Lutken, C., Macelloni, L., Woolsey, J. R., Lapham, L., Kleinberg, R., Battista, B., Knapp, C., Caruso, S., Goebel, V., Chapman, R., Gerstoft, P., (2009). "A multidisciplinary sea-floor observatory in the northern Gulf of Mexico," *Oceans*, Biloxi, MS.
- McGee, T., Woolsey, J. R., Lapham, L., Kleinberg, R., Macelloni, L., Battista, B. L., Knapp, C., Caruso, S., Goebel, V., Chapman, R., Gerstoft, P., (2009). "A Multidisciplinary Sea-Floor Observatory in the Northern Gulf of Mexico," *Proceedings of the Virtual Institute of Scientific Users of Deep-Sea Observatories*, Tromsø, Norway, June 11-12
- McGee, Thomas, (2007) "Implementation of Shallow-Source/Deep-Receiver Technology to Obtain High Seismic Resolution of Sub-bottom Sediment in Deep Water," *Mid-South Area Science and Engineering Conference*, Oxford, MS, MAESC10062.
- McGee, Thomas, (2007). "Geophysical Sensors: Design and Applications of the Acoustic Water-column Line Array and Seismic Sea-floor Line Arrays for the Gulf of Mexico Sea-floor Observatory," *Mid-South Area Science and Engineering Conference*, Oxford, MS, MAESC10063.
- McGee, T., and Lowrie, A., (2000). "Impact of hydrates on planetary evolution," *Proceedings of the 31st International Geological Congress*, Rio de Janeiro, Brazil.
- McGee, T., (2006). A seafloor observatory to monitor gas hydrates in the Gulf of Mexico, *The Leading Edge*, Volume 25, n. 5, pp. 644-647.
- McGee, T. and J. Woolsey, (2000). "A Remote Station to Monitor Gas Hydrate outcrops in the Gulf of Mexico," *Annals of the New York Academy of Science*, Volume 912, pp. 527-532.
- McGee, Tom, and Hardage, B. A., (2006). "Hydrate system to be monitored," *AAPG Explorer, Geophysical Corner*, May, p. 24.

- McGee, Tom, and Macelloni, Leonardo, (2006). "Overview of observatory development and the site selection process," *OTC Paper No. 18204*, Houston, TX, May 3.
- McGee, T., Chapman, R., Knapp, C., Geresi, E., Battista, B., Morley, M. and Woolsey, R., (2004). "An integrated seismic study of the proposed DOE/JIP drill site in Atwater Valley Block 14," *AAPG Annual Convention Abstracts Volume pA94*, Dallas, TX.
- Morley, Mike, Chapman, Ross, McGee, Tom, and Woolsey, J. R., (2004). "Estimation of Seismic Velocities in the Hydrate Stability Zone Using Ship Noise at a Vertical Hydrophone Array," *AAPG Annual Convention Abstracts Volume pA99*. Dallas, TX.
- Pizarro, O., Farr, N., Camilli, R., Whelan, J., Martens, C., Goudreau, J., Mendlovitz, H., Camilli, L., (2006). "In Situ Optical Characterization of Methane Seeps and Bubble Plumes," *EOS: Trans. Amer. Geophysical Union Fall Meeting Supplement*. Abstract.
- Roberts, H., (2002). "Surficial gas hydrates, part of the fluid and gas expulsion response spectrum: Identification from 3D seismic data," *Proceedings of the 2002 Offshore Technology Conference*.
- Roberts, H., Coleman, J., Hunt, J., Jr., and Shedd, W., (2000). "Improving interpretation of sea floor geology, biology from remote sensing," *Offshore, Volume 25, n. 9*, pp. 126-128.
- Roberts, H. H., Hardage, B. A., Shedd, W. W., and Hunt, J., Jr., (2006). "Seafloor reflectivity--an important seismic property for interpreting fluid/gas expulsion geology and the presence of gas hydrate," *The Leading Edge, V. 25, No. 5*, pp. 620– 628.
- Rogers, R., Dearman, J., and Roberts, H., (2003). "Enhancement of Gas Hydrate Formation in Gulf of Mexico Sediments," *Proceedings of the 2003 Offshore Technology Conference, paper 15393*. Houston, TX.
- Rogers, R., Kothapalli, C., and Lee, M., (2002). "Influence of microbes on gas hydrate formation in porous media," *Proceedings of the Fourth International Conference on Gas Hydrates*, pp. 547- 552, Yokohama, Japan.
- Sassen, R., (2002). "Gas venting and gas hydrate stability in the northwestern Gulf of Mexico: Significance to sediment deformation," *Proceedings of the 2002 Offshore Technology Conference*.
- Sassen, R., Roberts, H., Jung, W., Lutken, C., DeFreitas, D., Sweet, S., and Guinasso, N., Jr., (2006). "The Mississippi Canyon 118 gas hydrate site: a complex natural system," *Proceedings, 38th Offshore Technology Conference, paper 18132*.
- Sassen, R., Sweet, S. T., Milkov, A. V., DeFreitas, D. A., Salata, G. G., and McDade, E. C., (2007). "Geology and Geochemistry of Gas Hydrates, Central Gulf of Mexico Continental Slope," *Corpus Christi Geological Society Bulletin*, January.
- Sava, Diana, and Hardage, B. A., (2006). "Rock physics characterization of hydrate-bearing deepwater sediments," *The Leading Edge, V. 25, No. 5*, pp. 616– 619.
- Sleeper, K., Lowrie, A., Bosman, A., Macelloni, L., and Swann, C., (2006). "Bathymetric mapping and high resolution seismic profiling ay AUV in MC118 (Gulf of Mexico)," *Proceedings 38th Offshore Technology Conference, Paper No. 18133*.

- Wang X. C., Chen, R. F., Whelan J., and Eglinton, L., (2001). "Contribution of "old" carbon from natural marine hydrocarbon seeps to sedimentary and dissolved organic carbon pools in the Gulf of Mexico," *Geophysical Research Letters*, 28, pp. 3313-3316.
- Woolsey, J. R., McGee, T., Lutken, C., and Higley, P., (2005). "Gas Hydrates Seafloor Observatory--First Stage Deployment and Test Set for 2005," *Proceedings of the 2005 Offshore Technology Conference*, paper 17571.
- Zhang C. L., Noakes, J., (2006). "Sea-floor Observatory in the Gulf of Mexico: Tracing the Carbon Flow in Gas-Hydrate Environments," *OTC publication: OTC 17804-pp*.
- Zhang C. L., and Noakes J., (2006). "Hydrates As An Energy Source: Lipid Biomarkers And Carbon-Isotope Signatures For Tracing The Carbon-and-Energy Flow In The Gulf of Mexico Gas-Hydrate Systems," *Ocean Technology Conference*, Houston, TX, May 2006.

Presentations

- Abrams, M., and Whelan, J., (2002). "Near-Surface Hydrocarbon Migration: Mechanisms and Seepage Rates, Vancouver, BC," *The American Association of Petroleum Geologists Hedberg Research Conference*, April 7-10.
- Baena, A., Dobbs, G., and Mizaikoff, B., (2004). "Investigating Polymer Coatings for Infrared Methane Sensing Applications in the Deep Sea, Research Triangle Park, NC," *Southeast Meeting of the American Chemical Society*, November.
- Battista, B., Knapp, C., Geresi, E., McGee, T., Chapman, R., Lowrie, A., Woolsey, J. R., (2004). "Gas Hydrates of the Northern Gulf of Mexico from Standard Processing of Vertical Line Array and Deep-towed Data: Structural Control on Seafloor Deformation and Slope Destabilization," *The American Association of Petroleum Geologists Annual Meeting*, Dallas, TX, April 16-21.
- Battista, Bradley , Addison, A., Knapp, C., McGee, T., (2007). "Application of the Empirical Mode Decomposition to Seismic Reflection and Ground Penetrating Radar Data," *AGU Fall Meeting*, December.
- Battista, B. M. and Knapp, Camelia, (2004). "Using the Hilbert-Huang Transform to Improve Seismic Profiling of Gas Hydrates in the Gulf of Mexico," *AGU*, December.
- Bell, R. J., Toler, S. K., Short, R. T., (2010). "In Situ Chemical Analyses by Underwater Mass Spectrometry," *Goldschmidt Conference on Earth, Energy and the Environment*, Knoxville, TN.
- Bell, R. J., Toler, S. K., Short, R. T., Byrne, R. H., (2009). "In Situ Mass Spectrometry for Chemical Measurements in the Water Column and on the Sea Floor," *OceanObs '09 meeting*, Venice, Italy.
- Biddle, J. F., Huse, S. M., Sogin, M. L., Lloyd, K. G., Ramette, A., Boetius, A., and Teske, A., (2009). "Microbial Census of Marine Microbes at Methane Seeps: Initial results," *Marine Biological Laboratory ICOMM User workshop*, Woods Hole, MA, April 6-9.
- Bowles, M. W., and Joye, S. B., (2009) "A geochemical and microbiological analysis of nitrate reduction at a hydrothermal vent and a cold seep," *19th Annual V. M. Goldschmidt Conference*, Davos, Switzerland, June.

- Bowles, M. W., and Joye S. B., (2008) "Nitrate reduction pathways in sediments from a Gulf of Mexico cold seep," *Denitrification RCN Meeting*, Cambridge, MD, May.
- Bowles, M. W., Samarkin, V. A., and Joye. S. B., (2008). "Activity, diversity and relative abundance of sulfate reducing bacteria in oil-rich sediments from a lower continental slope Gulf of Mexico cold seep," *ASLO-AGU-ERF-TOS Ocean Sciences*, Orlando, FL, March.
- Camilli, R., Farr, N., Pontbriand, C., Kapit, J., Ware, J., Pizarro, O., and Whelan, J., (2012). "Long-term benthic boundary layer monitoring at the Mississippi Canyon Block 118 hydrates observatory," *Ocean Sciences Annual Meeting*, Salt Lake City, UT, Feb. 19-24,
- Camilli, R., Macelloni, L., Asper, V., Woolsey, M., Williams, J., Diercks, A., Lutken, C. B., Sleeper, K., (2009). "Discovery and characterization of cold seeps using a mass spectrometer operating aboard an autonomous underwater vehicle," *AGU fall meeting*, San Francisco, CA, December, 17.
- Camilli, R., Duryea, A., (2007). "Characterizing marine hydrocarbons with In Situ mass spectrometry," *Proceeding of MTS/IEEE OCEANS 2007*, Vancouver, Canada. doi:10.1109/OCEANS.2007.4449412
- Carrière, O. and Gerstoft, P., (2011). "Monitoring gas hydrate with noise," *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 5-9.
- Carrière, O. and Gerstoft, P., (2012). "Cross-correlation processing for deepwater seafloor imaging with an OBS array," *Gordon Research Conference on Natural Gas Hydrate Systems*, Ventura, CA, March 18-23.
- Cathles, L., Dofu, C., and Roberts, H., (2002). "Estimation of the hydrate gas content of the Bush Hill vent site, Green Canyon Block 185, Gulf of Mexico," *The American Association of Petroleum Geologists Annual Meeting*, Houston, TX, March 10-13.
- Chanton, J. P., Lapham, L. L., Martens, C. S., Higley, P. D., and Woolsey, J. R., (2007). "Gulf of Mexico Hydrate Research Consortium Geochemistry Overview," *Geochemistry Department of Energy-National Energy Technology Laboratory Merit Review Board Meeting*, Golden, CO, September 17-21.
- D'Emidio, M., Ingrassia, M., Lutken, C. B., Macelloni, L., Simonetti, A., Pizzi, M., Lapham, L. L., Wilson, R., Hsing, P., and Fisher, C., (2012). "Biogeophysical classification of seafloor seeps at a carbonate-hydrate mound, Northern Gulf of Mexico," *Gordon Research Conference on Natural Gas Hydrate Systems*, Ventura, CA, March 18-23.
- D'Emidio, M., Ingrassia, M., Lutken, C. B., Macelloni, L., Simonetti, A., Pizzi, M., Lapham, L. L., Wilson, R., Hsing, P., and Fisher, C., (2012). "Biogeophysical classification of seafloor seeps at a carbonate-hydrate mound, Northern Gulf of Mexico," *Ocean Sciences Annual Meeting*, Salt Lake City, UT, February 19-24.
- Dobbs, G., (2002). "Mid-IR Sensing of Marine Pollutants in a Simulated Subsea Environment: Charleston, SC," *SERMACS*, November 13-16.
- Dobbs, Gary T., An Nguyen, Yulia Luzinova, Yosef Raichlin, Christine Kranz, Abraham Katzir, Roger Sassen, and Boris Mizaikoff, (2007). *Infrared Spectroscopy for Exploring Complex Oceanic Gas Hydrate Ecosystems*, FACSS, 10-07, Memphis, TN.

- Dobbs, G. and B. Mizaikoff, (2006). "In Situ monitoring of gas hydrate formation/dissociation with mid-IR fiber-optic evanescent field spectroscopy," *Europt(r)ode VIII*, Tuebingen, Germany, April 2-5.
- Dobbs, G., Raichlin, Y., Katzir, A., Mizaikoff, B., (2006). "Mid-Infrared Fiberoptic Evanescent Field Spectroscopy on the Nucleation of Gas Hydrates," *Eastern Analytical Symposium*, Somerset, NJ, November 13-16.
- Dobbs, G., and Mizaikoff, B., (2005). "IR-ATR Deep-Sea Sensing Interfaces: Optimizing Probe Designs through Experimental and Spectral Ray Tracing Analysis of Evanescent Field Interactions," *Optics in the Southeast*, Atlanta, GA, October.
- Dobbs, G., Boezerooij, P., Pennington, N., Vogt, F., and Mizaikoff, B., (2004). "IR-ATR Spectroscopy for Underwater Sensing Applications," *Seventh European Conference on Optical Chemical Sensors and Biosensors [Europt(r)odeVII]*, Madrid, Spain, April.
- Dobbs, G., Pennington, N., Vogt, F., and Mizaikoff, B., (2003). "Investigating the Influence of Pressure on IR-ATR Spectroscopy for Underwater Spectroscopic Sensing Applications," *Southeast Meeting of the American Chemical Society*, Atlanta, GA, November.
- Dobbs, G., Balu, B., Young, C., Sinha, A., Hess, D., and Mizaikoff, B., (2006). "Plasma-Assisted Deposition of Fluorocarbon Films for Molecular Recognition Layers in Mid-IR ATR Chemical Sensors," *Federation of Analytical Chemistry & Spectroscopy Societies National Conference*, Lake Buena Vista, FL, September.
- Easson, G., Lutken, C., Sleeper, K., Macelloni, L., and D'Emidio, M., (2012). "Gas Hydrates Observatory at Mississippi Canyon 118," *Ocean Sciences Annual Meeting*, Salt Lake City, UT, February 19-24.
- Farr, N., Sleeper, K., Camilli, R., Pontbriand, C., and Ware, J., (2011). "New developments in optic modems and chemical sensors in deep marine environments," *American Geophysical Union Fall Meeting, Abstract OS13D-1558*, San Francisco, CA, Dec 5-9.
- Geresi, E., (2005). "Gas Hydrate Geohazard Assessment in the Northern Gulf of Mexico Using a Vertical Line Array," *The American Association of Petroleum Geologists Annual Meeting*, Calgary, AB, June 19-22.
- Geresi, E., Hutchinson, D., Hart, P., and McGee, T., (2003). "Using multiple attenuation to image geologic structures beneath the gas hydrate stability zone in the northern Gulf of Mexico," *Geological Society of America Annual Meeting, Volume 35, n. 7*, Seattle, WA, November.
- Geresi, E. and T. McGee, (2003). "Seismic Imaging of the Base of the Hydrate Stability Zone in the Northern Gulf of Mexico," *EGU-AGU Joint Conference*, Nice, France, April.
- Geresi, E., (2002). "Seismic Images of Geological Structures associated with Gas Hydrates near the Sea floor in the Mississippi Canyon Blocks," *The American Association of Petroleum Geologists Annual Meeting*, Houston, TX, March.
- Gerstoft, P., Brooks, L. A., Fried, S., Kuperman, B., Sabra, K., (2007). "Ocean acoustic interferometry using noise and active sources," *American Geophysical Union Meeting*, San Francisco, CA.

- Haacke, R., Riedel, M., Pohlman, J., Rose, K., Lapham, L., Hamilton, T., Enkin, R., Spence, G. D., and Hyndman R. D., (2008). "Investigations on the role of gas hydrate in wide-spread slope failures at frontal ridges of the accretionary wedge of the northern Cascadia margin," *American Geophysical Union meeting*, December.
- Hardage, B., (2006). "Detailed imaging of deepwater hydrate geology with horizontal arrays of seafloor sensors," *Offshore Technology Conference*, Houston, TX, May.
- Hardage, B., (2006). "Seismic estimation of gas hydrate concentrations in deepwater environments: assumptions and limitations," *The American Association of Petroleum Geologists Annual Convention*, Houston, TX, April.
- Hardage, B., (2005). "Assessing deep water gas hydrate systems and seafloor stability," *AGU-NABS-SEG-SPD/AAS Joint Assembly*, New Orleans, LA, May 23–27.
- Hutchinson, Deborah R., Hart, Patrick E., Dugan, Brandon, Geresi, Erika, Sliter, Ray, and Newman, Kori, (2003). "Subsurface Gas Hydrates in the Northern Gulf of Mexico," *Annual Meeting of the Geological Society of America*, p.533, Seattle, WA.
- Hvozدارa, L., (2001). "Long-term Observation in the Marine Environment using Mid-Infrared Spectroscopic Techniques and Quantum Cascade Lasers," *Fourth International Conference on Mid-Infrared Optoelectronics Materials and Devices*, Montpellier, France, April 2-4.
- Hvozدارa, L., (2001). "Quantum Cascade Lasers in Mid-Infrared Spectroscopy," *1st International Conference on Advanced Vibrational Spectroscopy*, Turku, Finland, August 19-24.
- Ingram, Wesley, Meyers, S., Brunner, C., and Martens, C., (2008). "Centennial millennial scale stability of a large gas hydrate field in the northern Gulf of Mexico," *The Geological Society of America, Southeastern Section, 57th Annual Meeting, 10 -11 April Abstracts and Program, V. 40, No. 4*.
- Ingram, W. C., Meyers, S. M., Brunner, C., and Martens, C., (2008). "Centennial-Millennial scale stability of a large Gas Hydrate field in the Northern Gulf of Mexico," *Society of Exploration Geophysics Meeting on Unconventional Resources*, Vancouver, BC, Sept. 2008.
- Janotta, M., and Mizaikoff, B., (2003). "Sol-gel Based Mid-Infrared Evanescent Wave Sensors for Detection of Nitro-Compounds in Aqueous Solution," *The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON)*, Orlando, FL, March 9-14.
- Janotta, M., and Mizaikoff, B., (2002). "Novel Recognition Layers for Mid-Infrared Evanescent Wave Sensors based on Organically Modified Sol-gels," *Southeastern Regional Meeting of the American Chemical Society*, Charleston, SC, November 13-16.
- Janotta, M., and B. Mizaikoff, (2001). "Organically Modified Sol-Gels – Novel Recognition Layers for Infrared Optical Sensors," *Fifth Euroconference on Environmental Analytical Chemistry: The Impact of Biosensors and Bioanalytical Techniques on Environmental Monitoring*, Blarney, Ireland, September 8-12.

- Kapit, J., Camilli, R., Farr, N., Ware, J., Pontbriand, C., Hammer, B., and Backus, S., (2012). "Improving the sustainability of long-term uncabled hydrate observatories: Technologies for efficient data retrieval and renewable power," Ocean Sciences Annual Meeting, Salt Lake City, UT, February 19-24.
- Karlowatz, M., (2002). "Recent Developments in the Field of Mid-Infrared Fiberoptic Sensors for the Marine Environment," The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON), New Orleans, LA, March 17-22.
- Karlowatz, M., F. Vogt, and B. Mizaikoff, (2003). An Automated Sample Preparation System for Volatile Organic Compounds applied for IR Evanescent Wave Sensor Calibration, The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON), Orlando, FL, March 9-14.
- Karlowatz, M., Vogt, F., and Mizaikoff, B., (2002). "An Automated Sample Preparation System for Volatile Compounds Applied for Infrared Evanescent Wave Sensor Calibration," *Southeastern Regional Meeting of the American Chemical Society*, Charleston, SC, November 13-16.
- Knapp, James H., Knapp, Camelia C., Macelloni, Leonardo, Simonetti, Antonello, Lutken, Carol, (2010). "Subsurface Structure and Stratigraphy of a Transient, Fault-Controlled Thermogenic Hydrate System at MC-118," *Gulf of Mexico AAPG 2010 Annual Convention Abstracts Volume*, p.134.
- Knapp, Camelia C., Knapp, James H., Addison, Adrian, Macelloni, Leonardo, Waddell, Michael, (2010). "Geophysical Baseline Characterization of Subsurface Gas Hydrates at MC-118, Gulf of Mexico," *AAPG 2010 Annual Convention Poster Presentation, Abstracts Volume*, p.134.
- Lapham, L. L., Martens, C. S., and Chanton, J. P. (2009). "Controls on gas hydrate stability in methane-depleted sediments: Laboratory and field measurements," *American Geophysical Union (AGU) fall meeting*, San Francisco, CA, December 17.
- Lapham, L., Chanton, J., Martens, C., Higley, P., Jannasch, H., Woolsey, J., and Sleeper, K., (2007). "Biogeochemical sensors: design and applications of the Pore Fluid Array for the Mississippi Canyon 118 Gas Hydrate Seafloor Observatory," *Mid-South Area Engineering and Sciences Conference*, Oxford, MS, May 17-18.
- Lapham, L., Chanton, J., Martens, C., Higley, P., Jannasch H., and Woolsey, J., (2007). "Monitoring long term hydrate stability: in situ methane and the Pore Fluid Array (PFA)," *Gulf of Mexico Hydrates Research Consortium Annual Meeting*, Oxford, MS.
- Lapham, L., Albert, D., Chanton, J., and Martens, C., (2001). "Light hydrocarbon distributions and sulfate reduction rates in sediment porewaters near exposed gas hydrates," *American Society of Limnology and Oceanography Annual Meeting*.
- Lapham, L., Chanton, J., Martens, C., Scheafer, H., Chapman, R., and Puhlman, J., (2003). "Innovations in Sampling Pore Fluids From Deep-Sea Hydrate Sites," *American Geophysical Union, Volume 84, Fall Meeting Supplement, Abstract OS52D-05*, San Francisco, CA, December 8-12.

- Lapham, L., Chanton, J., Martens, C., Pohlman, J., and Chapman, R., (2005). "In situ light hydrocarbon concentrations and stable carbon isotope values in hydrate-bearing sediments of Cascadia Margin, Vancouver Island," *Second General Assembly European Geosciences Union*, Vienna, Austria, April 24-29.
- Lapham, Laura, Chanton, Jeff, Martens, Chris, Sleeper, Ken, and Woolsey, J. R., (2007). "Methane and biogeochemical gradients within acoustic wipe-out zones at a Gulf of Mexico cold seep," *American Geophysical Union Meeting*, San Francisco, CA.
- Lapham, L.L, Chanton, J., Martens, C. S., Sleeper K., and Woolsey J. R., (2007). "Methane and biogeochemical gradients within acoustic wipe-out zones at a Gulf of Mexico cold seep," *American Geophysical Union*, Acapulco, Mexico, May 22-25.
- Lapham, L. L., Chanton, J. P., Martens, C. S., Sleeper K., and Woolsey J. R., (2007). "Spatial variability in microbial activity associated with acoustic wipe-out zones in the northern Gulf of Mexico," *American Geophysical Union*, Acapulco, Mexico, May 22-25.
- Lapham, L. L., Chanton, J. P., Martens, C. S., Higley, P. D., Jannasch H. W., and Woolsey J. R., (2008). "Temporal variability in pore-fluid chemistry at a Gulf of Mexico gas hydrate site," *American Geophysical Union meeting*, Dec.
- Lapham, L. L., Wilson, R. M., Riedel, M., and Chanton, J., (2012). "Measuring In Situ methane concentrations over time near Bullseye vent, Vancouver Island," *Gordon Research Conference on Natural Gas Hydrate Systems*, Ventura, CA, March 18-23.
- Lloyd. K. G., MacGregor, B. J., and Teske, A., (2008). "Quantification of archaeal RNA and DNA in marine sediments with qPCR and qRT-PCR," *12th Meeting of the International Society for Microbial Ecology (ISME)*, Cairns, Australia, August 11-15.
- Lloyd, K. G., (2009). "Spatial structure and activity of shallow microbial communities in a Gulf of Mexico methane seep," *Goldschmidt Conference*, Davos, Switzerland, June 21-26.
- Lowe, P. M., Woolsey, M., Jarnain, R., Lutken, C. B., Noakes, B., Overstreet, S., and Tidwell, S., (2013). "Development of ISPIDER: A towed platform for video survey and instrument placement," *OCEANS Conference 2013*.
- Lowrie, A., Dean, P., and Lutken, C., (2004). "Within five years, hydrate exploitation can be a reality in the northern Gulf of Mexico," *Gulf Coast Association of Geological Societies, Fourth Annual Convention*, San Antonio, TX, October 10-12.
- Lowrie, A., Lutken, C., and McGee, T., (2004). "Multiple Outer Shelf Deltas and Downslope Massive Mass-Wastings Characterize the Mississippi Canyon, Northern Gulf of Mexico," *Gulf Coast Association of Geological Societies, Fourth Annual Convention*, San Antonio, TX, October 10-12.
- Lowrie, A., and McGee, T., (2002). "Sediment Strength and Hydrates Along the Northern Gulf of Mexico," *Offshore Technology Conference*, Houston, TX, May 6-9.
- Lowrie, A., McGee, T., and Lerche, I., (2002). "Natural Gas Hydrates: Geologic Constituents from the Birth of Planet Earth to the Present," *Offshore Technology Conference*, Houston, TX, May 6-9.

- Lutken, C., McGee, T., Lowrie, A., Brunner, C., Rogers, R., Macelloni, L., Bosman, A., Sleeper, K., Dearman, J., Woolsey, R., and Lynch, L., (2006). "Comparison of Two Gas Hydrates Sites for Sea Floor Monitoring," *56th Annual Meeting of the Gulf Coast Association of Geological Societies*, Lafayette, LA, September 25-27.
- Lutken, C., McGee, T., and Woolsey, R., (2006). "Gulf of Mexico Gas Hydrates Monitoring Station and Sea-floor Observatory: A Status Report," *The American Association of Petroleum Geologists Annual Meeting*, Houston, TX, April 9-12.
- Lutken, C., McGee, T., Lowrie, A., Brunner, C., Rogers, R., Macelloni, L., Bosman, A., Sleeper, K., Dearman, J., Woolsey, R., Lynch, L., (2006). "Comparison Of Two Candidate Sites For Gas Hydrates Sea Floor Monitoring," *Mississippi Academy of Sciences' Annual Meeting*, Vicksburg, MS, February 21-22.
- Lutken, C., McGee, T., and Woolsey, R., (2006). "Gulf of Mexico Gas Hydrates Monitoring Station and Sea-floor Observatory: Status Report," *The American Association of Petroleum Geologists Annual Convention*, Houston, TX, April 9-12.
- Lutken, C., McGee, T., Rogers, R., Dearman, J., Lynch, F., Brunner, C., Kuykendall, J., and Woolsey, R., (2005). "Can Fractures in Soft Sediments Host Significant Quantities of Gas Hydrates?," *Mississippi Academy of Sciences' Annual Meeting*, Oxford, MS, February 17-18.
- Lutken, C., (2004). "Complex geology creates difficult interpretational scenarios along western flank of Mississippi Canyon, northern Gulf of Mexico," *The American Association of Petroleum Geologists Annual Meeting*, Dallas, TX, April 18-21.
- Lutken, C., Woolsey, R., McGee, T., and Geresi, E., (2003). "Geologic interpretation of the shallow subsurface within the gas hydrate stability zone, northern Gulf of Mexico," *European Geophysical Union-American Geophysical Union Joint Conference*, Nice, France, April 6-11.
- Lutken, C., Lowrie, A., Geresi, E., Bennett, R., Faas, R., Battista, B., and McGee, T., (2003). "Interpretation of High Resolution Seismic Data from a Geologically Complex Continental Margin, Northern Gulf of Mexico," *Gulf Coast Association of Geological Societies, 53rd Annual Convention*, Baton Rouge, LA, October 22-24.
- Lutken, C., (2003). "Unexplained Geologic Features within the Hydrate Stability Zone, Upper Slope Mississippi Canyon, Northern Gulf of Mexico," *Geological Society of America Annual Meeting*, Seattle, WA, November 2-5.
- Lutken, C. B., (2007). "Gulf of Mexico Gas Hydrates Research Consortium and Sea-floor Observatory," *Report to the Department of Energy's Methane Hydrate Merit Review*, Golden, CO, September 20.
- Lutken, C. B., (2007). "Gulf of Mexico Gas Hydrates Research Consortium and Sea-floor Observatory," *Report to the Department of Energy's Methane Hydrate Advisory Committee*, Golden, CO, April 24-25.
- Lutken, C. B., Macelloni, L., Lapham, L., Caruso, S., Lodi, M., Camilli, R., Asper, V., Diercks, A., Knapp, C., Knapp, J., (2010). "Monitoring Seafloor Morpho-Geological Evolution of the MC118 Hydrate/Carbonate Mound via Multiple AUV Missions," *AAPG 2010 Annual Convention Poster Presentation, Abstracts Volume*, p.155.

- Lutken, C., Simonetti, A., Ingrassia, M., Macelloni, L., Knapp, J., Fisher, C., Caruso, S., and D'Emidio, M., (2011). "Biogeophysical classification of seafloor seeps at a carbonate-hydrate mound, northern Gulf of Mexico," *AAPG International Conference and Exhibition*, Milan, Italy, October 23-27.
- Lutken, C., Sleeper, K., Easson, G., Macelloni, L., and Smith, G., (2012). "The GOM Gas Hydrates Seafloor Observatory: Producing Science for National and Global Management Decisions," *AGU Science Policy Conference 2012*, Washington, DC, April 29-May 2.
- Macelloni, L., Caruso, S., McGee, T. M., Lutken, C. B., Bosman, A., Sleeper K., and Woolsey, J. R., Jr., (2007). "Mississippi Canyon Block 118 Hydrates Mound: a complex hydrates structure in the Northern Gulf of Mexico," *Sesto Forum Italiano di Scienze della Terra - Geitalia 2007*, Rimini, September, 12-14.
- Macelloni, Leonardo, Battista, Bradley M., McGee, Thomas M., and Goebel, Vaughn, (2008). "A Band-Modulated Hilbert-Huang Transform For Seismic Attribute Analysis In Shallow, Hydrate-Bearing Sediments," *IEEE/OES Chile-US Workshop on Ocean Observation Systems, Working Group on Observation and Assessment of Gas Hydrates in the Coastal Ocean*, Viña Del Mar, Chile, Nov. 4-7, 2008.
- Martens, C., Mendlovitz, H., White, B., Hoer, D., Sleeper, K., Chanton, J., Wilson, R., and Lapham, L., (2011). "Continuous In Situ Measurements of Near Bottom Chemistry and Sediment-Water Fluxes with the Chimney Sampler Array," *The American Geophysical Union Fall Meeting*, Abstract OS31B-08Dec. 5-9, San Francisco, CA.
- McGee, T., (2009). "Geologic structures associated with the carbonate/hydrate mound in Mississippi Canyon Block 118, Gulf of Mexico," *AGU fall meeting*, San Francisco, CA, December, 17, 2009.
- McGee, T. M., (2007). "Using ambient noise for subsurface imaging," *Underwater noise workshop, International Association of Oil and Gas Producers*, Burlington, MA, June 4-5.
- McGee, Tom, Peter Gerstoft, and Ross Chapman, (2007). "Using ambient noise to image the interior of a carbonate/hydrate mound," *Gas-Hydrate Observatories Workshop*, Portland, Oregon, 18-20 July.
- McGee, T., C. Lutken, Rogers, R., C. Brunner, P. Verdugo and J. Woolsey, R., (2007). Why and how hydrates fill fractures in soft sediments. *Gas-Hydrate Observatories Workshop*, Portland, Oregon, 18-20 July.
- McGee, T. M., Macelloni, L., Goebel, V., (2007). "Seismo-acoustic imagery of a carbonate/hydrate mound in the Gulf of Mexico," In McKay, M. and J. Nides (eds) 2007, *Proceedings: Twenty-third Gulf of Mexico information transfer meeting, January 2007. U. S. Dept. of the Interior, Minerals Management Service, Gulf of Mexico OCS Region, OCS Study MMS 2007-066*, New Orleans, LA, 612 p.
- McGee, T., Woolsey, J. R., Lapham, L., Kleinberg, R., Macelloni, L., Battista, B., Knapp, C., Caruso, S., Goebel, V., Chapman, R., Gerstoft, P. (2008). "Structure Of A Carbonate/Hydrate Mound In The Northern Gulf Of Mexico," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10, 2008.

- McGee, T., (2006). "A Seafloor Observatory to Monitor a Cold Seep in the Gulf of Mexico," *Oceanography Division of the Institute of Electrical and Electronic Engineers, US-EU Baltic International Symposium*, Klaipeda, Lithuania, May 23-25.
- McGee, T., Lutken, C., Sassen, R., Brunner, C., Rogers, R., Macelloni, L., Bosman, A., Sleeper, K., Dearman, J., Woolsey, R., Lynch, L., (2006). "Preliminary results at a hydrate/carbonate mound in the northern Gulf of Mexico," *5th International Workshop on Methane Hydrate Research and Development*, Edinburgh, Scotland, October 9-12.
- McGee, T., (2005). "Can Fractures in Soft Sediments Host Significant Quantities of Gas Hydrates?," *Fourth International Methane Hydrates Workshop*, Victoria, BC, May 9-11.
- McGee, T., Lutken, C., and Woolsey, R., (2002). "Seismic Images of Structures Associated with Gas Hydrates near the Sea Floor: Initial Results," *Mississippi Academy of Sciences 66th Annual Meeting*, Biloxi, MS, February 21-22.
- McGee, T., Macelloni, L., Bosman, A., Lutken, C., Brunner, C., Rogers, R., Dearman, J., Sleeper, K., and Woolsey, R., (2006). "Hydrocarbon Gas Hydrates In Sediments of the Gulf of Mexico, Sediment-hosted Gas Hydrates," *New Insights on Natural and Synthetic Systems*, January.
- McGee, T., Macelloni, L., Bosman, A., Lutken, C., Brunner, C., Rogers, R., Dearman, J., Sleeper, K., and Woolsey, J., (2006). "Hydrocarbon gas hydrates in sediments of the Gulf of Mexico," *Geological Society of London, Piccadilly, UK*, January.
- McGee, T., Woolsey, R., and C. Lutken, (2005). "A New Method for Improving the Resolution of Shallow Sub-bottom Seismic Reflections in Deep Water," *Society of Exploration Geophysicists and the American Geophysical Union Joint Assembly Meeting*, New Orleans, LA, May 23-27.
- McGee, T., (2004). "An Integrated Seismic Study of the Proposed U. S. DOE/JIP Drill Site in Atwater Valley Block 14," *The American Association of Petroleum Geologists Annual Meeting*, Dallas, TX, April 18-21.
- McGee, T., Lutken, C., Goebel, V., and Woolsey, R., (2001). "Seismic images of structures associated with gas hydrates near the sea floor," *63rd Conference of the European Association of Geoscientists and Engineers*, Amsterdam, The Netherlands, June 11-15.
- McGee, T., and Woolsey, R., (2001). "Pushing the limits of seismic resolution in deep water," *11th International Offshore and Polar Engineering Conference*, Stavanger, Norway, June 17-22.
- McGee, T., (2002). "Report on Activities During FY2002 of the Gulf of Mexico Gas Hydrate Monitoring Station Project," *The Second Workshop of the International Committee on Methane Hydrates*, Washington, DC, October 28-31.
- McGee, T., Geresi, E., and Gossett, A., (2003). "Imaging the hydrate stability zone using a vertical array: First results," *Offshore Technology Conference*, Houston, TX May 5-8.
- McGee, T., Goebel, V., and Geresi, E., (2003). "Closing the Gap Between the Hydrate Stability Zone and Production Reservoirs," *Annual Meeting of the Geological Society of America*, Seattle, WA, November 2-5.

- McGee, T. and Rogers, R., (2008). "Biogeophysics in the context of natural gas hydrates: Northern Gulf of Mexico," *American Geophysical Union, AGU Chapman Conference on Biogeophysics*, Portland, ME, October.
- McGee, T., Higley, P., and Woolsey, R., (2003). "A vertical hydrophone array for imaging the hydrate stability zone," *EGU-AGU Joint Conference*, Nice, France, April 6-11.
- McGee, T., Higley, P., and Woolsey, R., (2003). "A vertical hydrophone array for imaging the hydrate stability zone," *The American Association of Petroleum Geologists Annual Meeting*, Salt Lake City, UT, May 9-14.
- McGee, Thomas M., Lutken, Carol B., Goebel, Vaughn S., and Woolsey, J. Robert, (2002). "Seismic Images of Structures Associated with Gas Hydrates near the Sea Floor: Initial Results," *AAPG Annual Meeting, V.11, A117*, Houston, TX.
- McGee, T. M., Woolsey, J. R., Higley, P. D., Chapman, N. R., (2004). "Toward understanding the migration of Hydrocarbons and brines through the gas hydrate stability zone of the northern Gulf of Mexico," *32nd International Geological Congress*, Florence, Italy.
- McGee, T., Woolsey, J. R., Lapham, L., Kleinberg, R., Macelloni, L., Battista, B. L., Knapp, C., Caruso, S., Goebel, V., Chapman, R., Gerstoft, P., (2009). "A Multidisciplinary Sea-Floor Observatory in the Northern Gulf of Mexico," *Virtual Institute of Scientific Users of Deep-Sea Observatories*, Tromsø, Norway, June 11-12.
- McGee, T., Macelloni, L., and Goebel, V., (2006). "Seismo-acoustic imagery of a carbonate/hydrate mound in the Gulf of Mexico," *AGU Fall Meeting*, San Francisco, CA, December 11-15.
- McGee, T., Goebel, V., Bosman A., and Macelloni, L., (2008). "Recent techniques for acquiring and processing ultra-high-resolution images of the sea floor and shallow sub-bottom in deep water," *IEEE/OES Chile-US Workshop on Ocean Observing Systems*, Valparaiso, Chile, November 3-6.
- McGee, T., Woolsey, J. R., Lapham, L., Kleinberg, R., Macelloni, L., Battista, B., Knapp, C., Caruso, S., Goebel, V., Chapman, R., and Gerstoft, P., (2008). "Structure of a carbonate/hydrate mound in the northern Gulf of Mexico and possible hydrate distribution within it," *IEEE/OES Chile-US Workshop on Ocean Observing Systems*, Valparaiso, Chile, November 3-6.
- McGee, T., Woolsey, J. R., Lapham, L., Kleinberg, R., Macelloni, L., Battista, B. L., Knapp, C., Caruso, S., Goebel, V., Chapman, R., Gerstoft, P., (2009). "A Multidisciplinary Sea-Floor Observatory in the Northern Gulf of Mexico," *The Virtual Institute of Scientific Users of Deep-Sea Observatories*, Tromsø, Norway, June 11-12.
- Mizaikoff, B., (2006). "Mid-Infrared Chemical Sensors based on Quantum Cascade Lasers: The Next Generation," *International Symposium on Spectral Sensing Research*, Bar Harbor, ME, May 29-June 2.
- Mizaikoff, B., (2006). "Environmental Analysis with Optical Sensors - Quo Vadis?" *Europt(r)ode VIII*, Tuebingen, Germany, April 2-5.
- Mizaikoff, B., (2006). "Next-Generation Mid-Infrared Sensors in Harsh Environments," *ACS Fall Meeting*, San Francisco, CA, September 10-14.

- Mizaikoff, B., (2006). "A New Frontier: Mid-Infrared Chemical Sensors Based on Single-Mode Waveguides," *SPIE Optics East*, Boston, MA, October 1-4.
- Mizaikoff, B., (2005). "From Chemical Sensors to Multifunctional Analytical Platforms," *PITTCON*, Orlando, FL, February 27-March 4.
- Mizaikoff, B., (2005). "Spectroscopic Sensors in Marine Environments," *MarTech 2005*, Bremen, Germany, October 9-12.
- Mizaikoff, B., (2004). "Mid-Infrared Sensor Technology – From the Lab into the Field?," *American Chemical Society ProSpective Conference on Emerging Opportunities in Chemical Sensing and Biosensing*, Santa Fe, NM, May 16-19.
- Mizaikoff, B., (2003). "Mid-Infrared Sensor Technology - Potential and Perspectives for Process Monitoring," *American Chemical Society Fall National Meeting*, New York, NY, September 7-11.
- Mizaikoff, B., Pennington, N., and Vogt, F., (2003). "Mid-Infrared Spectroscopic Sensors for In Situ Monitoring of Methane Dissolved in Sea Water," *Ocean Technology Conference*, Houston, TX, May 5-8.
- Mizaikoff, B., (2002). "Mid-Infrared Sensor Technology for Liquid Phase Analysis," *Fifth International Conference on Mid-Infrared Optoelectronics Materials and Devices*, Annapolis, MD, September 8-11.
- Mizaikoff, B., (2002). "Optical Sensor Technology," *Technology Awareness Forum*, Minneapolis, MN, March 14.
- Mizaikoff, B., (2002). "Recent Advances and New Challenges For Infrared Sensors," *Europt(r)ode Conference*, Manchester, England, April 7-11.
- Mizaikoff, B., (2001). "Mid-Infrared Fiberoptic Chemical Sensors – From the Lab into the Field," *5th Euroconference on Environmental Analytical Chemistry*, Blarney, Ireland, September 8-12.
- Mizaikoff, B., (2007). "Good Vibrations - Infrared Spectroscopy and Sensing in Extreme Environments," *ANAKON 2007*, Jena, Germany, March 27-30.
- Mizaikoff, B. and Kranz, C., (2007). "From Infrared Chemical Sensors to Multifunctional Scanning Probes - Research at the Applied Sensors Laboratory," *Friedrich Schiller Universität Jena*, Jena, Germany, March 29.
- Morley, M., (2004). "Estimation of Seismic Velocities in the Hydrate Stability Zone Using Ship Noise at a Vertical Hydrophone Array," *The American Association of Petroleum Geologists Annual Meeting 2004*, Dallas, TX, April 16-21.
- Murray, P. E., Zala, C., and Dunham-Wilkie, M., (2006). "Storage and Distribution of Digital Data from the Gulf of Mexico Seafloor Observatory," *Offshore Technology Conference (OTC 17962)*, Houston, TX, May 1-4.
- Pi, Y., Li, S., Pearson, A., Noakes J., Culp, R., and Zhang, C. L., (2006). "Effects of gas hydrates on archaeal community structure and carbon cycle in the Gulf of Mexico," *American Geophysical Union Annual Meeting*, San Francisco, CA, December 10-16.

- Pierdomenico, M., Guida, V., Macelloni, L., Gong, D., Scranton, M., Dierks, A., and Rona, P., (2014). "Understanding the Hudson Submarine Canyon fishing "hotspot": The contribution of seafloor morphology, water mass dynamic, and methane emission on marine biodiversity," *INCISE (2nd International Symposium on Submarine Canyons)*, Edinburgh, Scotland, Sept. 29- Oct. 1.
- Pizarro, O., Farr, N., Camilli, R., Whelan, J., Martens, C., Goudreau, J., Mendlovitz, H., Camilli, L., (2006). "In Situ Optical Characterization of Methane Seeps and Bubble Plumes." *EOS: Trans. Amer. Geophysical Union Fall Meeting Supplement*, 2006.
- Pizzi, M., Macelloni, L., Lutken, C., and D'Emidio, M., (2012). "Temporal evolution of MC118 Woolsey Mound seep activity: Constraints from analysis of small-scale salt-induced sediment deformation," *The Gordon Research Conference on Natural Gas Hydrate Systems*, Ventura, CA, March 18-23.
- Radich, J., Rogers, R., French, W., and Zhang, G., (2008). "Microbial and sediment effects on kinetics of gas hydrate formation," *American Chemical Society National Meeting & Exposition*, Philadelphia, PA, August.
- Rawn, Claudia J., Sassen, Roger, Ulrich, Shannon M., Phelps, Tommy J., Chakoumakos, Bryan C., Payzant, E. Andrew, (2008). "Low temperature x-ray diffraction studies of natural gas hydrate samples from the Gulf of Mexico," *6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Roberts, H., Coleman, J., Hunt, J., Shedd, W., Sassen, R., and Milkov, A., (2002). "Gas hydrate deposits in a complex geologic setting, northern Gulf of Mexico Slope," *Gulf Coast Association of Geological Societies Annual Meeting*, October 30- November 1.
- Roberts, H., Sassen, R., and Milkov, A., (2001). "Seafloor expression of fluid and gas expulsion from deep petroleum systems, continental slope of the northern Gulf of Mexico," *GCSSEPM Research Foundation 21st Annual Research Conference, Petroleum Systems of Deep-Water Basins*, Houston, TX, December 2-5.
- Roberts, H., (2002). "Geologic and biologic responses to varying rates of fluid and gas expulsion – Northern Gulf of Mexico," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, April 7-10.
- Roberts, H., (2002). "Surficial gas hydrates, part of the fluid and gas expulsion response spectrum: Identification from 3D seismic data," *2002 Offshore Technology Conference*, Houston, TX, May 6-9.
- Rogers, R., Zhang, G., Kothapalli, C., and French, W. T., (2004). "Laboratory Evidence of Microbial-Sediment-Gas Hydrate Synergistic Interactions in Ocean Sediments," *Offshore and Polar Engineering Conference*, Toulon, France, May 23- 28.
- Rogers, R., Dearman, J., and H. Roberts, (2003). "Enhancement of Gas Hydrate Formation in Gulf of Mexico Sediments," *2003 Offshore Technology Conference*, Houston, TX, May 5-8.
- Rogers, R., (2002). "Biosurfactants: the link between microbes and gas hydrates," *2nd International Workshop on Methane Hydrates R&D*, Washington, DC, October 30.

- Rogers, R., Woods, C., Ding, T., Zhang, G., Dearman, J., and Kelleher, B., (2004). "Gas Hydrate Catalysis from Biosurfactants- Bentonite Interactions that Impact Sediment Stability," *The American Association of Petroleum Geologists Annual Meeting*, Dallas, TX, April 18-21.
- Rogers, R., Kothapalli, C., and Lee, M., (2002). "Influence of Microbes on Gas Hydrate Formation in Porous Media," *Fourth International Conference on Gas Hydrates*, Yokohama, Japan, May 19-23.
- Rogers, R., (2001). "Biomolecules' Effects on Gas Hydrate Formation at Sand/Clay Interfaces," *American Institute of Chemical Engineers Annual National Meeting*, Reno, NV, November 4-7.
- Rogers, R. E., Lee, M. S., and Kothapalli, C. R., (2001). "Biomolecules' Effects on Gas Hydrate Formation at Sand/Clay Interfaces," *American Institute of Chemical Engineers Annual National Meeting*, Reno, NV, November 4-9.
- Rogers, R., and Lee, M. S., (2001). "Biosurfactant from Microbial Activity in Ocean Sediments Enhances Gas Hydrate Formation," *GSA-GSL Earth System Processes Meeting*, Edinburgh, Scotland, June 25.
- Rogers, R., Zhang, G., Dearman, J., and Wilson, W., (2008). "Laboratory Tests of Hydrate Formation in Porous Media Influenced by Bioproducts," *Annual Ocean Sciences Meeting*, Orlando, FL, March 30-April 3.
- Rogers, R., Dearman, J., Zhang, G., Wilson, W., and Lutken, C. B., (2008). "Gulf of Mexico sediment evaluations for microbial-mineral-hydrate associations," *AAPG Annual Convention and Exhibition*, San Antonio, TX, April.
- Rogers, R., Zhang, G., Radich, J., and Xiong, S., (2008). "Role of microbe-mineral interactions in seafloor gas hydrate accumulations," *38th Annual Underwater Mining Institute*, Oxford, MS, November.
- Rogers, R., Sassen, R., Dearman, J., and Zhang, G., (2006). "Factors prompting seafloor experiments to investigate microbial/hydrate relationships," *The Sixteenth International Offshore and Polar Engineering Conference & Exhibition*, San Francisco, CA, May.
- Rogers, R., Dearman, J., and Zhang, G., (2005). "Interactions of bioagents and fine mineral particles to promote gas hydrates," *MMS Workshop on Marine Gels and Polygonal Fault Systems*, Vancouver Island, BC, July.
- Rogers, R., Zhang, G., Dearman, J., and Woods, C., (2005). "Investigations into surfactant/gas-hydrate relationship," *American Chemical Society*, San Diego, CA, March.
- Rogers, R., and Lee, M., Micellar, (2000). "Solutions promote gas-hydrate formation," *Annual Meeting of American Institute of Chemical Engineers*, Los Angeles, CA, Nov.
- Sassen, R., (2003). "Evidence of a deep source of bacterial methane in the Gulf of Mexico continental slope," *American Chemical Society Meeting*, New Orleans, LA, September 7-11.
- Sassen, R., (2002). "Gas venting and gas hydrate stability in the northwestern Gulf of Mexico: Significance to sediment deformation," *Offshore Technology Conference*, Houston, TX, May 6-9.

- Sassen, R., (2001). "Seafloor vents, seeps, gas hydrate: Relation to flux rate from the deep Gulf of Mexico petroleum system," GCSSEPM Research Foundation, 21st Annual Research Conference, Houston, TX, December 2-5.
- Short, R. T., Bell, R. J., Chaudhary, A., Toler, S. K., van Amerom, F. H. W., (2009). "In Situ Mass Spectrometry for Marine Applications: Present and Future," *57th American Society of Mass Spectrometry Conference on Mass Spectrometry and Allied Topics*, Philadelphia, PA.
- Short R. T., Bell, R. J., Toler, S. K., van Amerom, F. H. W., (2010). "Recent Developments and In Situ Measurements of Underwater Mass Spectrometers," *58th ASMS Conference on Mass Spectrometry and Allied Topics*, Salt Lake City, UT.
- Short, R. T., Bell, R. J., Cardenas, A. M., Chaudhary, A., Toler, S. K., van Amerom, F. H. W., (2010). "Miniature Ion Trap Mass Spectrometers and Applications for In Situ Analysis of Seawater," *Annual meeting of the Center for Analytical Instrumentation Development at Purdue University*, West Lafayette, LA.
- Short, R. T., Bell, R. J., and Toler, S. K., (2010). "In Situ Characterization of Distributions of Dissolved Gases, Volatile Organics and Light Hydrocarbons Using Underwater Membrane Introduction Mass Spectrometry," *American Chemical Society meeting*, Boston, MA, August 24.
- Simonetti, A., Knapp, J., Knapp, C., and Lutken, C., (2012). "4d seismic imaging of a thermogenic gas hydrate system in the northern Gulf of Mexico (Woolsey Mound, MC118)," The Gordon Research Conference on Natural Gas Hydrate Systems, Ventura, CA, March 18-22.
- Simonetti, A., Knapp, J., Riedel, M., and Knapp, C., (2012). "Short and long-term dynamics of a thermogenic gas hydrate system in a cold seep area in the Gulf of Mexico deep waters (Woolsey Mound, MC118)," 15th Annual AAPG-SEG Student Expo, September 17-18, Houston, TX.
- Sleeper, K., Wilson, R., Chanton, J., Lapham, L., Farr, N., Camilli, R., Martens, C., and Pontbriand, C., (2011). "Geochemical Arrays at Woolsey Mound Seafloor Observatory," *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 12-16.
- Sobecky, P., Mills, H., and Martinez, R., (2003). "The Microbial Ecology of Gas Hydrates," *Geological Society of America Annual Meeting*, Seattle, WA, November 5.
- Strack, E., and J. Kuszmaul, (2003). Describing the Spatial Continuity of Gas Hydrate Deposits Using Indicator Variography, Abstract OS51B-0863, San Francisco, CA, American Geophysical Union Fall Meeting, December 8-12.
- Terry, D., Knapp, C., and Knapp, J., (2011). "Effective-medium modules for marine gas hydrates, Mallik revisited," *The American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 5-9.
- Teske, A, (2007). "Active Methane-oxidizing archaea in MC118 sediments: Evidence from ribosomal RNA and mRNA analysis," Gulf of Mexico Hydrate Consortium Meeting, Oxford, MS, February 28.
- Teske, A, (2008). "Deep subsurface archaea – Diversity and Detection," *Institute for the Chemistry and Biology of the Oceans*, Oldenburg University, Germany. March 5.

- Toler, S. K., Bell, R. J., Short, R. T., (2009). "Underwater Mass Spectrometry: Developments and Deployments," *7th Harsh-Environment Mass Spectrometry Workshop*, Santa Barbara, CA.
- Vogt, F., (2002). "Chemometric Data Evaluation for Improved Seawater Monitoring of Chlorinated Hydrocarbons by Mid-Infrared Evanescent Wave Sensors," *The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON)*, New Orleans, LA, March 17-22.
- Vogt, F., Kraft, M., and Mizaikoff, B., (2003). "Mid-Infrared Attenuated Total Reflection (ATR) Spectroscopy for Quantitative Analysis of Salt Ions in Seawater," *The Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy (PITTCON)*, Orlando, FL, March 9-14.
- Wang, F., Wang, S., Jian, g L., Ye, G., Xiao, X., Noakes, J., Zhang, C. L., (2006). "Community structure and population dynamics of bacteria and archaea at hydrocarbon seeps/gas hydrates in the Gulf of Mexico," *American Geophysical Union Annual Meeting*, San Francisco, CA, December 10-16.
- Wilson, R. M., Lapham, L. L., Anderson, B., Garapati, N., and Chanton, J., (2012). "Laboratory experiments probe hydrate dissolution rates," *The Gordon Research Conference on Natural Gas Hydrate Systems*, Ventura, CA, March 18-23.
- Wilson, R. M., Lapham, L. L., Martens, C. S., Chanton, J. P., Mendlovitz, H., Sleeper, K., and Riedel, M., (2012). "Time-series methane monitoring in gassy sediments and the benthic boundary layer," *Ocean Sciences Annual Meeting*, Salt Lake City, UT, February 20-24.
- Winters, W., Waite, W., Mason, D., Novosel, I., Boldina, O., Dallimore, S., Collett, T., Lorenson, T., Paull, C., Rogers, R., Bryant, W., and McGee, T., (2003). "Physical properties of sediment containing natural and laboratory-formed gas hydrate," *American Association of Petroleum Geologists Annual Conference*, Salt Lake City, UT, May.
- Woolsey, R., McGee, T., Lutken, C., and Higley, P., (2005). "Gas Hydrates Sea Floor Observatory – First Stage Deployment and Test Set for 2005," *Offshore Technology Conference*, Houston, TX, May 2-5.
- Woolsey, R., McGee, T., Lutken, C., and Geresi, E., (2003). "A Sea Floor Observatory for Studying the Hydrocarbon System within the Gas Hydrate Stability Zone of the Northern Gulf of Mexico," *European Geophysical Union-American Geophysical Union Joint Conference*, Nice, France, April 6-11.
- Woolsey, J. R., Macelloni, L., M. McGee, T., Lutken, C. B., Sleeper, K., and Higley, P., (2007). "A Deep Sea Floor Observing System For Real-Time Observation In The Northern Gulf Of Mexico." *Sesto Forum Italiano di Scienze della Terra - Geoitalia 2007*, Rimini, September, 12-14.
- Woolsey, M., Lowe, P. M., Tidwell, S., Jarnagin, R., Lutken, C. B., and D'Emidio, M., (2014). "Undersea vehicles: Vital component of undersea ecosystems monitoring," *Gulf of Mexico Oil Spill and Ecosystem Science Conference*, Mobile, AL, Jan. 26-29.
- Woolsey, M. and Woolsey, A., (2014). "Improvements to a geographical technique for seafloor image mosaicking," *Oceans 2014 MTS/IEE*, St. John's, Newfoundland, September 14-19,.

- Zhang, G., Rogers, R., and French, T., (2008). "Laboratory tests to determine role of bioproducts in seafloor gas hydrate accumulations," *AAPG Annual Convention and Exhibition*, San Antonio, TX, April.
- Zhang C. L., Yan T., Ye, Q., Pancost, R. D., and Noakes, J., (2006). "Lipid Biomarkers, Isotope Signatures, and Genomics of Gas Hydrates and Hydrocarbon Seeps in the Gulf of Mexico," *Environmental Systems Microbiology Symposium*, Atlanta, GA March 29-31.

Oregon State University

Government Reports

- Tréhu, A., (2009). "Heat Flow and Gas Hydrates on the Continental Margin of India," *Quarterly Progress Report, October 2008 – December, (2008)*. Oregon State University, DOE Award No.: DE-NT0005669. February, (2009).
- Tréhu, A., (2009). "Heat Flow and Gas Hydrates on the Continental Margin of India," *Quarterly Progress Report, January 2009 – March, (2009)*. Oregon State University, DOE Award No.: DE-NT0005669. May, (2009).
- Tréhu, A., (2009). "Heat Flow and Gas Hydrates on the Continental Margin of India," *Quarterly Progress Report, April 2009 – June, (2009)*. Oregon State University, DOE Award No.: DE-NT0005669. August, (2009).
- Tréhu, A., (2009). "Heat Flow and Gas Hydrates on the Continental Margin of India," *Quarterly Progress Report, July 2009 – September, (2009)*. Oregon State University, DOE Award No.: DE-NT0005669. November, (2009).
- Tréhu, A., (2010). "Heat Flow and Gas Hydrates on the Continental Margin of India," *Quarterly Progress Report, October 2009 – December, (2009)*. Oregon State University, DOE Award No.: DE-NT0005669. January, (2010).
- Tréhu, A., (2010). "Heat Flow and Gas Hydrates on the Continental Margin of India," *Quarterly Progress Report, April – June, (2010)*. Oregon State University, DOE Award No.: DE-NT0005669. September, (2010).
- Tréhu, A., (2010). "Heat Flow and Gas Hydrates on the Continental Margin of India," *Quarterly Progress Report, July – September, (2010)*. Oregon State University, DOE Award No.: DE-NT0005669. November, (2010).
- Tréhu, A., (2011). "Heat Flow and Gas Hydrates on the Continental Margin of India," *Quarterly Progress Report, October – December, (2010)*. Oregon State University, DOE Award No.: DE-NT0005669. March, (2011).
- Tréhu, A., (2011). "Heat Flow and Gas Hydrates on the Continental Margin of India," *Final Scientific/Technical Report*. Oregon State University, DOE Award No.: DE-NT0005669. November, (2011).

Presentations

- Kannberg, P. K., and Tréhu, A. M., (2009). "Heat flow and gas hydrates on the continental margin of India: Building on results from NGHP Expedition 01," *Eos Trans. AGU*, 90(52), Fall Meet. Suppl. OS31A-1198.

Methane Recovery from Hydrate-bearing Sediments (DE-FC26-06NT42963) and Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications (DE-FE0009897)

Georgia Institute of Technology

Peer-Reviewed Publications

- Brugada, J., Cheng, Y. P., Soga, K., and Santamarina, J. C. (2010). "Discrete element modelling of geomechanical behaviour of methane hydrate soils with pore-filling hydrate distribution," *Granular Matter*, vol. 12, no. 5, pp. 517-525.
- Dai, S., Wuttke, F., and Santamarina, J. C., (2013). "Coda wave analysis to monitor processes in soils," *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, v. 139, no. 9, pp. 1504-1511.
- Dai, S., Shin, H., and Santamarina, J.C., (2016). "Formation and development of salt crusts on soil surfaces," *Acta Geotechnica*, v. 11, n. 5, pp. 1103-1109.
- Espinoza, D. N., and Santamarina J. C., (2010). "Water-CO₂-mineral systems: interfacial tension, contact angle and diffusion – Implications to CO₂ geological storage," *Water Resources Research*, vol. 46, DOI: 10.1029/2009WR008634.
- Espinoza, D. N. and Santamarina, J. C. (2011). "P-wave monitoring of hydrate-bearing sand during CH₄-CO₂ replacement," *Int. J. Greenhouse Gas Control*, doi:10.1016/j.ijggc.2011.02.006.
- Espinoza, D. N., Kim, S. H., Santamarina, J. C., (2011). "Carbon Geological Storage." *KSCE Journal of Civil Engineering*, vol. 15, no. 4, pp. 707-719.
- Fragaszy, R. J., Santamarina, J. C., Amekudzi, A., Assimaki, D., Bachus, R., Burns, S. E., Cha, M., Cho, G. C., Cortes, D. D., Dai, S., Espinoza, D. N., Garrow, L., Huang, H., Jang, J., Jung, J. W., Kim, S. H., Kurtis, K., Lee, C., Pasten, C., Phadnis, H., Rix, G., Shin, H. S., Torres, M. C., and Tsouris, C., (2011). "Sustainable development and energy geotechnology – potential roles for geotechnical engineering". *KSCE Journal of Civil Engineering, Special Issue on Energy Geotechnology*, vol. 15, no. 4, pp. 611-621.
- Gabitto, J., and C. Tsouris, (2010). "Physical Properties of Gas Hydrates: A Review." *Journal of Thermodynamics*, Article ID 271291, doi:10.1155/2010/271291
- Jang J., and Santamarina, J. C., (2013). "Evolution of Saturation and Relative Permeability During Gas Production from Hydrate Bearing Sediments - Gas Invasion vs. Gas Nucleation," *Journal of Geophysical Research – Solid Earth*.
- Jang, J., and Santamarina, J. C. (2011). "Recoverable Gas from Hydrate-Bearing Sediments: Pore Network Model Simulation and Macroscale Analyses," *Journal of Geophysical Research - Solid Earth*, vol. 116, B08202, 12 pages, doi: 10.1029/2010JB007841
- Jang, J., Narsilio, G., and Santamarina, J. C. (2011). "Hydraulic Conductivity in Spatially Varying Media -A Pore-Scale Investigation," *Geophysical Journal International*, vol. 184, pp. 1167-1179

- Jang, J., and Santamarina, J. C., (2016). "Hydrate bearing clayey sediments: Formation and gas production concepts," *Marine and Petroleum Geology*, vol. 77, pp.235-246.
- Jung, J. W., and Santamarina, J. C., (2010). "CH₄-CO₂ Replacement in Hydrate-Bearing Sediments: A Pore-Scale Study." *Geochemistry, Geophysics and Geosystems*, Vol. 11, Q0AA13, doi:10.1029/2010GC003339.
- Jung, J. W., Espinoza, D. N., and Santamarina, J. C., (2010). "Hydrate Bearing Sediments: CH₄-CO₂ Replacement," *Journal of Geophysical Research*, vol. 115, B10102, doi:10.1029/2009JB000812.
- Jung, J. W., Jang, J., Santamarina, J. C., Tsouris, C., Phelps, T. J., and Rawn, C. J. (2012). "Gas Production from Hydrate-Bearing Sediments: The Role of Fine Particles," *Energy & Fuels*, vol. 26, pp. 480-487.
- Jung, J. W., Santamarina, J. C. (2011). "Hydrate Adhesive and Tensile Strength, G-Cubed Geochemistry," *Geophysics and Geosystems*, Vol. 12, No.8, Q08003, doi:10.1029/2010GC003495.
- Jung, J. W., Santamarina, J. C. (2012). "Hydrate Formation and Growth in Pores," *Journal of Crystal Growth*, vol. 345, pp. 61-68.
- Jung, J. W., Santamarina, J. C., Soga, K. (2012). "Stress-Strain Response of Hydrate Bearing Sands: Numerical Study Using Discrete Element Simulations," *Journal of Geophysical Research*, vol. 117, B04202.
- Lucia, A., Lee, J., and Tsouris, C., (2010). "Advances in Gas Hydrate Thermodynamic and Transport Properties," *Journal of Thermodynamics*, Article ID 523503, doi:10.1155/2010/523503.
- Moridis, G. J., Collett, T. S., Pooladi-Darvish, M., Pooladi-Darvish, M., Santamarina, C., Boswell, R., Kneafsey, T. J., Rutqvist, J., Reagan, M. T., Sloan, E. D., Sum, A., and Koh, C. (2011). "Challenges, Uncertainties, and Issues Facing Gas Production From Gas-Hydrate Deposits," *SPE Res Eval & Eng* 14 (1): 76-112. SPE-131792-PA. doi: 10.2118/131792-PA.
- Santamarina, J. C. and Cho, G. C. (2011). "Energy Geotechnonology," *KSCE Journal of Civil Engineering*, vol. 15, no. 4, pp. 607-610.
- Santamarina, J. C. and Jang, J. (2010). "Energy Geotechnology: Implications Of Mixed Fluid Conditions," in A. Gens and E. Alonso, *Proc. 5th International Conference on Unsaturated Soils*, Unsat 2010, Barcelona.
- Santamarina, J. C. and Shin, H., (2009). "Discontinuities in granular materials: Particle-level mechanisms." in D. Kolymbas and C. Viggiani, eds., *Symposium on the Mechanics of Natural Solids*, Horto, Greece.
- Shin, H., and Santamarina, J. C., (2009). "Mineral Dissolution and the Evolution of K₀." *J. Geotechnical and Geoenvironmental Eng. ASCE*, vol. 135, no. 8, pp. 1141-1147.
- Shin, H., and Santamarina, J. C., (2010). "Fluid-driven fractures in uncemented sediments: Underlying particle-level processes." *Earth and Planetary Science Letters*, vol. 299, pp 180-189.
- Shin, H., Santamarina, J. C., and Cartwright, J., (2008). "Contraction-Driven Shear Failure in Compacting Uncemented Sediments." *Geology*, vol. 36, no. 12, pp. 931-934.

- Shin, H., Santamarina, J. C., and Cartwright, J., (2010). "Displacement Field In Contraction Driven Faults." *J. Geophysical Research*, 115, B07408, doi:10.1029/2009JB006572.
- Shin, H. and Santamarina, J.C., (2016). "Sediment-Well Interaction During Depressurization." *Acta Geotechnica*, pp. 1-13.
- Taboada-Serrano, P., Ulrich, S., Szymcek, P., McCallum, S. D., Phelps, T. J., Palumbo, A. V., and Tsouris, C., (2009). "A Multi-phase, Micro-dispersion Reactor for the Continuous Production of Methane Gas Hydrate." *Industrial & Engineering Chemistry Research*, vol. 48, pp. 6448–6452.
- Waite, W. F., Santamarina, J. C., Cortes, D. D., Dugan B., Espinoza, D. N., Germaine J., Jang J., Jung, J. W., Kneafsey, T., Shin H. S., Soga, K., Winters, W., and Yun, T. S., (2009). "Physical Properties Of Hydrate-Bearing Sediments," *Review of Geophysics*, vol. 47, doi:10.1029/2008RG000279.
- Yun, T. S., Lee, C., Lee, J. S., Jang-Jun Bahk, and Santamarina, J. C., (2011). "A Pressure Core Based Characterization of Hydrate Bearing Sediments in the Ulleung Basin, East Sea," *Journal of Geophysical Research*, vol. 117, pp. 151-158 doi:10.1029/2010JB007468

Government Reports

- Dai, S. and Santamarina, J.C., (2018). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." Final Scientific/ Technical Report, Project Period 10/1/2012 to 9/30/2017, DOE Award No.: DE-FE0009897 to Georgia Institute of Technology. January 2018.
- Santamarina, J. C., (2007). "Methane Recovery from Hydrate-bearing Sediments." *Yearly Report*, Georgia Institute of Technology, DOE Award No.: DE-FC26-06NT42963. May 2007.
- Santamarina, J. C., (2007). "Methane Recovery from Hydrate-bearing Sediments." *Special Report - Gas Hydrate Dissociation in Sediments: Pressure-Temperature Evolution*, Georgia Institute of Technology, DOE Award No.: DE-FC26-06NT42963. December 2007.
- Santamarina, J. C., (2010). "Methane Recovery from Hydrate-bearing Sediments." *Quarterly Progress Report, October 2009-December 2009*, Georgia Institute of Technology, DOE Award No.: DE-FC26-06NT42963. February 2010.
- Santamarina, J. C., (2010). "Methane Recovery from Hydrate-bearing Sediments." *Quarterly Progress Report, January 2010 - March 2010*, Georgia Institute of Technology, DOE Award No.: DE-FC26-06NT42963. May 2010.
- Santamarina, J. C., (2010). "Methane Recovery from Hydrate-bearing Sediments." *Quarterly Progress Report, April 2010 - June 2010*, Georgia Institute of Technology, DOE Award No.: DE-FC26-06NT42963. July 2010.
- Santamarina, J. C., (2010). "Methane Recovery from Hydrate-bearing Sediments." *Quarterly Progress Report, July 2010 - September 2010*, Georgia Institute of Technology, DOE Award No.: DE-FC26-06NT42963. November 2010.
- Santamarina, J. C., (2011). "Methane Recovery from Hydrate-bearing Sediments." *Final Project Report*, Georgia Institute of Technology, DOE Award No.: DE-FC26-06NT42963. November 2011.

- Santamarina, J. C., (2012). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Progress Report, October 2012 - December 2012*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. December 2012.
- Santamarina, J. C., (2013). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Progress Report, January 2013 - March 2013*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. March 2013.
- Santamarina, J. C., (2013). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Progress Report, April 2013 - June 2013*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. August 2013.
- Santamarina, J. C., (2013). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Progress Report, July 2013 - September 2013*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. October 2013.
- Santamarina, J. C., (2014). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Research Performance Progress Report, Period Ending December 31, 2013*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. January 2014.
- Santamarina, J. C., (2014). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Research Performance Progress Report, Period Ending March 31, 2014*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. April 2014.
- Santamarina, J. C., (2014). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Research Performance Progress Report, Period Ending June 30, 2014*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. July 2014.
- Santamarina, J. C., (2015). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Research Performance Progress Report, Period Ending March 31, 2015*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. April 2015.
- Santamarina, J. C., (2015). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Research Performance Progress Report, Period Ending June 30, 2015*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. August 2015.
- Santamarina, J. C., (2016). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Research Performance Progress Report, Period Ending December 31, 2015*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. February 2016.

- Santamarina, J. C., (2016). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Research Performance Progress Report, Period Ending March 31, 2016*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. April 2016.
- Santamarina, J. C., (2016). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Research Performance Progress Report, Period Ending June 30, 2016*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. July 2016.
- Santamarina, J. C., (2016). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Research Performance Progress Report, Period Ending September 30, 2016*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. October 2016.
- Santamarina, J.C. (2017). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Research Performance Progress Report, Period Ending December 31, 2016*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. January 2017.
- Santamarina, J.C. (2017). "Hydrate-Bearing Clayey Sediments: Morphology, Physical Properties, Production and Engineering/Geological Implications." *Quarterly Research Performance Progress Report, Period Ending March 31, 2017*, Georgia Institute of Technology, DOE Award No.: DE-FE0009897. April 2017.

Other Publications

- Santamarina, J. C., and Jang, J., (2009). "Gas Production from Hydrate-Bearing Sediments: Geomechanical Implications." *U. S. DOE-NETL Fire in the Ice Newsletter, Vol. 9, Issue 4*, pp. 18-22.

Presentations

- Cartwright, J., Santamarina J. C., Shin, H., (2009). "A diagenetic mechanism for the formation of shear fractures in shales hosting deep tight gas plays." *AAAG meeting*, Denver, CO. June.
- Kwon, T., Cho, G. C., Santamarina, J. C., Kim, J., and Lee, J., (2009). "Stability evaluation of hydrate-bearing sediments during thermally-driven hydrate dissociation." *Eos Trans. AGU, 90(52)*, Fall Meet. Suppl., Abstract OS31A-1206
- Santamarina J. C., and Shin H., (2007). "Particle Dissolution: Ko Effects." *Proceedings of IUTAM, Brazil*.
- Santamarina, J. C., and Jang, J., (2010). "Energy Geotechnology: Implications of Mixed Fluid Conditions." In A. Gens and E. Alonso, eds., *Proc. 5th International Conference on Unsaturated Soils, Unsat 2010*, Barcelona.
- Taboada-Serrano, P., and C. Tsouris, (2007). "Methane Hydrate Dissociation on a Mineral Surface," *American Institute of Chemical Engineers Annual Meeting*, Salt Lake City, UT, November 4-9.

Characterizing Marine Gas Hydrate Reservoirs Using 3D Seismic Data and 4C OBS Data (DE-FC26-00NT41024) and (DE-FC26-06NT42667)

University of Texas at Austin Bureau of Economic Geology

Peer-Reviewed Publications

- DeAngelo, M. V., Murray, P. E., Hardage, B. A., and Remington, R. L., (2008). "Integrated 2D 4-C OBC velocity analysis of near-seafloor sediments, Green Canyon, Gulf of Mexico," *Geophysics*, V. 73, No. 6, pp. B109–B115.
- Hardage, B., Roberts, H., Murray, P., Remington, R., Sava, D., Shedd, W., and Hunt, J., Jr., (2009). "Multicomponent seismic assessment of fluid-gas expulsion geology: Gulf of Mexico," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Sava, D., and Hardage, B., (2009). "Rock-physics models for gas-hydrate systems associated with unconsolidated marine sediments," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.

Government Reports

- Hardage, B., Backus, M., DeAngelo, M., Fomel, S., Graebner, R., Murray, P., and Wood, L., (2002). "Characterizing Marine Gas-Hydrate Reservoirs and Determining Mechanical Properties of Marine Gas-Hydrate Strata with 4-Component Ocean-Bottom-Cable Seismic Data," *Final Report*, DOE Contract No. DE-FC26-00NT41024.
- Hardage, B., Murray, P., Sava, D., Backus, M., DeAngelo, M., Graebner, R., and Wagner, D., (2009). "Combining Multicomponent Seismic Attributes, New Rock Physics Models, and In Situ Data to Estimate Gas-Hydrate Concentrations in Deep-Water, Near-Seafloor Strata of the Gulf of Mexico," *Final Report*, DOE Contract No. DE-FC26-05NT42667.

Theses/Dissertations

- Alkan, E., (2007). "Multi-dimensional seismic land data acquisition techniques and the random survey design," *Master's Thesis*, The University of Texas at Austin, May, (2007).

Other Publications

- Alkan, E., and Hardage, B., (2007). "Randomness in 3D seismic design," *The American Association of Petroleum Geologists, Geophysical Corner*, V. 28, n. 10, p. 29.
- Backus, M., P. Murray, B. Hardage, and R. Graebner, (2006). "High-resolution multi-component seismic imaging of deepwater gas hydrate systems, *The Leading Edge*, Volume 25, n. 5, pp. 578-596.
- Backus, M. M., Murray, Paul, Graebner, R. J., and Hardage, B. A., (2007). "OBC sensor response and calibrated reflectivity (abs.)," *SEG/San Antonio Annual Meeting*, pp. 1044–1048.

- DeAngelo, M., Backus, M., Hardage, B., Murray, P., and Knapp, S., (2003). "Depth registration of P-wave and C-wave seismic data for shallow marine sediment characterization, Gulf of Mexico," *The Leading Edge*, Volume 22, n. 2, pp. 96-105.
- Hardage, B. A., Sava, Diana, Remington, R. L., and DeAngelo, Michael, (2008). "Rocks-physics theory a help," *AAPG Explorer, Geophysical Corner*, V. 29, No. 1, p. 34.
- Hardage, B. A., DeAngelo, Michael, and Remington, R. L., (2008). "Going super-deep with P-P, P-SV data," *AAPG Explorer, Geophysical Corner*, V. 29, No. 2, p. 32.
- Hardage, B., (2007). "Gas hydrate and LNG tankers," *The American Association of Petroleum Geologists Explorer, Geophysical Corner*, V. 28, n. 5, p. 27.
- Hardage, B., and Murray, P., (2006). "Detailed imaging of deepwater hydrate geology with horizontal arrays of seafloor sensors," *Proceedings of the Offshore Technology Conference*, paper 17929.
- Hardage, B., and Murray, P., (2006). "High-resolution P-P imaging of deepwater near-seafloor geology," *The American Association of Petroleum Geologists Explorer, Geophysical Corner*, Volume 27, n. 7, p. 30.
- Hardage, B., and Murray, P., (2006). "P-SV data most impressive image," *The American Association of Petroleum Geologists Explorer, Geophysical Corner*, Volume 27, n. 8, p. 30.
- Hardage, B., Remington, R., and Roberts, H., (2006). "Gas hydrate--a source of shallow water flow?," *The Leading Edge*, Volume 25, n. 5, pp. 634-636.
- Hardage, B., and Roberts, H., (2006). "Gas hydrate in the Gulf of Mexico: what and where is the seismic target," *The Leading Edge*, Volume 25, n. 5, pp. 566-571.
- Hardage, B., and Roberts, H., (2006). "Evaluation of deepwater gas-hydrate systems," *The Leading Edge*, Volume 25, n. 5, pp. 572-577.
- McGee, T., and Hardage, B., (2006). "Hydrate system to be monitored, The American Association of Petroleum Geologists Explorer," *Geophysical Corner*, Volume 27, n. 5, p. 24.
- Roberts, H., Hardage, B., Shedd, W., and Hunt, J., Jr., (2006). "Seafloor reflectivity--an important seismic property for interpreting fluid/gas expulsion geology and the presence of gas hydrate," *The Leading Edge*, Volume 25, n. 5, pp. 620-628.
- Roberts, H., Hardage, B., Shedd, W., and Hunt, J., Jr., (2006). "Seafloor reflectivity: an important seismic property for interpreting fluid/gas expulsion geology and the presence of shallow gas hydrate (abs.)," *Gulf Coast Association of Geological Societies Transactions*, V. 56, p. 725.
- Sava, D., and Hardage, B., (2006). "Rock physics characterization of hydrate-bearing deepwater sediments," *The Leading Edge*, Volume 25, n. 5, pp. 616-619.
- Sava, D. C., and Hardage, B. A., (2006). "Rock physics models of gas hydrates from deep water, unconsolidated sediments (exp. abs.)," *76th Annual Meeting of the Society of Exploration Geophysicists, Expanded Abstracts Volume 25*.
- Sava, D. C., and Hardage, B. A., (2007). "Gas-hydrate concentration and uncertainty estimation from electrical-resistivity logs: Examples from Green Canyon, Gulf of Mexico (exp. abs.)," *Society of Exploration Geophysicists Expanded Abstracts*, pp. 1579-1583, San Antonio, TX, September 23-28.

- Sava, D., and Hardage, B., (2007). "Gas hydrate and seismic attributes," *The American Association of Petroleum Geologists Explorer, Geophysical Corner, V. 28*.
- Sava, Diana, and Hardage, B. A., (2007). "Diving into gas hydrate systems," *AAPG Explorer, Geophysical Corner, V. 28, No. 8*, p. 44.
- Sava, D. C., Hardage, B. A., Murray, P., and DeAngelo, M., (2008). "Rock-physics joint inversion of resistivity log and seismic velocity for hydrate-characterization (exp. abs.)," *Society of Exploration Geophysicists Expanded Abstracts*, Las Vegas, November 9–14.
- Sava, D. C., and Hardage, B. A., (2008). "Estimating uncertainty associated with gas-hydrate characterization from electrical resistivity logs (abs.)," *SEG D&P Forum on Uncertainty and Upscaling Issues in Reservoir Characterization*, Austin, TX, July 27–31.
- Sava, D. C., Hardage, B. A., Murray, P., and DeAngelo, M., (2008). "Quantitative integration of electrical resistivity logs and seismic velocities for reducing the uncertainty in evaluating deep-water gas-hydrate systems (abs.)," *SEG D&P Forum on Uncertainty and Upscaling Issues in Reservoir Characterization*, Austin, July 27–31.

Presentations

- Alkan, E., and Hardage, B., (2007). "Randomness in 3D seismic design," *77th Annual Meeting of the Society of Exploration Geophysicists*, San Antonio, TX.
- Backus, M., Murray, P., Hardage, B., and Graebner, R., (2005). "Enhanced PS-wave images of deep-water, near-seafloor geology from 2-D 4-C OBC data in the Gulf of Mexico," *75th Annual International Meeting of the SEG*, Houston, TX, November 6-11.
- Backus, M., Murray, P., Graebner, R., and Hardage, B., (2007). "OBC sensor response and calibrated reflectivity," *77th Annual Meeting of the Society of Exploration Geophysicists*, San Antonio, TX.
- Christianson, P., and Murray, P., (2007). "Investigating active deepwater sedimentation near a gas hydrate system with high-resolution seismic data," *77th Annual Meeting of the Society of Exploration Geophysicists*, San Antonio, TX.
- Fomel, S. B., Backus, M. M., DeAngelo, Michael, Murray, Paul, and Hardage, B. A., (2003). "Multicomponent seismic data registration for subsurface characterization in the shallow Gulf of Mexico," *Offshore Technology Conference*, Houston, TX, OTC Paper No. 15117.
- Hardage, B., (2005). "P and S image registration: the challenge confronting all who use multicomponent seismic technology," *Sercel Technical Forum*, Houston, TX, April 21, (2005).
- Hardage, R., (2006). "Methane Hydrates: Geoscience Challenges," *Hart Energy Publishing Methane Hydrates Conference*, Houston, T, Dec. 5-6.
- Hardage, B., and D. Sava, (2006). "Seismic estimation of Gas Hydrate Concentrations in Deepwater Environments: Assumptions and Limitations," *The American Association of Petroleum Geologists Annual Meeting*, Houston, TX, April 9-12.
- Hardage, B., (2005). "Assessing deep water gas hydrate systems and seafloor stability,," *AGU, NABS, SEG, SPD/AAS Joint Assembly*, New Orleans, LA, , May 23–27.

- Hardage, B., and P. Murray, (2006). "Detailed imaging of deepwater hydrate geology with horizontal arrays of seafloor sensors," *Proceedings of the 2006 Offshore Technology Conference*, Houston, TX, May 1-4. [OTC 17929-MS](#)
- Hardage, B. A., Roberts, H. H., Sava, D. C., Murray, P. E., DeAngelo, M. V., Backus, M. M., Graebner, R. J., (2008). "Assessing Fluid-Gas Expulsion Geology And Gas Hydrate Deposits Across The Gulf of Mexico With Multicomponent And Multifrequency Seismic Data," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Murray, P., M. DeAngelo, B. Hardage, M. Backus, R. Graebner, and S. Fomel, (2003). "Interpreting multicomponent seismic data in the Gulf of Mexico for shallow sedimentary properties: methodology and case history," *Proceedings of the Offshore Technology Conference* Houston, TX, 2003, May 5-8. [OTC 15118-MS](#)
- Murray, P., M. Backus, M. DeAngelo, S. Fomel, R. Graebner, B. Hardage, and L. Wood, (2004). "Evaluating marine gas hydrates with 4C OBC seismic data," Dallas, TX, *The American Association of Petroleum Geologists Annual Meeting*, April 18-21.
- Sava, D., and B. Hardage, (2006). "Rock physics models of gas hydrates from deep water, unconsolidated sediments," *76th Annual Meeting of the Society of Exploration Geophysicists*, New Orleans, LA, October 1-6.

Texas A&M University – Corpus Christi

Peer-Reviewed Publications

- De Beukelaer, S., MacDonald, I., Guinasso, N., and Murray, J., (2003). "Distinct side-scan sonar, RADARSAT SAR, and acoustic profiler signatures of gas and oil seeps on the Gulf of Mexico slope," *Geo-Marine Letters* 23(3-4), pp. 177-186.
- Liefer, I., and MacDonald, I., (2003). "Dynamics of the gas flux from shallow gas hydrate deposits: interaction between oily hydrate bubbles and the oceanic environment," *Earth and Planetary Science Letters* 21(3-4), pp. 411-424.
- MacDonald, I., Bender, L., Vardaro, M., Bernard, B., and Brooks, J., (2005). "Thermal and Visual Time-Series at a Seafloor Gas Hydrate Deposit on the Gulf of Mexico Slope," *Earth and Planetary Science Letters*, 233, pp. 45-59.
- MacDonald, I., Bohrmann, G., Escobar, E., Abegg, F., Blanchon, P., Blinova, V., Brückmann, W., Drews, M., Eisenhauer, A., Han, X., Heeschen, K., Meier, F., Mortera, C., Naehr, T., Orcutt, B., Bernard, B., Brooks, J., and De Faragó, M., (2004). "Asphalt volcanism and chemosynthetic life, Campeche Knolls, Gulf of Mexico," *Science*, Vol. 304, No. 5673, pp. 999-1002.
- MacDonald, I., Liefer, I., Sassen, R., Stine, P., Mitchell, R., and Guinasso, N., (2002). "Transfer of hydrocarbons from natural seeps to the water column and atmosphere," *Geofluids*, Volume 5, pp. 95-107.
- MacDonald, I., Sager, W., and Peccini, M., (2003). "Association of Gas Hydrate and Chemosynthetic Fauna in Mounded Bathymetry at Mid-Slope Hydrocarbon Seeps: Northern Gulf of Mexico," *Marine Geology*, Volume 198, p.133-158.

Theses/Dissertations

- De Beukelaer, S., (2003). "Remote sensing analysis of natural oil and gas seeps on the continental slope of the northern Gulf of Mexico, 2003," *Master's Thesis, Department of Oceanography*, Texas A&M University, August.
- Vardaro, M., (2004). "Deep-sea time-lapse camera observations: Temporal changes in gas hydrate mound topography and ecology," *Master's Thesis, Department of Oceanography*, Texas A&M University, May.

Other Publications

- MacDonald, I., Vardaro, M., and Bender, L., (2003). "A Temperature and Photographic Time-Series from a Seafloor Gas Hydrate Deposit on the Gulf of Mexico Slope," *Geophysical Research Abstracts*, Volume 5, 12714.

Presentations

- Leifer, I., Rehder, G. J., Solomon, E. A., Kastner, M., Asper, V. L., Joye, S. B., (2011). "Methane rising from the deep: Hydrates, bubbles, oil spills, and global warming," *American Geophysical Union Fall Meeting*, San Francisco, CA Dec. 5-9.
- MacDonald, I., Kastner, M., and Leifer, I., (2005). "Estimates of natural hydrocarbon flux in the Gulf of Mexico basin from remote sensing data," *European Union of Geosciences Meeting*, Vienna, Austria, April 24-29.
- MacDonald, I., Sobecky, P., Montoya, J., and Joye, S., (2003). "Research issues in the Hydrocarbon Seep System in the northern Gulf of Mexico," *American Society of Limnology and Oceanography Meeting*, Salt Lake City, UT, February 10-14.
- MacDonald, I., and Leifer, I., (2002). "Constraining rates of carbon flux from natural seeps on northern Gulf of Mexico slope," NATO workshop on gas hydrates, Azerbaijan, October.
- MacDonald, I., Power, D., Leifer, I., Lane, K., and Youden, J., (2002). "The remote sensing signature of hydrocarbon seeps and implications for carbon flux," *American Geophysical Union Ocean Sciences Meeting*, Honolulu, HI, February 11-15.
- MacDonald, I., Sobecky, P., Montoya, J., and Joye, S., (2001). "Deposits of gas hydrate on the Gulf of Mexico slope: A natural laboratory for hydrate research," *Second International Symposium for Deep-Sea Hydrothermal Vent Biology*, Brest, France, October 8-12.

Investigation of 3D Structure and Physical Properties of Methane Hydrate Deposits at Blake Ridge (DE-FC26-00NT40921)

University of Wyoming

Peer-Reviewed Publications

- Gorman, A., W. Holbrook, M. Hornbach, K. Hackwith, D. Lizarralde, and I. Pecher, (2002). "Migration of methane gas through the hydrate stability zone in a low-flux hydrate province," *Geology*, Volume 30, pp. 327-330.
- Holbrook, W., D. Lizarralde, Pecher, I., A. Gorman, K. Hackwith, M. Hornbach, and D. Saffer, (2002). "Escape of methane gas through sediment waves in a large methane hydrate province," *Geology*, Volume 30, pp. 467-470.
- Hornbach, M., W. Holbrook, R. Gorman, K. Hackwith, D. Lizarralde, and I. Pecher, (2003). "Direct seismic detection of methane hydrate and the Blake Ridge," *Geophysics*, Volume 68, n. 1, pp. 92-100.
- Hornbach, M., Ruppel, C., D. Saffer, C. Dover, and W. Holbrook, (2005). "Coupled geophysical constraints on heat flow and fluid flux at a salt diaper," *Geophysical Research Letters*, V. 32, L24617.
- Hornbach, M., D. Saffer, and W. Holbrook, (2004). "Critically Pressured Free-Gas Reservoirs Below Gas Hydrate Provinces," *Letters to Nature*, Volume 427, pp. 142-144.

Other Publications

- Holbrook, W., A. Gorman, M. Hornbach, K. Hackwith, J. Nealon, D. Lizarralde, and I. Pecher, (2002). "Seismic detection of marine methane hydrate," *The Leading Edge*, Volume 21, pp. 686-689.

Stanford University

Peer-Reviewed Publications

Bandyopadhyay, K., Jack Dvorkin, J., and Gary Mavko, G., (2007). "Anisotropy in gas hydrate," (in preparation for Geophysics, presented at the 2007 SRB meeting at Stanford).

Cordon, I., J. Dvorkin, and G. Mavko, (2006). "Seismic Reflections of Gas Hydrate Perturbational Forward Modeling," *Geophysics*, Vol. 71, No. 6 (November-December 2006), P.F165-F171, doi: 10.1190/1.2356909

Government Reports

Nur, A., (2008). "Seismic-scale Rock Physics of Methane Hydrate," *Final Report*, Stanford University, DOE Award No.: DE-FC26-05NT42663.

Other Publications

Dvorkin, J., and Uden, R., (2004). "Seismic wave attenuation in a methane hydrate reservoir," *The Leading Edge*, Volume 23, pp. 730-734.

Dvorkin, J., and R. Uden, (2006). "The challenge of scale in seismic mapping of hydrate and solutions," *The Leading Edge*, Volume 25, n. 5, pp. 637-642.

Dvorkin, J., Nur, A., (2007). "Seismic amplitudes from gas hydrates," *E&P*, November, (2007). pp. 1-2

Dvorkin, J, (2008). "Seismic-scale Rock Physics of Methane Hydrates," *U. S. DOE-NETL Fire in the Ice Newsletter*, Summer 2008, pp. 13-17.

Clarkson University

Peer-Reviewed Publications

- Ahmadi, G., Ji, C. and D. Smith, (2000). "A Simple Model for Natural Gas Production from Hydrate Decomposition," in Holder, G., and P. Bishnoi, eds., *Gas Hydrates: Challenges for the Future, Annals of the New York Academy of Sciences*, Volume 912, pp. 420-27.
- Ahmadi, G., C. Ji, and D. Smith, (2004). "Numerical Simulation of Natural Gas Production from Methane Hydrate Dissociation," *Journal of Petroleum Science and Engineering*, Volume 41, pp. 269-285.
- Ji, C., G. Ahmadi, and D. Smith, (2003). "Constant Rate Natural Gas Production from a Well in a Hydrate Reservoir," *Energy Conversion and Management*, Volume 44, pp. 2403-2423.
- Ji, C., G. Ahmadi, and D. Smith, (2001). "Natural Gas Production from Hydrate Decomposition by Depressurization," *Chemical Engineering Science*, Volume 56, pp. 5801-5814.

Presentations

- Ji, C., G. Ahmadi, Zhang, W., and Smith, D., (2002). "Natural Gas Production from Hydrate Dissociation: A Comparison of Axisymmetric Models," Yokohama, Japan, *Fourth International Conference on Gas Hydrates*, May 19-23.
- Ji, C., Ahmadi, G., and Smith, D., (2000). "Computational Simulation for Natural Gas Production from Hydrate Decomposition," Lake Placid, NY, *Annual Technical Meeting of the Center for Advanced Material Processing*, May 23-25.
- Nazridoust, K., White, T., Ji, C., Ahmadi, G., Smith, D., and Dean, M., (2002). "Natural Gas Production from Hydrate Dissociation," Saratoga Springs, NY, *Annual Technical Meeting of the Center for Advanced Material Processing*, May 13-15.

Investigations into the Geomechanical Performance of Hydrate-Bearing Sediments in Offshore Environments (DE-FC26-05NT42664)

Texas Engineering Experiment Station of Texas A&M University, University of California at Berkeley and Lawrence Berkeley National Laboratory

Government Reports

Holditch, S., Patzek, T., Moridis, G., and Plumb, R., (2005). "Geomechanical Performance of Hydrate-Bearing Sediments in Offshore Environments," U. S. *DOE-NETL Semi-Annual Report, October 1, 2005 through March 31, 2006*, DE-FC26-05NT42664 CFDA Number: 81.089 (Fossil Energy Research and Development), July.

Presentations

Holtzman, R., Silin, D., Patzek, T., (2006). "The Strength of Hydrate-Bearing Sediments: A Grain-Scale Approach," *AGU Fall Meeting*, San Francisco, CA, December 15.

Rutqvist, J., and G. Moridis, (2007). "Numerical Studies of Geomechanical Stability of Hydrate-Bearing Sediments," *Offshore Technology Conference*, Houston, TX, April 30- May 3.

Investigation of Gas Hydrate Instability in the Southeastern Bering Sea (DE-FC26-05NT42665)

Woods Hole Oceanographic Institute

Presentations

Cook, M., (2006). "Gas Hydrate Instability in the Southeast Bering Sea," Dalhousie University, Halifax Nova Scotia, April 4.

Cook, M., and Keigwin, L., (2005). "Evidence of Methane Outgassing During MIS3 in the Bering Sea," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 5-9.

Scripps Institution of Oceanography, University of California, San Diego

Other Publications

- Allen, E. E, and J. F. Banfield, (2005). "Community genomics in microbial ecology and evolution," *Nat Rev Microbiol*, 2005 Jun,3(6):489-98.
- Allen, E. E, Tyson, G. W., Whitaker, R. J., Detter, J. C., Richardson, P. M., and Banfield, J. F., (2007). "Genome dynamics in a natural archaeal population," *Proc Natl Acad Sci U S A*, Feb, 104(6), pp. 1883-1888.
- Baker, B. J, Tyson, G. W., Webb, R. I., Flanagan, J., Hugenholtz, P., Allen, E. E., and Banfield, J. F., (2006). "Lineages of acidophilic archaea revealed by community genomic analysis," *Science*, Dec 22,314(5807):1933-1935.
- Kastner, M., Bartlett, D., MacDonald, I., and Solomon, E., (2005). "CH₄ fluxes across the seafloor at three distinct gas hydrate fields: impacts on ocean and atmosphere chemistry, Trondheim, Norway," *Proceedings of the Fifth International Conference on Gas Hydrates, Volume 3*, pp. 709-714.
- Lo, I., Deneff, V. J., Verberkmoes, N. C., Shah, M. B., Goltsman, D., DiBartolo, G., Tyson, G. W., Allen, E. E., Ram, R. J., Detter, J. C., Richardson, P., Thelen, M. P., Hettich, R. L., and Banfield, J. F., (2007). "Strain-resolved community proteomics reveals recombining genomes of acidophilic bacteria," *Nature*, Mar, 446(7135), pp. 537-541.
- Solomon, E., Kastner, M., Jannasch, H., Weinstein, Y., and Robertson, G., (2005). "Insights into the dynamics of in situ gas hydrate formation and dissociation at Bush Hill gas hydrate field, Gulf of Mexico," *Proceedings of the Fifth International Conference of Gas Hydrates, Volume 3*, pp. 947-953.
- Stansfield, S. H., Allen, E. E., Dinnis, D. M., Racher, A. J., Birch, J. R., and James, D. C. (2007). "Dynamic analysis of GS-NS0 cells producing a recombinant monoclonal antibody during fed-batch culture," *Biotechnol Bioeng.*, Jun, 97(2), pp. 410-424.
- Tyson, G.W, Lo, I., Baker, B. J., Allen, E. E., Hugenholtz, P., and Banfield, J. F., (2005). "Genome-directed isolation of the key nitrogen fixer *Leptospirillum ferrodiazotrophum* sp. nov. from an acidophilic microbial community," *Appl. Environ. Microbiol.*, Oct, 71(10) pp. 6319-6324.
- Tyson, G.W, Chapman, J., Hugenholtz, P., Allen, E. E., Ram, R. J., Richardson, P. M., Solovyev, V. V., Rubin, E. M., Rokhsar, D. S., and Banfield, J. F., (2004). "Community structure and metabolism through reconstruction of microbial genomes from the environment," *Nature*, Mar, 428(6978), pp. 37-43.

Presentations

- Kastner, M., Bartlett, D., MacDonald, I., and Solomon, E., (2005). "CH₄ fluxes across the seafloor at three distinct gas hydrate fields: impacts on ocean and atmosphere chemistry," Fifth International Conference on Gas Hydrates, Trondheim, Norway, June 13-16.

- Kastner, M., Solem, C., Bartlett, D., MacDonald, I., and Valentine, D., (2003). "The extent of CH₄ emission and oxidation in thermogenic and biogenic gas hydrate environments," *American Geophysical Union Fall Meeting*, December 8-12.
- Solomon, E., Kastner, M., Jannasch, H., Weinstein, Y., Robertson, G., and Aubrey, A., (2004). "Long-term continuous monitoring of fluid chemistry and flux at the Bush Hill gas hydrate field, Gulf of Mexico, using a new flowmeter, the MOSQUITO," *American Geophysical Union, Fall Meeting*, December 13-17.
- Solomon, E., Kastner, M., Jannasch, H., Weinstein, Y., and Robertson, G., (2005). "Insights into the dynamics of in situ gas hydrate formation and dissociation at Bush Hill gas hydrate field, Gulf of Mexico," *Fifth International Conference of Gas Hydrates*, Trondheim, Norway, June 13-16.
- Weinstein, Y., Kastner, M., and Jannasch, H., (2003). "The MOSQUITO: a new sampler for monitoring fluid and solute fluxes between the sediment and the ocean," *EGS-AGU-EUG Joint Assembly Meeting*, Nice, France, April 6-11.

In Situ Sampling and Characterization of Naturally Occurring Methane Hydrate During IODP legs 204 and 311 (DE-FC26-01NT41329)

Joint Oceanographic Institution (the National Science Foundation was the primary U. S. funder of these programs, but DOE contributed slightly more than \$2 million to further hydrate-related field analysis technologies).

Peer-Reviewed Publications

- Akiba, F., Inoue, Y., Saito-Kato, M., Pohlman, J., (2009). "Data Report: diatom and foraminiferal assemblages in Pleistocene turbidite sediments from the Cascadia margin (IODP Expedition 311) northeast Pacific," In Riedel, M., Collett, T. S., Malone, M. J. and the Expedition 311 Scientists (Eds.) *Proceedings of the Integrated Ocean Drilling Program, Volume 311*. doi:10.2204/iodp.proc.311.211.2009.
- Bangs, N., Musgrave, R., and Tréhu, A., (2005). "Upward shifts in the southern Hydrate Ridge gas hydrate stability zone following postglacial warming, offshore Oregon," *Journal of Geophysical Research, Vol. 110*, B03102, doi:10.1029/2004JB003293.
- Collett, T., Lee, M., Goldberg, D., Rack, F., and Williams, T., (2006). "Ocean Drilling Program Leg 204 nuclear magnetic resonance logging while-drilling," in Trehu, A. M., Bohrmann, G., Torres, M. E., and Colwell, F. S. (eds.), *Proceedings of the Ocean Drilling Program Scientific Results, V. 204*, 25 p.
- Janik, A., Goldberg, D., Guerin, G., and Collett, T., (in review). "Estimation of gas hydrate concentration and heterogeneity on Cascadia Margin from ODP 204 logging while drilling (LWD) measurements," in Collett, T., A. Johnson, C. Knapp and Boswell, R., eds., *Natural Gas Hydrates: Energy Resource and Associated Geologic Hazards, The American Association of Petroleum Geologists Hedberg Special Publication*.
- Johnson, J., Goldfinger, C., Bangs, N., Trehu, A., and Chevallier, J., (in review). "Structural vergence variation and clockwise block rotation in the Cascadia accretionary wedge, offshore Oregon, Tectonics."
- Kim, D., Uhm, T., Lee, H., Lee, Y., Ryu, B., and Kim, J., (in review). "Compositional and structural identification of natural gas hydrates collected at Site 1249 on ODP Leg 204," *Korean Journal of Chemical Engineering*.
- Liu, X., and Flemings, P., (2006). "Passing gas through the hydrate stability zone at southern Hydrate Ridge, offshore Oregon," *Earth and Planetary Science Letters, 241*, pp. 211-226.
- Liu, X., and Flemings, P., (in review). "Dynamic multi-phase flow model of hydrate formation in marine sediments," *Journal Geophysical Research*.
- Long, H., Flemings, P., and Germaine, J., (in review). "Interpreting In Situ pressure and hydraulic properties with borehole penetrometers in ocean drilling: DVTTP and piezoprobe deployments at southern Hydrate Ridge, offshore Oregon," *Journal Geophysical Research*.

- Lorenson, T., Colwell, F., Delwiche, M., and Dougherty, J., (2006). "Data report: Acetate and hydrogen concentrations in pore fluids associated with a large gas hydrate reservoir, southern Hydrate Ridge, offshore Oregon, USA," in Trehu, A., Torres, M., G. Bohrmann, and Colwell, F., eds., *Proc. ODP, Sci. Results, Ocean Drilling Program, Texas A&M University, College Station, TX, Volume 204*.
- Milkov, A., Claypool, G., Lee, Y., and Sassen, R., (2005). "Gas hydrate systems at Hydrate Ridge offshore Oregon inferred from molecular and isotopic properties of hydrate-bound and void gases," *Geochim. Cosmochim. Acta, Volume 69*, pp. 1007-1026.
- Milkov, A., Claypool, G., Lee, Y., Torres, M., Borowski, W., Tomaru, H., Sassen, R., Long, P., and the ODP Leg 204 Scientific Party, (2004). "Subsurface gases indicate gas hydrate occurrence in marine sediments at southern Hydrate Ridge offshore Oregon, Org." *Geochem., Volume 35*, pp. 1067-1080.
- Milkov, A., Claypool, G., Lee, Y., Xu, W., Dickens, G., Borowski, W., and the ODP Leg 204 Scientific Party, (2003). "In situ methane concentrations at Hydrate Ridge offshore Oregon: new constraints on the global gas hydrate inventory from an active margin," *Geology, Volume 31*, pp. 833-836.
- Milkov, A., Dickens, G., Claypool, G., Lee, Y., Borowski, W., Torres, M., Xu, W., Tomaru, H., Tréhu, A., and Schultheiss, P., (2004). "Co-existence of gas hydrate, free gas, and brine within the regional gas hydrate stability zone at Hydrate Ridge (Oregon Margin): evidence from prolonged degassing of a pressurized core," *Earth and Planetary Science Letters, Volume 222*, pp. 829-843.
- Musgrave, R., Bangs, N., Larrasoña, J., Gràcia, E., Hollamby, J., and Vega, M., (2006). "Rise of the base of the gas hydrate zone since the last glacial recorded by rock magnetism," *Geology, 34*, p.117-120.
- Riedel, M., Long, P., and Collett, T., (2006). "Estimates of in situ gas hydrate concentration from resistivity monitoring of gas hydrate bearing sediments during temperature equilibration," *Marine Geology, Volume 227*, pp. 215-225.
- Riedel, M., Collett, T., Malone, M., and the IODP Expedition 311 Scientists, (2006). *Proceedings IODP, 311, Washington, DC (Integrated Ocean Drilling Program Management International, Inc.)*, doi:10.2204/iodp.proc.311.
- Riedel, M., Collett, T., Malone, M., and the IODP Expedition 311 Scientists, (2006). "Stages of gas-hydrate evolution on the northern Cascadia margin," *Scientific Drilling Journal, Vol. 3*, pp.18-24, doi:10.2204/iodp.sd.3.04.
- Riedel, M., Long, P., Liu, C., Schultheiss, P., Collett, T., and ODP Leg 204 Shipboard Scientific Party, (2006). "Physical properties of near-surface sediments at southern Hydrate Ridge: results from ODP Leg 204," in Tréhu, A., Bohrmann, G., Torres, M., and Colwell, F. eds., *Proceedings of ODP, Scientific Results, Vol. 204*, pp.1-29, doi:10.2973/odp.proc.sr.204.104.
- Riedel, M., Willoughby, E., Hyndman, R., Spence, G., Chapman, N., Edwards, R., Novosel, I., and Schwalenberg, K., (in review). "Gas hydrates at the Northern Cascadia Margin," in Collett, T., A. Johnson, C. Knapp and Boswell, R., eds., *Natural Gas Hydrates: Energy Resource and Associated Geologic Hazards, The American Association of Petroleum Geologists Hedberg Special Publication*.

- Riedel, M., Willoughby, E., Chen, M., He, T., Novosel, I., Schwalenberg, K., Hyndman, R., Spence, G., (in review). "Gas hydrate on the Northern Cascadia Margin: regional geophysics and structural framework," in Collett, T., A. Johnson, C. Knapp and Boswell, R., eds., *Natural Gas Hydrates: Energy Resource and Associated Geologic Hazards, The American Association of Petroleum Geologists Hedberg Special Publication*.
- Teichert, B., Bohrmann, G., and Suess, E., (2005). "Chemohierms on Hydrate Ridge—Unique microbially-mediated carbonate build-ups growing into the water column," *Palaeogeogr., Palaeoclim, Palaeoecol., Volume 227*, pp. 67-85.
- Teichert, B., Torres, M., Bohrmann, G., and Eisenhauer, A., (2005). "Fluid sources, fluid pathways and diagenetic reactions across an accretionary prism revealed by Sr and B geochemistry," *Earth and Planetary Science Letters, Volume 239*, pp. 106-121.
- Torres, M., Tréhu, A., Cespedes, N., Kastner, M., Wortmann, U. G., Kim, J.-H., Long, P., Malinverno, A., Pohlman, J. W., Riedel, M., Collett, T., (2008). "Methane hydrate formation in turbidite sediments of northern Cascadia, IODP Expedition 311," *Earth and Planetary Science Letters, V. 271*, pp. 170-180.
- Torres, M., Teichert, B., Tréhu, A., Borowski, W., and Tomaru, H., (2004). "Relationship of pore water freshening to accretionary processes in the Cascadia margin: Fluid sources and gas hydrate abundance," *Geophysical Research Letters, Vol. 31*, L22305, doi:10.1029/2004GL021219.
- Torres, M., Wallmann, K., Tréhu, A., Bohrmann, G., Borowski, W., and Tomaru, H., (2004). "Gas hydrate growth, methane transport, and chloride enrichment at the southern summit of Hydrate Ridge, Cascadia Margin off Oregon," *Earth and Planetary Science Letters, Volume 226*, pp. 225-241.
- Tréhu, A., Bohrmann, G., Rack, F., Torres, M., and the ODP Leg 204 Scientific Party, (2003). "ODP Leg 204: gas hydrate distribution and dynamics beneath southern Hydrate Ridge," *JOIDES Journal, Volume 29(2)*, pp. 5-8.
- Tréhu, A., Flemings, P., Bangs, N., Chevallier, J., Gràcia, E., Johnson, J., Liu, C., Liu, X., Riedel, M., and Torres, M., (2004). "Feeding methane vents and gas hydrate deposits at south Hydrate Ridge," *Geophysical Research Letters, Vol. 31*, L23310, doi:10.1029/2004GL021286.
- Tréhu, A., Long, P., Torres, M., Bohrmann, G., Rack, F., Collett, T., Goldberg, D., Milkov, A., Riedel, M., Schultheiss, P., Bangs, N., Barr, S., Borowski, W., Claypool, G., Delwiche, M., Dickens, G., Gràcia, E., Guerin, G., Holland, M., Johnson, J., Lee, Y., Liu, C., Su, X., Teichert, B., Tomaru, H., Vanneste, M., Watanabe, M., and Weinberger, J., (2004). "Three-dimensional distribution of gas hydrate beneath southern Hydrate Ridge: constraints from ODP Leg 204," *Earth and Planetary Science Letters, Volume 222*, p.845-862.
- Trehu, A., Ruppel, C., Holland, M., Dickens, G., Torres, M., Collett, T., Goldberg, D., Riedel, M., and Schultheiss, P., (2006). "Gas Hydrates in marine sediments - lessons from ocean drilling," *Oceanography, V. 19, n. 4.*, pp. 124-142.
- Weinberger, J., Brown, K., and Long, P., (2005). "Painting a picture of gas hydrate distribution with thermal images," *Geophysical Research Letters, Vol. 32*, L04609, doi:10.1029/2004GL021437.

Other Publications

- Collett, T., Barr, S., Goldberg, D., and G. Guerin, (2003). "Downhole logging," in Trehu, A., G. Bormann, and R. Colwell, eds., *Initial Reports—Gas hydrate beneath the seafloor of Hydrate Ridge: Proceedings of the Ocean Drilling Program, Ocean Drilling Program, Texas A&M University, College Station, TX, Volume 204*.
- Riedel, M., Collett, T., Malone, M., and the IODP Expedition 311 Scientists, (2006). "Proceedings of the Integrated Ocean Drilling Program Expedition 311," *Cascadia Margin Gas Hydrates, IODP Management International, Inc., Texas A&M University*.
- Riedel, M., Collett, T., Malone, M., Akiba, F., Blanc-Valleron, M., Ellis, M., Guerin, G., Hashimoto, Y., Heuer, V., Higashi, Y., Holland, M., Jackson, P., Kaneko, M., Kastner, M., Kim, J., Kitajima, H., Long, P., Malinverno, A., Myers, G., Palekar, L., Pohlman, J., Schultheiss, P., Teichert, B., Torres, M., Tréhu, A., Wang, J., Wortmann, U., and Yoshioka, H., (2006). "Gas hydrate transect across northern Cascadia Margin," *Eos, Volume 87, N. 33*, pp. 325-332.
- Shipboard Scientific Party, (2005). "Integrated Ocean Drilling Program, Expedition 311 Preliminary Report," *Cascadia Margin Gas Hydrates*.
- Tréhu, A., Bohrmann, G., Rack, F., Torres, M., et al., (2003). "Initial Reports—Gas hydrate beneath the seafloor of Hydrate Ridge," *Proceedings of the Ocean Drilling Program, Ocean Drilling Program, Texas A&M University, College Station, TX, Volume 204*.
- Trehu, A., Torres, M., Bohrmann, G., and Colwell, F., (2006). "Leg 204 synthesis: Gas hydrate distribution and dynamics in the central Cascadia accretionary complex," in Trehu, A., M. Torres, G. Bohrmann, and Colwell, F., eds., *Proc. ODP, Sci. Results, Ocean Drilling Program, Texas A&M University, College Station, TX, Volume 204*.
- Winters, W., Waite, W., Mason, D., Gilbert, L., (2006). "Physical properties of repressurized sediment from Hydrate Ridge," in Tréhu, A., G. Bohrmann, M. Torres, Colwell, F., eds., *Proc. ODP, Sci. Results, 204: College Station, TX (Ocean Drilling Program), 1–19*, doi:10.2973/odp.proc.sr.204.119.2006, available online.

Presentations

- Cespedes, N., Trehu, A., and Torres, M., (2006). "Grain size variation of sediments from Expedition 311," *paper OS33B-1714 American Geophysical Union Fall Meeting, , San Francisco, CA, December 11-15*.
- Collett, T., Riedel, M., and Malone, M., (2006). "Gas Hydrate Research Coring and Downhole Logging Operational Protocol," *paper OS11E-02, American Geophysical Union Fall Meeting, San Francisco, CA, December 11-15*.
- Collett, T., Goldberg, D., Janik, A., and Guerin, G., (2004). "Occurrence of Gas Hydrate and Associated Free-Gas Accumulations on Hydrate Ridge, Offshore Oregon," *The American Association of Petroleum Geologists Annual Meeting, Dallas, TX, April 18-21*.
- Cook, A., and Goldberg, D., (2006). "Strength of Gas Hydrate-bearing Sediments from IODP Expedition 311, Cascadia Margin," *paper OS33B-1700 American Geophysical Union Fall Meeting, , San Francisco, CA, December 11-15*.

- Enkin, R., Baker, J., Esteban, L., Mullin, A., Paterson, B., Hamilton, T., and Riedel, M., (2006). "Magnetic Properties of Sediments from IODP Expedition 311 - Cascadia Margin Gas Hydrates: Records of Fossil Sulphate Methane Interface?," *paper OS33B-1692, American Geophysical Union Fall Meeting, San Francisco, CA, December 11-15.*
- Francis, T., (2004). "The HYACINTH Project - Pressurized Samples from the Seabed for Continental Margin Research," *The American Association of Petroleum Geologists Annual Meeting, Dallas, TX, April 18-21.*
- Goldberg, D., Guerin, G., Malinverno, A., Tagbor, K., and Alford, J., (2006). "Formation Vp Derived From LWD Sonic Data at IODP Sites U1325-U1329, *Cascadia Margin,*" *paper OS33B-1713, American Geophysical Union Fall Meeting, San Francisco, CA, December 11-15.*
- Guerin, G., and Goldberg, D., (2006). "Analysis of Multimode Acoustic Waveforms in Gas Hydrate Bearing Sediments, IODP Expedition 311, Cascadia Margin," *paper OS33B-1701, American Geophysical Union Fall Meeting, San Francisco, CA, , December 11-15.*
- Holland, M., Schultheiss, P., Roberts, J., and Druce, M., (2006). "Gas Hydrate-Sediment Morphologies Revealed by Pressure Core Analysis," *paper OS33B-1689, American Geophysical Union Fall Meeting, San Francisco, CA, December 11-15.*
- Lu, H., Moudrakovski, I., Schicks, J., Ripmeester, J., and Zhang, M., (2006). "The characteristics of gas hydrates recovered from Northern Cascadia margin by IODP Expedition 311," *paper OS11E-08, American Geophysical Union Fall Meeting, San Francisco, CA, December 11-15.*
- Lu, Z., (2006). "Iodine and bromine concentrations in pore waters from two gas hydrate fields: IODP 311 and ODP 204," *paper OS11E-07, American Geophysical Union Fall Meeting, San Francisco, CA, December 11-15.*
- Malinverno, A., Kastner, M., Torres, M., and Wortmann, U., (2006). "Gas Hydrate Saturations and Their Uncertainties From Chlorinity and Well Log Data at IODP Site U1325 (Exp. 311, Cascadia Margin)," *paper OS11E-04, American Geophysical Union Fall Meeting, San Francisco, CA, December 11-15.*
- Pasteris, J., (2003). "Development of In Situ, Real-Time Raman Analysis of Clathrate Hydrates on the Sea Floor," *Geological Society of America Annual Meeting, Seattle, WA, November 2-5.*
- Paulson, M., Merrill, J., Moran, K., Baxter, C., and Ressler, J., (2006). "Predicting Sediment Strength in Accretionary Complexes Using Geophysical Logs," *paper T21A-0388, American Geophysical Union Fall Meeting, San Francisco, CA, December 11-15.*
- Pinero, E., Martinez-Ruiz, F., Gracia, E., Larrasoana, J., and Danobeitia, J., (2006). "Gas Hydrates-bearing Sediments from Southern Hydrate Ridge (ODP Leg 204): Geochemical and Mineralogical Approach," *paper OS33B-1694, American Geophysical Union Fall Meeting, San Francisco, CA, December 11-15.*
- Pohlman, J., Kaneko, M., Heuer, V., Plummer, R., and Coffin, R., (2006). "Molecular and Isotopic Characterization of Gases from IODP Expedition 311: Source and Gas Hydrate Related Controls," *paper OS11E-06, American Geophysical Union Fall Meeting, San Francisco, CA, December 11-15.*

- Riedel, M., Collett, T., Malone, M., Hyndman, R., Willoughby, E., Spence, G., Chapman, R., Edwards, N., and Schwalenberg, K., (2006). "IODP Expedition 311 – A review of gas hydrate research on the Northern Cascadia Margin," *paper OS11E-01, American Geophysical Union Fall Meeting*, San Francisco, CA, December 11-15.
- Riedel, M., Collett, T., Malone, M., and Expedition 311 Scientific Party, (2005). "Integrated Ocean Drilling Program Expedition 311— Cascadia Margin Gas Hydrates," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 5-9.
- Riedel, M., Collett, T., Malone, M., and Expedition 311 Scientific Party, (2006). "Integrated Ocean Drilling Program Expedition 311—Cascadia Margin Gas Hydrates," *International Conference on Sediment-hosted gas hydrates: new insights on natural and synthetic systems, Geological Society of London*, January 25-26.
- Schicks, J., Ziemann, M., Naumann, R., and Erzinger, J., (2006). "Characterization of Gas Hydrate Samples from IODP 311 using High Resolution Raman Spectroscopy, X-ray Diffraction and Differential Scanning Calorimetry," *paper OS33B-1698, American Geophysical Union Fall Meeting*, San Francisco, CA, December 11-15.
- Stern, L., and Kirby, S., (2006). "Natural gas hydrate in sediments imaged by cryogenic SEM: Insights from lab experiments on synthetic hydrates as interpretive guides," *paper OS33B-1699, American Geophysical Union Fall Meeting*, San Francisco, CA, December 11-15.
- Teichert, B., Bohrmann, G., Gràcia, E., Johnson, J., Su, X., Weinberger, J., and ODP Leg 204 Shipboard Scientific Party, (2003). "Authigenic carbonates from Hydrate Ridge (ODP Leg 204), formation processes and evidence of fluid pathways," *EGS-AGU-EUG Joint Assembly*, Nice, France, April 6-11.
- Teichert, B., Bohrmann, G., Gràcia, E., Johnson, J., Su, X., Weinberger, J., and ODP Leg 204 Shipboard Scientific Party, (2003). "Authigenic carbonates from Hydrate Ridge (ODP Leg 204)," *IODP-ICDP*, Mainz, Germany, March 26-28.
- Teichert, B., Bohrmann, G., Torres, M., and Eisenhauer, A., (2004). "Fluid pathways influencing gas hydrate occurrence at Hydrate Ridge," *Euro-Forum for Scientific Earth Drilling*, Bremen, Germany, March 17-19.
- Teichert, B., Torres, M., Bohrmann, G., and Eisenhauer, A., (2005). "Fluid sources, fluid pathways and diagenetic reactions across an accretionary prism revealed by Sr and B geochemistry," *ICDP-IODP meeting*, Potsdam, Germany, March 14-16.
- Trehu, A., (2006). "Heat flow in the outer Cascadia accretionary complex from boreholes and BSRs," *OS33B-1715, American Geophysical Union Fall Meeting*, San Francisco, CA, December 11-15.
- Villinger, H., Heesemann, M., Fisher, A., Trehu, A., and Witte, S., (2006). "Deployment and Testing of the Third-generation Tool to Determine In Situ Temperatures While Piston Coring During Scientific Ocean Drilling," *OS31D-1664, American Geophysical Union Fall Meeting*, San Francisco, CA, December 11-15.
- Wang, J., (2006). "The Lithological Constraint to Gas Hydrate Formation: Evidence of Grain Size of Sediments from IODP 311 on Cascadia Margin," *OS33B-1708, American Geophysical Union Fall Meeting*, San Francisco, CA, December 11-15.

Xu, W., (2006). "The Role of Natural Gas Hydrates in Shaping the Global Continental Slopes,"
OS12C-07, American Geophysical Union Fall Meeting, San Francisco, CA, December 11-15.

Battelle Pacific Northwest Division, University of Alaska – Fairbanks

Peer-Reviewed Publications

- Bhangale, A., Zhu, T., McGrail, B., and White, M., (2006). "A model to predict hydrate equilibrium and hydrate saturation inside porous media including mixed CH₄-CO₂ hydrates," *paper SPE 99759, proceedings of the SPE-Improved Oil Recovery Symposium*.
- McGrail, B., Zhu, T., and Hunter, B., (2005). "New Method May Hold Promise for Gas Hydrate Production and Carbon Sequestration," *U. S. DOE-NETL Fire in the Ice Newsletter, Winter*.
- McGrail B. P., Ahmed, S., Schaefer, H. T., Owen, A. T., Martin, P. F., and Zhu, T., (2007). "Gas Hydrate Property Measurements in Porous Sediments with Resonant Ultrasound Spectroscopy," *Journal of Geophysical Research - Solid Earth 112(B05202)*.
- Phale H., Zhu, T., White, M., and McGrail, B., (2006). "Simulation Study on Injection of CO₂-microemulsion for Methane Recovery from Gas-Hydrate Reservoirs," *paper SPE 100541, proceedings of the SPE Gas Technology Symposium*.
- Zhu, T., McGrail, B., Kulkarni, A., White, M., Phale, H., Patil, S., and Ogbe, D., (2005). "Development of a Thermodynamic Model and Reservoir Simulator for the CH₄, CO₂, and CH₄-CO₂ Gas Hydrate System," *paper SPE 93976, proceedings of the AAPG/SPE Western Regional*.

Presentations

- Bhangale, A., Zhu, T., McGrail, B., and White, M., (2006). "A model to predict hydrate equilibrium and hydrate saturation inside porous media including mixed CH₄-CO₂ hydrates," *SPE-Improved Oil Recovery Symposium, Tulsa, OK, April 22-26*.
- McGrail, B., Schaefer, H., White, M., Owen, A., Zhu, T., and Hunter, R., (2005). "Enhanced Gas Hydrate Recovery with CO₂ Sequestration," *The American Association of Petroleum Geologists Annual Convention, Calgary, AB, June 20*.
- McGrail, B., Zhu, T., Hunter, R., White, M., Patil, S., and Kulkarni, A., (2004). "A New Method for Enhanced Production of Gas Hydrates with CO₂," *The American Association of Petroleum Geologists Hedberg Research Conference, Vancouver, BC, September 12-16*.
- White, M. D., and McGrail, B. P., (2008). "Designing a Pilot-Scale Experiment for the Production of Natural Gas Hydrates and Sequestration of CO₂ in Class 1 Hydrate Accumulations." In *Proceedings of the 9th International Conference on Greenhouse Gas Control Technologies, PNWD-SA-8374, Battelle - Pacific Northwest Division, Richland, WA*.
- Phale H., Zhu, T., White, M., and B. McGrail, (2006). "Simulation Study on Injection of CO₂-microemulsion for Methane Recovery from Gas-Hydrate Reservoirs," *SPE Gas Technology Symposium, Calgary, AB, May 15-18*.

- White, M., and McGrail, B., (2008). "Numerical Simulation of Methane Hydrate Production from Geologic Formations via Carbon Dioxide Injection," Special Session on Gas Production From Hydrates, 2008 Offshore Technology Conference, Houston, TX, May 5-8.
- Zhu, T., McGrail, B., Kulkarni, A., White, M., Phale, H., Patil, S., and Ogbe, D., (2005). "Development of a Thermodynamic Model and Reservoir Simulator for the CH₄, CO₂, and CH₄-CO₂ Gas Hydrate System," *AAPG/SPE Western Reg. Meeting*, Irvine, CA, March 30-April 1.

Seismic Gas Hydrate Quantification by Cumulative Attributes (DE-FC26-06NT42961)

Rock Solid Images

Government Reports

- Walls, J., (2007). "Seismic Gas Hydrate Quantification by Cumulative Attributes, *Quarterly Progress Report – April – June 2007*. DOE Award No.: DE-FC26-06NT42961, July 2007.
- Walls, J., (2010). "Seismic Gas Hydrate Quantification by Cumulative Attributes, *Final Project Report*. DOE Award No.: DE-FC26-06NT42961, June 2010.

Presentations

- Walls, J., (2006). "Hydrate Resource Identification and Characterization from Well Logs and 3D Seismic," *Hart Energy Publ. Methane Hydrates Conference*, Houston, TX, Dec. 5-6.

Petrophysical Characterization and Reservoir Simulator for Methane Gas Production from Gulf of Mexico Hydrates (DE-FC26-02NT41327)

Westport Technology Center International, University of Houston

Peer-Reviewed Publications

- Sun, X., and Mohanty, K., (2006)., "Kinetic Simulation of Methane Hydrate Formation and Dissociation in Porous Media," *Chem. Eng. Sci.*, 61, 3476-3495.

Presentations

- Sun, X., Mohanty, K., (2005). "Simulation of Methane Hydrate Reservoirs," *paper SPE 93015, SPE Reservoir Simulation Symposium*, Woodlands, TX, Jan. 31-Feb. 2.

Gas Hydrates Research Database and Web Dissemination Channel (DE-AI26-06NT42938)

National Institute of Standards and Technology (NIST)

Presentations

- Kroenlein, K., Löwner, R., Wang, W., Diky, V., Smith, T., Muzny, C. D., Chirico, R. D., Kazakov, A., Sloan, E. D., and Frenkel, M., (2008). "Standardization and Software Infrastructure for Gas Hydrate Data Communications," *Proc. 6th International Conference on Gas Hydrates*, Vancouver, Canada.

Characterization and Qualification of the Methane Hydrate Resource Potential Associated with the Barrow Gas Fields (DE-FC26-06NT42962)

North Slope Borough, University of Alaska - Fairbanks

Other Publications

Walsh, T., and Stokes, P., (2007). "Characterization and Quantification of the Methane Hydrate Resource Potential Associated with the Barrow Gas Fields," *U. S. DOE-NETL Fire in the Ice Newsletter, Spring/Summer 2007*.

Presentations

Walsh, T., MacRae, S., Stokes, P., Patil, S., and Singh, P., (2007). "Methane Hydrate Resource Potential Associated with the Barrow Gas Fields," *Arctic Energy Summit, Anchorage, AK, October 16*.

Walsh, T., Stokes, P., Panda, M., Morahan, T., Greet, D., MacRae, S., Singh, P., Patil, S., (2008). "Characterization and quantification of the methane hydrate resource potential associated with the Barrow Gas Field," *International Conference on Gas Hydrates, Vancouver, July 7-10*.

Structural and Stratigraphic Controls on Methane Hydrate Occurrence and Distribution: Gulf of Mexico, Walker Ridge 313 and Green Canyon 955 (DE-FE0009904)

Oklahoma State University

Government Reports

Jaiswal, P., (2013). "Structural and Stratigraphic Controls on Methane Hydrate Occurrence and Distribution: Gulf of Mexico, Walker Ridge 313 and Green Canyon 955," *Quarterly Research Performance Progress— Period Ending January 31, (2013)*. DOE Award No.: DE-FE0009904. February 2013.

Jaiswal, P., (2013). "Structural and Stratigraphic Controls on Methane Hydrate Occurrence and Distribution: Gulf of Mexico, Walker Ridge 313 and Green Canyon 955," *Quarterly Research Performance Progress— Period Ending April 30, (2013)*. DOE Award No.: DE-FE0009904. May 2013.

Jaiswal, P., (2013). "Structural and Stratigraphic Controls on Methane Hydrate Occurrence and Distribution: Gulf of Mexico, Walker Ridge 313 and Green Canyon 955," *Quarterly Research Performance Progress— Period Ending June 30, (2013)*. DOE Award No.: DE-FE0009904. August 2013.

Jaiswal, P., (2013). "Structural and Stratigraphic Controls on Methane Hydrate Occurrence and Distribution: Gulf of Mexico, Walker Ridge 313 and Green Canyon 955," *Quarterly Research Performance Progress— Period Ending September 30, (2013)*. DOE Award No.: DE-FE0009904.

Jaiswal, P., (2013). "Structural and Stratigraphic Controls on Methane Hydrate Occurrence and Distribution: Gulf of Mexico, Walker Ridge 313 and Green Canyon 955," *Quarterly Research Performance Progress – Period Ending December 31, (2013)*. DOE Award No.: DE-FE0009904.

Jaiswal, P., (2014). "Structural and Stratigraphic Controls on Methane Hydrate Occurrence and Distribution: Gulf of Mexico, Walker Ridge 313 and Green Canyon 955," *Quarterly Research Performance Progress – Period Ending September 30, (2014)*. DOE Award No.: DE-FE0009904. August 2013.

Development of a Scientific Plan for a Hydrate-Focused Marine Drilling, Logging and Coring Program (DE-FE0010195)

Consortium for Ocean Leadership

Government Reports

Myers, G., (2013). "Methane Hydrate Field Program," *Quarterly Research Performance Progress– Period Ending December 31, (2012)*. DOE Award No.: DE-FE0010195. January 2013.

Myers, G., (2013). "Methane Hydrate Field Program," *Quarterly Research Performance Progress– Period Ending March 31, (2013)*. DOE Award No.: DE-FE0010195. April 2013.

Myers, G., (2013). "Methane Hydrate Field Program," *Quarterly Research Performance Progress– Period Ending June 30, (2013)*. DOE Award No.: DE-FE0010195. July 2013.

Myers, G., (2013). "Methane Hydrate Field Program," *Quarterly Research Performance Progress – Period Ending September 30, (2013)*. DOE Award No.: DE-FE0010195. October 2013.

Myers, G., (2013). "Methane Hydrate Field Program," *Quarterly Research Performance Progress– Period Ending December 31, (2013)*. DOE Award No.: DE-FE0010195. January 2014.

Consortium for Ocean Leadership, (2013). "Methane Hydrate Community Workshop Report." Washington, D. C., June 4-6, http://oceanleadership.org/wp-content/uploads/2013/01/MH_Workshop_Rpt_Final.pdf.

Consortium for Ocean Leadership and the Methane Hydrate Project Science Team, (2013). "Marine Methane Hydrate Field Research Plan: *Topical Report*." DOE Award No.: DE-FE0010195. Washington, D. C., December 2013, http://oceanleadership.org/wp-content/uploads/2013/01/MH_Science_Plan_Final.pdf

A New Approach to Understanding the Occurrence and Volume of Natural Gas Hydrate in the Northern Gulf of Mexico Using Petroleum Industry Well Logs (DE-FE0009949)

Ohio State University

Peer-Reviewed Publications

- Cook, A. E., and Tost, B. C., (2014). "Geophysical signatures for low porosity can mimic natural gas hydrate: an example from Alaminos Canyon," *Journal of Geophysical Research*, 119, 7458-7472. doi: 10.1002/2014JB011342
- Cook, A. E., Goldberg, D., and Malinverno, A., (2014). "Natural gas hydrates occupying fractures: A focus on non-vent sites on the Indian continental margin and the northern Gulf of Mexico," *Marine and Petroleum Geology*, 58, 278-291. doi: 10.1016/j.marpetgeo.2014.04.013
- Majumdar, U, Cook, A., Ismail, S., Frye, M., and Shedd, W., (2014). "A new approach to determining the occurrence of natural gas hydrate in the northern Gulf of Mexico using petroleum industry well logs," *Proceedings of the 8th International Conference on Gas Hydrates*, Beijing, China. July 28-Aug 1, 2014.
- Majumdar, U, Cook, A., Shedd, W., and Frye, M., (2016). "The connection between natural gas hydrate and bottom simulating reflectors," *Geophysical Research Letters*.

Government Reports

- Cook, A., (2013). "A New Approach to Understanding the Occurrence and Volume of Natural Gas Hydrate in the Northern Gulf of Mexico Using Petroleum Industry Well Logs," *Quarterly Research Performance Progress Report— Period Ending December 31, 2012*," DOE Award No.: DE-FE0009949. January 2013.
- Cook, A. , (2013). "A New Approach to Understanding the Occurrence and Volume of Natural Gas Hydrate in the Northern Gulf of Mexico Using Petroleum Industry Well Logs," *Quarterly Research Performance Progress Report— Period Ending March 31, 2013*. DOE Award No.: DE-FE0009949. April 2013.
- Cook, A., (2013). "A New Approach to Understanding the Occurrence and Volume of Natural Gas Hydrate in the Northern Gulf of Mexico Using Petroleum Industry Well Logs," *Quarterly Research Performance Progress Report— Period Ending June 30, 2013*. DOE Award No.: DE-FE0009949. July 2013.
- Cook, A., (2013). "A New Approach to Understanding the Occurrence and Volume of Natural Gas Hydrate in the Northern Gulf of Mexico Using Petroleum Industry Well Logs," *Quarterly Research Performance Progress Report— Period Ending September 30, 2013*. DOE Award No.: DE-FE0009949. October 2013.
- Cook, A., (2014). "A New Approach to Understanding the Occurrence and Volume of Natural Gas Hydrate in the Northern Gulf of Mexico Using Petroleum Industry Well Logs," *Quarterly Research Performance Progress Report— Period Ending December 31, 2013*. DOE Award No.: DE-FE0009949. January 2014.

- Cook, A., (2014). "A New Approach to Understanding the Occurrence and Volume of Natural Gas Hydrate in the Northern Gulf of Mexico Using Petroleum Industry Well Logs," *Quarterly Research Performance Progress Report—Period Ending March 31, 2014*," DOE Award No.: DE-FE0009949. April 2014.
- Cook, A., (2014). "A New Approach to Understanding the Occurrence and Volume of Natural Gas Hydrate in the Northern Gulf of Mexico Using Petroleum Industry Well Logs," *Quarterly Research Performance Progress Report—Period Ending June 30, 2014*, Award No.: DE-FE0009949. July 2014.
- Cook, A., (2014). "A New Approach to Understanding the Occurrence and Volume of Natural Gas Hydrate in the Northern Gulf of Mexico Using Petroleum Industry Well Logs," *Quarterly Research Performance Progress Report-Period Ending September 30, 2014*. Award No.: DE-FE0009949. November 2014.
- Cook, A., (2016). "A New Approach to Understanding the Occurrence and Volume of Natural Gas Hydrate in the Northern Gulf of Mexico Using Petroleum Industry Well Logs," *Quarterly Research Performance Progress Report-Period Ending December 31, 2015*. Award No.: DE-FE0009949. January, 2016.
- Cook, A., (2016). "A New Approach to Understanding the Occurrence and Volume of Natural Gas Hydrate in the Northern Gulf of Mexico Using Petroleum Industry Well Logs," *Quarterly Research Performance Progress Report-Period Ending March 31, 2015*. Award No.: DE-FE0009949. April, 2016.
- Cook, A. and Majumdar, U., (2016). "A New Approach to Understanding the Occurrence and Volume of Natural Gas Hydrate in the Northern Gulf of Mexico Using Petroleum Industry Well Logs," *Final Report for DOE Award No.: DE-FE0009949*, prepared for United States Department of Energy and National Energy Technology Laboratory, 24 p.

Other Publications

- Tost, B. C. and Cook, A. E., (2013). Do gas hydrates occur in Alaminos Canyon, Gulf of Mexico? *Unconventional Resources Technology Conference*, SPE-168887-MS, Denver Colorado, August 12-14, 2013.
- Tost, B. C., (2013). "Low porosity mistaken for natural gas hydrate at Alaminos Canyon, Gulf of Mexico: Implications for gas hydrate exploration in marine sediment reservoirs," Masters Thesis. Ohio State University.

Presentations

- Burchwell, A. and Cook, A., (2015). "Nuclear well log properties of natural gas hydrate reservoirs," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 14-19.
- Cook A. and Tost, B., (2014). "Geophysical signatures for low porosity sand can mimic natural gas hydrate," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 15-19.

Majumdar, U. and Cook, A., (2015). "A new approach to determine the occurrences and distribution of natural gas hydrates in the northern Gulf of Mexico using existing petroleum industry well logs," *Eighteenth Annual AAPG/SEG Student Expo.*, September 22-23.

Majumdar, U., Shedd, W., Cook, A., and Frye, M., (2015). "The role of bottom simulating reflectors in gas hydrate assessment," *American Geophysical Meeting Fall Meeting*, San Francisco, CA, December 14-18.

Tost, B. A., and Cook, A. E., (2013). "Do gas hydrates occur in Alaminos Canyon, Gulf of Mexico?" *Unconventional Resources Technology Conference*, Denver, CO, August 12-14.

Gas Hydrate Dynamics on the Alaskan Beaufort Continental Slope: Modeling and Field Characterization (DE-FE0010180)

Southern Methodist University, Oregon State University, U. S. Geological Survey

Peer-Reviewed Publications

Phrampus, B., Hornbach, M., Ruppel, C., and Hart, P., (2014). Widespread gas hydrate instability on the upper U. S. Beaufort margin. *J. Geophys. Res.*, v. 119, doi:10.1002/2014JB011290

Government Reports

Hornbach, M. J., (2013). "Gas Hydrate Dynamics on the Alaskan Beaufort Continental Slope: Modeling and Field Characterization," Quarterly Progress Report, October-December, (2012). Southern Methodist University, DOE Award No.: DE-FE0010180, January 2013.

Hornbach, M. J., (2013). "Gas Hydrate Dynamics on the Alaskan Beaufort Continental Slope: Modeling and Field Characterization," Quarterly Progress Report, January-March, (2013). Southern Methodist University, DOE Award No.: DE-FE0010180, May 2013.

Hornbach, M. J., (2013). "Gas Hydrate Dynamics on the Alaskan Beaufort Continental Slope: Modeling and Field Characterization," Quarterly Progress Report, April-June, (2013). Southern Methodist University, DOE Award No.: DE-FE0010180, August 2013.

Hornbach, M. J., (2013). "Gas Hydrate Dynamics on the Alaskan Beaufort Continental Slope: Modeling and Field Characterization," Quarterly Progress Report, July-September, (2013). Southern Methodist University, DOE Award No.: DE-FE0010180, November 2013.

Hornbach, M. J., (2016). "Gas Hydrate Dynamics on the Alaskan Beaufort Continental Slope: Modeling and Field Characterization," Quarterly Progress Report, October-December, (2015). Southern Methodist University, DOE Award No.: DE-FE0010180, January 2016.

Hornbach, M. J., (2016). "Gas Hydrate Dynamics on the Alaskan Beaufort Continental Slope: Modeling and Field Characterization," Quarterly Progress Report, January-March, (2016). Southern Methodist University, DOE Award No.: DE-FE0010180, May 2016.

Hornbach, M. J., (2016). "Gas Hydrate Dynamics on the Alaskan Beaufort Continental Slope: Modeling and Field Characterization," Quarterly Progress Report, April-June, (2016). Southern Methodist University, DOE Award No.: DE-FE0010180, July 2016.

Hornbach, M. J., (2016). "Gas Hydrate Dynamics on the Alaskan Beaufort Continental Slope: Modeling and Field Characterization," Quarterly Progress Report, July-September, (2016). Southern Methodist University, DOE Award No.: DE-FE0010180, October 2016.

Presentations

- Hornbach, M. J., (2016). "Methane Hydrates and Slope Failure on the U. S. East Coast: After 40 Years, What Have We Learned and What's Next?" *Gordon Research Conference*, Galveston, TX, March 29th.
- Hornbach, M. J., Phrampus, B. J., Ruppel, C. D., and Hart, P. E., (2012). "The role of ocean circulation on methane hydrate stability and margin evolution," *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 3-7.
- Phrampus, J. and Hornbach, M., (2012). "Recent changes to the Gulf Stream causing widespread gas hydrate destabilization," *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 3-7.
- Ruppel, C. D., Hart, P. E., Moore, E., Worley, C., and Brothers, L., (2012). "Mapping subsea permafrost, relict methane hydrate, and gas migration: New cross-shelf multichannel seismic surveys on the central US Beaufort Shelf," *The American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 3-7.
- Phrampus, J., Hornbach, M., Ruppel, C., and Hart, P., (2013). "Alaskan Beaufort Sea heat flow and ocean temperature analysis: Stability of climate-sensitive continental slope gas hydrates," *The American Geophysical Union Fall Meeting* San Francisco, CA, Dec. 9-13.

Application of Crunch-Flow Routines to Constrain Present and Past Carbon Fluxes at Gas-Hydrate Bearing Sites (DE-FE0010496) and Assessing the Response of Methane Hydrates to Environmental Change at the Svalbard Continental Margin (DE-FE0013531)

Oregon State University

Peer-Reviewed Publications

- Hong, W. L., Torres, M. E., Kim, J.-H., Choi, J., and Bahk, J.-J., (2013). "Carbon cycling within the sulfate-methane-transition-zone in marine sediments from the Ulleung Basin," *Biogeochemistry*, pp. 1-20.
- Hong, W. L., Torres, M. E., Kim, J.-H., Choi, J., and Bahk, J.-J., (2014). "Towards quantifying the reaction network around sulfate-methane-1 transition-zone in the Ulleung Basin, East Sea, with a kinetic modeling approach," *Geochimica Cosmochimica Acta*, v. 140, pp. 127-141.
- Hong, W. L., Torres, M. E., Johnson, J., Verba, C., and Phillips, S., (2015). "Source and diagenetic impact of methane at southern Hydrate Ridge over the past 120 ky," *Earth and Planetary Science Letters*.

Government Reports

- Torres, M., (2016). "Assessing the response of methane hydrates to environmental change at the Svalbard continental margin," *DOE Award No.: DE-FE0013531, Quarterly Progress Report (Jan-March, 2016)*, April 2016.
- Torres, M., (2016). "Assessing the response of methane hydrates to environmental change at the Svalbard continental margin," *DOE Award No.: DE-FE0013531, Quarterly Progress Report (Oct-Dec, 2015)*, January 2016.
- Torres, M., (2015). "Assessing the response of methane hydrates to environmental change at the Svalbard continental margin," *DOE Award No.: DE-FE0013531, Quarterly Progress Report (July-Sept., 2015)*, October 2015.
- Torres, M., (2015). "Assessing the response of methane hydrates to environmental change at the Svalbard continental margin," *DOE Award No.: DE-FE0013531, Quarterly Progress Report (January-March., 2015)*, April 2015.
- Torres, M., (2015). "Assessing the response of methane hydrates to environmental change at the Svalbard continental margin," *DOE Award No.: DE-FE0013531, Quarterly Progress Report (Oct.-Dec., 2014)*, January 2015.
- Torres, M., (2014). "Assessing the response of methane hydrates to environmental change at the Svalbard continental margin," *DOE Award No.: DE-FE0013531, Quarterly Progress Report (July.-Sept., 2014)*, October 2014.

- Torres, M., (2014). "Assessing the response of methane hydrates to environmental change at the Svalbard continental margin," *DOE Award No.: DE-FE0013531, Quarterly Progress Report (April.-June., 2014)*, July 2014.
- Torres, M., (2014). "Assessing the response of methane hydrates to environmental change at the Svalbard continental margin," *DOE Award No.: DE-FE0013531, Quarterly Progress Report (Jan.-March., 2014)*, April 2014.
- Torres, M., (2014). "Assessing the response of methane hydrates to environmental change at the Svalbard continental margin," *DOE Award No.: DE-FE0013531, Quarterly Progress Report (January., 2014)*, February 2014.
- Torres, M., (2014). "Assessing the response of methane hydrates to environmental change at the Svalbard continental margin," *DOE Award No.: DE-FE0013531, Quarterly Progress Report (Oct.-Dec., 2013)*, January 2014.
- Torres, M., (2013). "Application of Crunch-Flow Routines to Constrain Present and Past Carbon Fluxes at Gas-Hydrate Bearing Sites," *DOE Award No.: DE-FE0010496, Quarterly Progress Report (October-December, 2012)*, February 2013.
- Torres, M., (2013). "Application of Crunch-Flow Routines to Constrain Present and Past Carbon Fluxes at Gas-Hydrate Bearing Sites," *DOE Award No.: DE-FE0010496, Quarterly Progress Report (January-March, 2013)*, March 2013.
- Torres, M., (2013). "Application of Crunch-Flow Routines to Constrain Present and Past Carbon Fluxes at Gas-Hydrate Bearing Sites," *DOE Award No.: DE-FE0010496, Quarterly Progress Report (April-June, 2013)*, June 2013.
- Torres, M., (2013). "Application of Crunch-Flow Routines to Constrain Present and Past Carbon Fluxes at Gas-Hydrate Bearing Sites," *DOE Award No.: DE-FE0010496, Quarterly Progress Report (July-September, 2013)*, October 2013.

Presentations

- Torres, M. E., (2013). "Methane hydrate role in the global carbon cycle," *G. Bohrmann Research Group Meetings*, University of Bremen, May 2013.
- Torres, M. E., Kim, J-H, and Bahk, J. J., (2013). "Methane sources, transport and sinks in the gas hydrate bearing sediments of the Ulleung Basin, Korea. Invited lecture, Geomar, Kiel Germany, June 2013.
- Torres, M. E., Kim, J.-H., and Bahk, J. J., (2013). "Methane sources, transport and sinks in the gas hydrate bearing sediments of the Ulleung Basin, Korea," Eugene, OR, October 2013.
- Hong, W., Torres, M., et al, (2016). "Methane discharges from Arctic gas hydrates: warming or natural ventilation? (poster)," *The Gordon Conference on Gas Hydrate*, Galveston, TX, March 2016.
- Klasek, S., Yu, T., Liang, L., Torres, M., et al, (2016). "Temporal dynamics of communities that anaerobically oxidize methane in response to short-term changes in methane partial pressures (poster)," *The Gordon Conference on Gas Hydrate*, Galveston, TX, March 2016.
- Mau, S., Romer, M., Torres, M., et al, (2016). "Methane Seepage along the Continental Margin off Svalbard - from Bjørnøya to Kongsfjorden, (poster)" *EGU General Assembly*, Vienna, Austria, April 17–22.

Verification of Capillary Pressure Functions and Relative Permeability Equations for Gas Production (DE-FE0009927)

Wayne State University

Peer Reviewed Publications

- Mahabadi, N., Zheng, X., and Jang, J. (2016). "The effect of hydrate saturation on water retention curves in hydrate-bearing sediments," *Geophysical Research Letters*, 43, doi: 10.1002/2016GL068656.
- Mahabadi, N. and Jang, J. (2014), "Relative water and gas permeability for gas production from hydrate-bearing sediments," *Geochemistry Geophysics Geosystems*, 15, 2346-2353.

Government Reports

- Jang, J., (2012). "Verification of Capillary Pressure Functions and Relative Permeability Equations for Gas Production." *Quarterly Progress Report, October 2012 - December 2012*, Wayne State University, DOE Award No.: DE-FE0009927. January 2013.
- Jang, J., (2013). "Verification of Capillary Pressure Functions and Relative Permeability Equations for Gas Production." *Quarterly Progress Report, January 2013 - March 2013*, Wayne State University, DOE Award No.: DE-FE0009927. April 2013.
- Jang, J., (2013). "Verification of Capillary Pressure Functions and Relative Permeability Equations for Gas Production." *Quarterly Progress Report, March 2013 - June 2013*, Wayne State University, DOE Award No.: DE-FE0009927. July 2013.

Presentations

- Mahabadi, N., Zheng, X., and Jang, J. (2016), "Soil water characteristic curve (SWCC) in hydrate-bearing sediments," *US-Korea Conference on Science, Technology and Entrepreneurship (UKC 2016)*, Dallas, TX, Aug. 10-13.
- Mahabadi, N., Zheng, X. and Jang, J. (2016). "Water retention curve in THF hydrate-bearing sediments," *Gordon Research Conference – Natural Gas Hydrate Systems*, Galveston, TX, Feb. 28-Mar. 4.
- Mahabadi, N., Zheng, X., Dai, S., Seol, Y., Zapata, C. E., Yun, T.-S., and Jang, J. (2015). "Water retention curves in THF hydrate-bearing sediments – Experimental measurement and pore-scale simulation," *American Geophysical Union meeting*, San Francisco, CA, Dec. 14-18.
- Mahabadi, N., Dai, S., Seol, Y. and Jang, J. (2014). "Water Retention Curve and Relative Permeability for Gas Production from Hydrate-Bearing Sediments," *American Geophysical Union meeting*, San Francisco, CA, Dec. 15-19.

Mahabadi, N. and Jang, J. (2013). "Verification of relative permeability equations for gas production from hydrate-bearing sediments," *American Geophysical Union meeting*, San Francisco, CA, Dec. 9-13.

Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments (DE-FE0009963)

Colorado School of Mines, Geophysics Department

Government Reports

- Batzle, M., (2013). "Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments" *DOE Award No.: DE-FE0009963, Quarterly Research Performance Progress Report (Period ending 12/31/2012)*, January 2013.
- Batzle, M., (2013). "Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments" *DOE Award No.: DE-FE0009963, Quarterly Research Performance Progress Report (Period ending 3/31/2013)*, April 2013.
- Batzle, M., (2013). "Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments" *DOE Award No.: DE-FE0009963, Quarterly Research Performance Progress Report (Period ending 6/30/2013)*, July 2013.
- Batzle, M., (2014). "Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments" *DOE Award No.: DE-FE0009963, Quarterly Research Performance Progress Report (Period ending 9/30/2013)*, July 2014.
- Batzle, M., (2014). "Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments" *DOE Award No.: DE-FE0009963, Quarterly Research Performance Progress Report (Period ending 12/31/2013)*, July 2014.
- Batzle, M., (2014). "Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments" *DOE Award No.: DE-FE0009963, Quarterly Research Performance Progress Report (Period ending 3/31/2014)*, July 2014.
- Batzle, M., (2014). "Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments" *DOE Award No.: DE-FE0009963, Quarterly Research Performance Progress Report (Period ending 6/30/2014)*, August 2014.
- Batzle, M., (2014). "Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments" *DOE Award No.: DE-FE0009963, Quarterly Research Performance Progress Report (Period ending 9/30/2014)*, August 2014.
- Batzle, M., (2014). "Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments" *DOE Award No.: DE-FE0009963, Quarterly Research Performance Progress Report (Period ending 12/31/2014)*, January 2015.

Prasad, M., (2016). "Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments" DOE Award No.: DE-FE0009963, Quarterly Research Performance Progress Report (Period ending 12/31/2015), January 2016.

Prasad, M., (2016). "Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments" DOE Award No.: DE-FE0009963, Quarterly Research Performance Progress Report (Period ending 3/31/2016), April 2016.

Prasad, M., (2016). "Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments" DOE Award No.: DE-FE0009963, Quarterly Research Performance Progress Report (Period ending 6/30/2016), July 2016.

Prasad, M., (2016). "Measurement and Interpretation of Seismic Velocities and Attenuations in Hydrate-Bearing Sediments" DOE Award No.: DE-FE0009963, Quarterly Research Performance Progress Report (Period ending 9/30/2016), October 2016.

Other Publications

Schindler, M., Batzle, M., Prasad, M., (2015). "Pore-Scale Imaging of Tetrahydrofuran-Hydrate Bearing Porous Media," *Society of Exploration Geophysicists (SEG), Expanded Abstracts*, pp. 3140-3145.

Presentations

Pohl, Mathias, Rydzy, Marisa, and Batzle, Mike, Colorado School of Mines, (2013). "Investigating the Influence of Clay Content on Ultrasonic Velocities in THF-bearing sediments" *The 2nd International Workshop on Rock Physics*, South Hampton, UK.

Rydzy, M, Batzle, M., Hester, K., Howard, J., and Stevens, J., (2013). "Effect of initial water saturation on the elastic properties of hydrate-bearing sediment," *The Unconventional Resources Technology Conference*, Denver, CO, Aug. 12-14.

Schindler, M., Batzle, M., and Prasad, M., (2015). "Pore-scale imaging of tetrahydrofuran-hydrate bearing porous media." *Presented at Annual SEG Conference*, New Orleans, LA.

THCM Coupled Model for Hydrate-Bearing Sediments: Data Analysis and Design of New Field Experiments (Marine and Permafrost Settings) (DE-FE0013889)

Texas A&M University

Peer-Reviewed Publications

Chong, S.H. and Santamarina, J.C., (2016). "Soil Compressibility Models for Wide Stress Range." *Journal of Geotechnical and Geoenvironmental Engineering, ASCE*, v. 142, n. 6.

- Gai, X. and Sánchez, M., (2016). Mechanical Modeling of Gas Hydrate Bearing Sediments Using an Elasto-Plastic Framework. In Wuttke, F., Bauer, S., and Sánchez, M., Editors: *Environmental Geotechnics*, pp. 19-24.
- McCartney, J., Sánchez, M., and Tomac, I., (2016). "Energy Geotechnics: Advances in Subsurface Energy Recovery, Storage, Exchange, and Waste Management." *Computers and Geotechnics*, v. 75, pp. 244–256, May 2016. doi:10.1016/j.compgeo.2016.01.002.
- Sánchez, M., Flacao, F., Mack, M., Pereira, J-M., Narsilio, G., and Guimaraes, L., 2016. "Salient Comments and Discussions from a Geo-Energy Panel." *Environmental Geotechnics*. doi: 10.1680/jenge.16.00008.
- Sánchez, M., Gai, X., and Santamarina, J.C., (2017). "A Constitutive Mechanical Model for Gas Hydrate Bearing Sediments Incorporating Inelastic Mechanisms." *Computers and Geotechnics*, v. 84, pp. 28-46. doi:10.1016/j.compgeo.2016.11.012.
- Shin, H. and Santamarina, J.C., (2016). "Sediment-well interaction during depressurization." *Acta Geotechnica*, doi:10.1007/s11440-016-0493.

Government Reports

- Sánchez, M., and Santamarina, J. C., (2014). "THCM Coupled Model for Hydrate-Bearing Sediments: Data Analysis and Design of New Field Experiments (Marine and Permafrost Settings)," *Quarterly Research Performance Progress Report (Period Ending 12/31/2013)*. DOE Award No.: DE-FE0013889, July 2013.
- Sánchez, M., and Santamarina, J. C., (2014). "THCM Coupled Model for Hydrate-Bearing Sediments: Data Analysis and Design of New Field Experiments (Marine and Permafrost Settings)," *Quarterly Research Performance Progress Report (Period Ending 3/31/2014)*. DOE Award No.: DE-FE0013889, April 2014.
- Sánchez, M., and Santamarina, J. C., (2014). "THCM Coupled Model for Hydrate-Bearing Sediments: Data Analysis and Design of New Field Experiments (Marine and Permafrost Settings)," *Quarterly Research Performance Progress Report (Period Ending 6/30/2014)*. DOE Award No.: DE-FE0013889, August 2014.
- Sánchez, M., and Santamarina, J. C., (2014). "THCM Coupled Model for Hydrate-Bearing Sediments: Data Analysis and Design of New Field Experiments (Marine and Permafrost Settings)," *Quarterly Research Performance Progress Report (Period Ending 9/30/2014)*. DOE Award No.: DE-FE0013889, November 2014.
- Sánchez, M., and Santamarina, J. C., (2015). "THCM Coupled Model for Hydrate-Bearing Sediments: Data Analysis and Design of New Field Experiments (Marine and Permafrost Settings)," *Quarterly Research Performance Progress Report (Period Ending 12/31/2014)*. DOE Award No.: DE-FE0013889, February 2015.
- Sánchez, M., and Santamarina, J. C., (2015). "THCM Coupled Model for Hydrate-Bearing Sediments: Data Analysis and Design of New Field Experiments (Marine and Permafrost Settings)," *Quarterly Research Performance Progress Report (Period Ending 03/31/2015)*. DOE Award No.: DE-FE0013889, May 2015.

- Sánchez, M., (2015). "THCM Coupled Model for Hydrate-Bearing Sediments: Data Analysis and Design of New Field Experiments (Marine and Permafrost Settings)," *Quarterly Research Performance Progress Report (Period Ending 06/30/2015)*. DOE Award No.: DE-FE0013889, August 2015.
- Sánchez, M., (2015). "THCM Coupled Model for Hydrate-Bearing Sediments: Data Analysis and Design of New Field Experiments (Marine and Permafrost Settings)," *Quarterly Research Performance Progress Report (Period Ending 09/30/2015)*. DOE Award No.: DE-FE0013889, November 2015.
- Sánchez, M., (2016). "THCM Coupled Model for Hydrate-Bearing Sediments: Data Analysis and Design of New Field Experiments (Marine and Permafrost Settings)," *Quarterly Research Performance Progress Report (Period Ending 01/31/2016)*. DOE Award No.: DE-FE0013889, February 2016.
- Sánchez, M., (2016). "THCM Coupled Model for Hydrate-Bearing Sediments: Data Analysis and Design of New Field Experiments (Marine and Permafrost Settings)," *Quarterly Research Performance Progress Report (Period Ending 03/31/2016)*. DOE Award No.: DE-FE0013889, April 2016.
- Sánchez, M., (2016). "THCM Coupled Model for Hydrate-Bearing Sediments: Data Analysis and Design of New Field Experiments (Marine and Permafrost Settings)," *Quarterly Research Performance Progress Report (Period Ending 06/30/2016)*. DOE Award No.: DE-FE0013889, July 2016.
- Sánchez, M. and Santamarina, J.C., (2017). "THCM Coupled Model for Hydrate-Bearing Sediments: Data Analysis and Design of New Field Experiments (Marine and Permafrost Settings)," *Final Scientific and Technical Report (Project Period October 1, 2013-September 30, 2016)*. DOE Award No.: DE-FE0013889, February 2017.

Other Publications

- Sánchez, M., Santamarina, J.C., Gai, X., Teymouri, M., and Shastri, A., (2016). "Coupled Thermo-Hydro-Chemo-Mechanical (THCM) Models for Hydrate-Bearing Sediments." *Fire in the Ice*, v. 16, n. 1, pp. 12-17.

Presentations

- Gai, X. and Sánchez, M., (2015). "Mechanical Modeling of Gas Hydrate Bearing Sediments Using an Elasto-Plastic Framework." *15th Pan-American Conference on Soil Mechanics and Geotechnical Engineering*, Buenos Aires, Argentina, November 15-18.
- Gai, X. and Sánchez, M., (2015). "Geomechanical Modeling of Gas Hydrate Bearing Sediments." *American Geophysical Union, 2015 Fall Meeting*, December, 2015, San Francisco, CA.

- Sánchez, M., Santamarina, J.C., Shastri, A., and Gai, X., (2014). Numerical THCM Modeling of HBS Using a Truly Coupled Approach. Gordon Research Conference on Natural Gas Hydrate Systems, March 2014, Galveston, TX.
- Sánchez, M., Santamarina, J. C., Shastri, A., and Gai, X., (2014). "Coupled Modeling of Gas Hydrate-Bearing Sediments," *14th IACMAG (International Association for Computer Methods & Advances in Geomechanics)*, Kyoto, Japan, September 22-25.
- Sánchez, M., Gai, X., Shastri, A., and Santamarina, J.C., (2014). "Coupled THCM Modeling of Gas Hydrate Bearing Sediments. American Geophysical Union, 2014 Fall Meeting, December 2014, San Francisco, CA.
- Sánchez, M., Santamarina, J. C., Shastri, A., and Gai, X., (2015). "Numerical Modeling of Gas Hydrate Bearing Sediments." *the 16th ECSMGE (European Conference on Soil Mechanics and Geotechnical Engineering)*, Edinburgh, UK, September 13-17.
- Sánchez, M., Gai, X., Santamarina, J. C., and Teymouri, M., (2015). "Numerical and Constitutive Modeling of Gas Hydrate Bearing Sediments." *First International Conference on Geo-Energy and Geo-Environment*, Hong Kong, December 4-5.
- Sánchez, M. and Gai, X., (2016). "Geomechanical and numerical modeling of gas hydrate sediments," *1st International Conference on Energy Geotechnics (ICEGT 2016)*, Kiel, Germany, August 29-31.
- Sánchez, M. and Gai, X., (2016). "Behavior of Hydrates Bearing Sediments," *1st International Conference on Energy Geotechnics*, Kiel, Germany, Aug. 29-31.
- Santamarina, J.C., (2014). "Pressure Core Technology," American Geophysical Union, 2014 Fall Meeting, December 2014, San Francisco, CA.
- Santamarina, J.C., (2015). "Methane Hydrates," International Symposium on Energy Geotechnics, June 2015, Barcelona, Spain.
- Santamarina, J.C., (2016). "The Energy Tera Problem: Needed Geo-centered Solutions," Keynote Lecture, *1st International Conference on Energy Geotechnics*, Kiel, Germany, Aug. 29-31.

Controls on Methane Expulsion During Melting of Natural Gas Hydrate Systems (DE-FE0010406)

University of Texas at Austin

Government Reports

- Flemings, P. B., (2013). "Controls on Methane Expulsion During Melting of Natural Gas Hydrate Systems: Topic Area 2," *Quarterly Research Performance Progress Report (Period Ending 12/31/2012)*. DOE Award No.: DE-FE0010406, January 2013.
- Flemings, P. B., (2014). "Controls on Methane Expulsion During Melting of Natural Gas Hydrate Systems: Topic Area 2," *Phase 1 Report*. DOE Award No.: DE-FE0010406, March 2014.
- Flemings, P. B., (2016). "Controls on Methane Expulsion During Melting of Natural Gas Hydrate Systems: Topic Area 2," *Phase 2 Report*. DOE Award No.: DE-FE0010406, January 2016.
- Flemings, P. B., (2016). "Controls on Methane Expulsion During Melting of Natural Gas Hydrate Systems: Topic Area 2," *Final Scientific Report*. DOE Award No.: DE-FE0010406, February 2016.

Presentations

- Meyer, D., and Flemings, P. B., (2013). "In situ gas hydrate saturation and salinity of hydrate-bearing sediments through well log analysis (Poster)," *Society of Petrophysicists and Well Log Analysts Conference*, New Orleans, LA, June 22-26.

Fate of Methane Emitted From Dissociating Marine Hydrates: Modeling, Laboratory, and Field Constraints (DE-FE0013999)

Massachusetts Institute of Technology

Peer-Reviewed Publications

- Brothers, D. S., Ruppel, C., Kluesner, J. W., ten Brink, U. S., Chaytor, J. D., Hill, J. C., Andrews, B. D. and Flores, C., (2014). "Seabed uid expulsion along upper slope and outer shelf of the U. S. Atlantic continental margin," *Geophys. Res. Lett.*, doi: 10.1002/2013GL058048.
- Cueto-Felgueroso, L., and Juanes, R., (2014). "A phase-field model of two-phase Hele-Shaw flow," *Journal of Fluid Mechanics*, v. 758, pp. 522-552.
- Pahlavan, A. A., Cueto-Felgueroso, L., McKinley, G. H., and Juanes, R., (2015). "Thin films in partial wetting: internal selection of contact-line dynamics," *Physical Review Letters*, 115, 034502 (2015), doi:10.1103/PhysRevLett.115.034502.
- Scandella, B. P., Pillsbury, L., Weber, T., Ruppel, C., Hemond, H. F., Juanes, R., (2016). "Ephemerality of discrete methane vents in lake sediments," *Geophysical Research Letters*, 43, doi:10.1002/2016GL068668 (2016).

- Skarke, A., Ruppel, C., Kodis, M., Brothers, D., and Lobecker, E., (2014). "Widespread methane leakage from the seafloor on the northern US Atlantic margin," *Nature Geoscience*, v. 7, pp. 657-661, doi:10.1038/ngeo2232.
- Weber, T., Mayer, L., Jerram, K., Beaudoin, J., Rzhano, Y. and Lovalvo, D., (2014). "Acoustic estimates of methane gas flux from the seabed in a 6000 km² region in the Northern Gulf of Mexico," *Geochemistry, Geophysics, Geosystems*. 15(5): 1911-1925 (2014), doi:10.1002/2014GC005271.

Government Reports

- Juanes, R., (2014). "Fate of Methane Emitted From Dissociating Marine Hydrates: Modeling, Laboratory, and Field Constraints," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2013). DOE Award No.: DE-FE0013999. January 2014.
- Juanes, R., (2014). "Fate of Methane Emitted From Dissociating Marine Hydrates: Modeling, Laboratory, and Field Constraints," *Quarterly Research Performance Progress Report* (Period Ending 3/30/2014). DOE Award No.: DE-FE0013999. May 2014.
- Juanes, R., (2014). "Fate of Methane Emitted From Dissociating Marine Hydrates: Modeling, Laboratory, and Field Constraints," *Quarterly Research Performance Progress Report* (Period Ending 6/30/2014). DOE Award No.: DE-FE0013999. August 2014.
- Juanes, R., (2014). "Fate of Methane Emitted From Dissociating Marine Hydrates: Modeling, Laboratory, and Field Constraints," *Quarterly Research Performance Progress Report* (Period Ending 9/30/2014). DOE Award No.: DE-FE0013999. November 2014.
- Juanes, R., (2016). "Fate of Methane Emitted From Dissociating Marine Hydrates: Modeling, Laboratory, and Field Constraints," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2015). DOE Award No.: DE-FE0013999. January 2016.

Presentations

- Brothers, D. S., Ruppel, C. D., Kluesner, J. W., Chaytor, J. D., ten Brink, U. S., and Hill, J. C., (2013). "Pervasive evidence for seabed fluid expulsion on the U. S. Atlantic continental margin," *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 9-13.
- Kodis, M., Skarke, A., Ruppel, C., Weber, T., Lobecker, E., and Malik, M., (2013). "U. S. Atlantic margin methane plumes identified from water column backscatter data acquired by NOAA ship Okeanos Explorer," *American Geophysical Union Fall Meeting*, San Francisco, CA Dec. 9-13.
- Ruppel, Weber, Kessler, Pohlman, and Skarke. "Methane hydrate dissociation and gas seepage on global upper continental slopes driven by intermediate ocean warming," *EOS Trans. AGU, OS11C-01, AGU Fall Meeting*.
- Ruppel, Skarke, Kodis, and D. Brothers, (2014). "Hundreds of seeps on the northern US Atlantic margin: Evidence for warming-induced gas hydrate breakdown," *US Geological Survey*, Santa Cruz, June 2014.
- Ruppel, Skarke, Kodis, D. Brothers, and Lobecker, (2014). "Methane seepage at 600 newly-discovered sites between Cape Hatteras and Georges Bank," *URI Graduate School of Oceanography weekly seminar series*, October 2014.

- Scandella, Urban, Delwiche, Greinert, Hemond, Ruppel, and Juanes, (2013) "Quantifying methane ux from lake sediments using multibeam sonar," *EOS Trans AGU, B53B-0456, Fall Meeting*.
- Scandella, B. P., Pillsbury, Liam, Weber, Thomas, Ruppel, Carolyn D., Hemond, Harry, Juanes, Ruben, (2014). "Quantitative spatiotemporal characterization of methane venting from lake sediments," *EOS Trans. AGU B13D-0208, AGU Fall Meeting, 2014*.
- Scandella, B. P., Pillsbury, Liam, Weber, Thomas, Ruppel, Carolyn D., Hemond, Harry, Juanes, Ruben, (2015). "Spatiotemporal signature of methane venting from lake sediments: from lab to _eld scale," *EOS Trans. AGU B51F-0485, AGU Fall Meeting, 2015*.
- Skarke, A., Ruppel, Kodis, Lobecker, and Malik, (2013). "Geological signi_cance of newly discovered methane seeps on the northern US Atlantic margin (poster)," *EOS Trans. AGU, OS21A-1613, AGU Fall Meeting*.
- Xiaojing Fu, Cueto-Felgueroso, Luis, Waite, William F., Ruppel, Carolyn D., Juanes., Ruben, (2014). "Phase-Field Approach to Modeling Hydrate Formation on Methane Gas Bubbles in a Water Column," *EOS Trans. AGU OS21B-1119A, AGU Fall Meeting*.
- Xiaojing Fu, Cueto-Felgueroso, Luis, Ruben, Juanes (2015). "Viscous fingering with partially miscible uids," *EOS Trans. AGU H41D-1356, AGU Fall Meeting*.

Hydrate Evolution in Response to Ongoing Environmental Shifts (DE-FE0013565)

University of Oregon

Government Reports

- Rempel, A., (2014). "Hydrate Evolution in Response to Ongoing Environmental Shifts," *Quarterly Research Performance Progress Report (Period Ending 3/31/2014)*. DOE Award No.: DE-FE0013565. April 2014.
- Rempel, A., (2014). "Hydrate Evolution in Response to Ongoing Environmental Shifts," *Quarterly Research Performance Progress Report (Period Ending 6/30/2014)*. DOE Award No.: DE-FE0013565. July 2014.
- Rempel, A., (2014). "Hydrate Evolution in Response to Ongoing Environmental Shifts," *Quarterly Research Performance Progress Report (Period Ending 9/30/2014)*. DOE Award No.: DE-FE0013565. October 2014.

Deepwater Methane Hydrate Characterization and Scientific Assessment (DE-FE0023919)

University of Texas at Austin

Peer-Reviewed Publications

- Chen, X., and Espinoza, D. N., 2018a, Ostwald ripening changes the pore habit and spatial variability of clathrate hydrate: *Fuel*, v. 214, p. 614-622. <https://doi.org/10.1016/j.fuel.2017.11.065>
- Chen, X., Verma, R., Espinoza, D. N., and Prodanović, M., 2018, Pore-Scale Determination of Gas Relative Permeability in Hydrate-Bearing Sediments Using X-Ray Computed Micro-Tomography and Lattice Boltzmann Method: *Water Resources Research*, v. 54, no. 1, p. 600-608. <https://doi.org/10.1002/2017wr021851>
- Chen, X. Y., and Espinoza, D. N., 2018b, Surface area controls gas hydrate dissociation kinetics in porous media: *Fuel*, v. 234, p. 358-363. <https://doi.org/10.1016/j.fuel.2018.07.030>
- Cook, A. and Sawyer, D., (2015). "The mud-sand crossover on marine seismic data," *Geophysics*, v. 80, no. 6, pp. A109-A114, [10.1190/geo2015-0291.1](https://doi.org/10.1190/geo2015-0291.1).
- Cook, A.E., and Waite, W.F., (2018). Archie's saturation exponent for natural gas hydrate in coarse-grained reservoirs. *Journal of Geophysical Research*. DOI: [10.1002/2017JB015138](https://doi.org/10.1002/2017JB015138)
- Cook, A. E., and Portnov, A., 2019, Gas hydrates in coarse-grained reservoirs interpreted from velocity pull up: Mississippi Fan, Gulf of Mexico: *COMMENT: Geology*, v. 47, no. 3, p. e457-e457. <https://doi.org/10.1130/g45609c.1>
- Cook, A. E., and Sawyer, D. E., 2015, The mud-sand crossover on marine seismic data: *Geophysics*, v. 80, no. 6, p. A109-A114. <https://doi.org/10.1190/geo2015-0291.1>
- Hillman, J., Cook, A. & Sawyer, D. (2016). Mapping and characterizing bottom-simulating reflectors in 2D and 3D seismic data to investigate connections to lithology and frequency dependence. Presented at Gordon Research Conference, Galveston, TX.
- Hillman, J, Cook, A.E., Sawyer, D., Küçük, H.M., and Goldberg, D.S. (2017). The character and amplitude of bottom-simulating reflectors in marine seismic data. *Earth & Planetary Science Letters*, doi:<http://dx.doi.org/10.1016/j.epsl.2016.10.058>
- Hillman, J.I.T., Cook, A.E., Daigle, H., Nole, M., Malinverno, A., Meazell, K. and Flemings, P.B. (2017). Gas hydrate reservoirs and gas migration mechanisms in the Terrebonne Basin, Gulf of Mexico. *Marine and Petroleum Geology*, doi:[10.1016/j.marpetgeo.2017.07.029](https://doi.org/10.1016/j.marpetgeo.2017.07.029)
- Majumdar, U., Cook, A.E., Shedd, W., and Frye, M., (2016). "The connection between natural gas hydrate and bottom-simulating reflectors," *Geophysical Research Letters*, DOI: [10.1002/2016GL069443](https://doi.org/10.1002/2016GL069443)
- Phillips, S.C., You, K., Flemings, P.B., Meyer, D.W., and Dong, T. (in review, as of 2018). Dissociation of Laboratory- Synthesized Methane Hydrate in Coarse-Grained Sediments By Slow Depressurization. *Marine and Petroleum Geology*.
- You, K., and Flemings, P.B. (2018). Methane Hydrate Formation In Thick Sand Reservoirs: 1. Short-Range Methane Diffusion, *Marine and Petroleum Geology*, v. 89, part 2, pp. 428-442.

Government Reports

- Flemings, P. B., (2015). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report (Period Ending 12/31/2014)*. DOE Award No.: DE-FE0023919. January 2015.

- Flemings, P. B., (2015). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 03/31/2015). DOE Award No.: DE-FE0023919. April 2015.
- Flemings, P. B., (2015). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 06/30/2015). DOE Award No.: DE-FE0023919. August 2015.
- Flemings, P. B., (2016). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 09/30/2015). DOE Award No.: DE-FE0023919. February 2016.
- Flemings, P. B., (2016). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2015). DOE Award No.: DE-FE0023919. February 2016.
- Flemings, P. B., (2016). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 3/31/2016). DOE Award No.: DE-FE0023919. April 2016.
- Flemings, P. B., (2016). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 6/30/2016). DOE Award No.: DE-FE0023919. July 2016.
- Flemings, P. B., (2016). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 9/30/2016). DOE Award No.: DE-FE0023919. October 2016.
- Flemings, P. B., (2017). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2016). DOE Award No.: DE-FE0023919. January 2017.
- Flemings, P. B., (2017). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 03/30/2017). DOE Award No.: DE-FE0023919.
- Flemings, P. B., (2017). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 06/30/2017). DOE Award No.: DE-FE0023919.
- Flemings, P. B., (2017). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 09/30/2017). DOE Award No.: DE-FE0023919.
- Flemings, P. B., (2018). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2017). DOE Award No.: DE-FE0023919.
- Flemings, P. B., (2018). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 03/31/2018). DOE Award No.: DE-FE0023919.
- Flemings, P. B., (2018). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 06/30/2018). DOE Award No.: DE-FE0023919.

- Flemings, P. B., (2018). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Quarterly Research Performance Progress Report* (Period Ending 09/30/2018). DOE Award No.: DE-FE0023919.
- Flemings, P. B., (2018). "Deepwater Methane Hydrate Characterization and Scientific Assessment," *Phase 2 Report* (Period Ending 1/15/2018). DOE Award No.: DE-FE0023919. April 2018.
- Phillips, S.C., You, K., Flemings, P.B., Meyer, D.W., and Dong, T. (under review). Dissociation of Laboratory Synthesized Methane Hydrate in Coarse-Grained Sediments By Slow Depressurization. *Marine and Petroleum Geology*

Other Publications

- Cook, A.E., and Portnov, A., 2019, Gas hydrates in coarse-grained reservoirs interpreted from velocity pull up: Mississippi Fan, Gulf of Mexico. *Comment. Geology*.
<https://doi.org/10.1130/G45609C.1>
- Darnell, K. N., and Flemings, P. B., 2015, Transient seafloor venting on continental slopes from warming-induced methane hydrate dissociation: *Geophysical Research Letters*, p. n/a-n/a. <https://doi.org/10.1002/2015GL067012>
- Darnell, K.N., Flemings, P.B., DiCarlo, D., 2019, Nitrogen-Driven Chromatographic Separation During Gas Injection Into Hydrate-Bearing Sediments, *Water Resources Research*, 55(8), 6673-6691. <https://doi.org/10.1029/2018WR023414>
- Fang, Y., Flemings, P.B., Daigle, H., Phillips, S.C., Meazell, P. K., and You, K., in press, Petrophysical properties of the Green Canyon block 955 hydrate reservoir inferred from reconstituted sediments: Implications for hydrate formation and production: *American Association of Petroleum Geologist Bulletin*. DOI:10.1306/0106201916
- Flemings, P.B., Phillips, S.C., Boswell, R., Collett, T.S., Cook, A.E., Dong, T., et al. **(in review)**. Pressure coring a Gulf of Mexico deepwater turbidite gas hydrate reservoir: initial results from the UT-GOM2-1 hydrate pressure coring expedition, *AAPG Bulletin*.
- Flemings, P. B., Phillips, S. C., Boswell, R., Collett, T. S., Cook, A. E., Dong, T., Frye, M., Guerin, G., Goldberg, D. S., Holland, M. E., Jang, J., Meazell, K., Morrison, J., O'Connell, J., Pettigrew, T., Petrou, E., Polito, P. J., Portnov, A., Santra, M., Schultheiss, P. J., Seol, Y., Shedd, W., Solomon, E. A., Thomas, C., Waite, W. F., and You, K., in press, Pressure coring a Gulf of Mexico Deepwater Turbidite Gas Hydrate Reservoir: Initial results from the UT-GOM2-1 hydrate pressure coring expedition: *AAPG Bulletin*. DOI: 10.1306/05212019052
<http://archives.datapages.com/data/bulletns/aop/2020-06-22/aapgbtln19052aop.html>

- Flemings, P.B., Phillips, S.C, Collett, T., Cook, A., Boswell, R., and the UT-GOM2-1 Expedition Scientists (2018). UT-GOM2-1 Hydrate Pressure Coring Expedition Summary. In Flemings, P.B., Phillips, S.C, Collett, T., Cook, A., Boswell, R., and the UT-GOM2-1 Expedition Scientists, UT-GOM2-1 Hydrate Pressure Coring Expedition Report. University of Texas at Austin Institute for Geophysics, Austin, TX.
<https://ig.utexas.edu/energy/genesis-of-methane-hydrate-in-coarse-grained-systems/expedition-ut-gom2-1/reports/>
- Hillman, J. I. T., Cook, A. E., Daigle, H., Nole, M., Malinverno, A., Meazell, K., and Flemings, P. B., 2017a, Gas hydrate reservoirs and gas migration mechanisms in the Terrebonne Basin, Gulf of Mexico: *Marine and Petroleum Geology*, v. 86, no. Supplement C, p. 1357-1373.
<https://doi.org/10.1016/j.marpetgeo.2017.07.029>
- Hillman, J. I. T., Cook, A. E., Sawyer, D. E., Küçük, H. M., and Goldberg, D. S., 2017b, The character and amplitude of ‘discontinuous’ bottom-simulating reflections in marine seismic data: *Earth and Planetary Science Letters*, v. 459, p. 157-169.
<https://doi.org/10.1016/j.epsl.2016.10.058>
- Majumdar, U., and Cook, A. E., 2018, The Volume of Gas Hydrate-Bound Gas in the Northern Gulf of Mexico: *Geochemistry, Geophysics, Geosystems*, v. 19, no. 11, p. 4313-4328.
<https://doi.org/10.1029/2018gc007865>
- Majumdar, U., Cook, A. E., Shedd, W., and Frye, M. (2016). The connection between natural gas hydrate and bottom-simulating reflectors. *Geophysical Research Letters*, DOI: 10.1002/2016GL069443
- Meazell, K., Flemings, P.B., Santra, M., Johnson, J.E. (**in review**). Sedimentology and stratigraphy of deepwater methane hydrate reservoir in Green Canyon 955, AAPG Bulletin.
- Meazell, K., Flemings, P.B., Santra, M. (**in review**). Silt-rich channel-levee hydrate reservoirs of Green Canyon 955: AAPG Bulletin.
- Meazell, K. (**in review**). Petrophysical Properties of the GC 955 Hydrate Reservoir Inferred from Reconstituted Sediments: Implications for Hydrate Formation and Production, AAPG Bulletin.
- Meyer, D. W., Flemings, P. B., You, K., DiCarlo, D. A., 2020, Gas flow by invasion percolation through the hydrate stability zone, *Geophysical Research Letters*
<https://doi.org/10.1029/2019GL084380>
- Meyer, D. W., Flemings, P. B., and DiCarlo, D., 2018a, Effect of Gas Flow Rate on Hydrate Formation Within the Hydrate Stability Zone: *Journal of Geophysical Research-Solid Earth*, v. 123, no. 8, p. 6263-6276. <https://doi.org/10.1029/2018jb015878>
- Meyer, D. W., Flemings, P. B., DiCarlo, D., You, K. H., Phillips, S. C., and Kneafsey, T. J., 2018b, Experimental Investigation of Gas Flow and Hydrate Formation Within the Hydrate Stability Zone: *Journal of Geophysical Research-Solid Earth*, v. 123, no. 7, p. 5350-5371.
<https://doi.org/10.1029/2018jb015748>
- Phillips, S.C., Flemings, P.B., Holland, M.E., Schultheiss, P.J., Waite, W.F., Jang, J., Petrou, E.G., and Hammon, H. (2019). Extremely high concentration of methane hydrate in a deepwater silt reservoir from the northern Gulf of Mexico (Green Canyon 955). AAPG Bulletin.

- Phillips, S.C., Flemings, P., You, K., Meyer, D., and Dong, T., 2019, Investigation of in situ salinity and methane hydrate dissociation in coarse-grained sediments by slow, stepwise depressurization, *Marine and Petroleum Geology*, 109, 128–144.
<https://doi.org/10.1016/j.marpetgeo.2019.06.015>
- Phillips, S. C., Flemings, P. B., Holland, M. E., Schultheiss, P. J., Waite, W. F., Jang, J., Petrou, E. G., and H., H., in press, High concentration methane hydrate in a silt reservoir from the deep-water Gulf of Mexico: *American Association of Petroleum Geologist Bulletin*. DOI:10.1306/01062018280
- Portnov, A., Cook, A. E., Heidari, M., Sawyer, D.E., Santra, M., Nikolinakou, M. (**in press**). Salt-driven evolution of a gas hydrate reservoir in Green Canyon, Gulf of Mexico. *AAPG Bulletin*. <https://doi.org/10.1306/10151818125>
- Portnov, A., Santra, M., Cook, A.E., Sawyer, D.E., 2020, The Jackalope gas hydrate system in the northeastern Gulf of Mexico, *Marine and Petroleum Geology*, 111, 261–278.
<https://doi.org/10.1016/j.marpetgeo.2019.08.036>
- Portnov, A., Cook, A.E., Sawyer, D.E., Yang, C., Hillman, J.I.T., & Waite, W.F., 2019, Clustered BSRs: Evidence for gas hydrate-bearing turbidite complexes in folded regions, example from the Perdido Fold Belt, northern Gulf of Mexico. *Earth and Planetary Science Letters*, 528. <https://doi.org/10.1016/j.epsl.2019.115843>
- Santra, M., Flemings, P. B., Scott, E., Meazell, P. K. (**in press**). Evolution of Gas Hydrate Bearing Deepwater Channel-Levee System in Abyssal Gulf of Mexico – Levee Growth and Deformation. *AAPG Bulletin*. <https://doi.org/10.1306/04251918177>
- Sawyer, D.E., Mason, R.A., Cook, A.E., & Portnov, A., 2019, Submarine Landslides Induce Massive Waves in Subsea Brine Pools. *Scientific Reports*, 9(1), 128.
<https://doi.org/10.1038/s41598-018-36781-7>
- Sheik, C., Reese, B., Twing, K., Sylvan, J., Grim, S., Schrenk, M., Sogin, M., and Colwell, F. (2018). Identification and removal of contaminant sequences from ribosomal gene databases: lessons from the census of deep life. *Frontiers in Microbiology*. doi: 10.3389/fmicb.2018.00840
- Smart, K (2018) Modeling Well Log Responses in Hydrate Bearing Silts. Ohio State University. Undergraduate Thesis.
- Smith, A. J., Flemings, P. B., Liu, X., and Darnell, K., 2014, The evolution of methane vents that pierce the hydrate stability zone in the world's oceans: *Journal of Geophysical Research: Solid Earth*, p. 2013JB010686. <https://doi.org/10.1002/2013JB010686>
- Thomas, C. M., Flemings, P.B., Santra, M., Hammond, H., Collet T.S., Pettigrew, T., et al. (**in press**). Pressure-coring operations during Expedition UT-GOM2-1 in Green Canyon Block 955, northern Gulf of Mexico. *AAPG Bulletin*.
- Wei, L., Cook, A., Daigle, H., Malinverno, A., Nole, M., & You, K., 2019, Factors Controlling Short-Range Methane Migration of Gas Hydrate Accumulations in Thin Coarse-Grained Layers. *Geochemistry, Geophysics, Geosystems*, 20(8), 3985-4000.
<https://doi.org/10.1029/2019GC008405>

- You, K., Flemings, P.B., Malinverno, A., Collett, T.S. Darnell, K., 2019, Mechanisms of Methane Hydrate Formation in Geological System, *Reviews of Geophysics*.
<https://doi.org/10.1029/2018RG000638>
- You, K., Flemings, P. B., Malinverno, A., Collett, T. S., and Darnell, K., 2019, Mechanisms of Methane Hydrate Formation in Geological Systems: *Reviews of Geophysics*, v. 0, no. ja.
<https://doi.org/10.1029/2018rg000638>
- You, K., Kneafsey, T. J., Flemings, P. B., Polito, P., and Bryant, S. L., 2015, Salinity-buffered methane hydrate formation and dissociation in gas-rich systems: *Journal of Geophysical Research: Solid Earth*, v. 120, no. 2, p. 643-661. <https://doi.org/10.1002/2014JB011190>

Presentations

- Cook, A., Hillman, J., and Sawyer, D., (2015). "Gas Migration in the Terrebonne Basin Gas Hydrate System," *Abstract OS23D-05, American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.
- Cook, A. E., and Waite, (2016). "Archie's saturation exponent for natural gas hydrate in coarse-grained reservoir," *2016 Gordon Research Conference*, Galveston, TX, Feb 28-March 4.
- Cook, A.E., Hillman, J., Sawyer, D., Treiber, K., Yang, C., Frye, M., Shedd, W., and Palmes, (2016). "Prospecting for Natural Gas Hydrate in the Orca & Choctaw Basins in the Northern Gulf of Mexico," *2016 Fall Meeting, AGU*, San Francisco, CA, 12-16 Dec.
- Cook, A., Waite, W. F., Spangenberg, E., and Heeschen, K.U. (2018). Petrophysics in the lab and the field: how can we understand gas hydrate pore morphology and saturation? Invited talk presented at the American Geophysical Union Fall Meeting, Washington D.C.
- Daigle, H., et al., 2019, Assessing the impact of microbial methanogenesis on supplying methane to layered hydrate reservoirs, Presented to the AGU Fall Meeting, San Francisco, CA.
- Darnell, K., Flemings, P.B., and DiCarlo, D.A., (2016). Nitrogen-assisted Three-phase Equilibrium in Hydrate Systems Composed of Water, Methane, Carbon Dioxide, and Nitrogen, *Fall Meeting, AGU*, San Francisco, Calif., 12-16 Dec.
- Espinoza D.N., Chen X., Luo J.S., Tisato N., Flemings P.B., 2019, X-Ray Micro-CT Observation of Methane Hydrate Growth and Dissociation in Sandy Sediments. Presented to the Engineering Mechanics Institute Conference 2019, Pasadena, CA, 19 June.
- Ewton, E., Klasek, S., Peck, E., Wiest, J. Colwell F., 2019, The effects of X-ray computed tomography scanning on microbial communities in sediment cores. Poster presented at AGU Fall Meeting.
- Fang, Y., et al., 2019, Petrophysical properties of the GC 955 Gulf of Mexico hydrate reservoir inferred from reconstituted sediments: implications for hydrate formation, Presented to the AGU Fall Meeting, San Francisco, CA. Fang, Y., Flemings, P.B., Daigle, H., O'Connell, J., Polito, P., (2018). Measure permeability of natural hydrate-bearing sediments using KO permeameter. Presented at Gordon Research Conference on Gas Hydrate, Galveston, TX. Feb 24- Mar 02, 2018.

- Flemings, P., Phillips, S., and the UT-GOM2-1 Expedition Scientists, (2018). Recent results of pressure coring hydrate-bearing sands in the deepwater Gulf of Mexico: Implications for formation and production. Talk presented at the 2018 Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX, February 24-March 2, 2018.
- Fortin, W. (2016). *Properties from Seismic Data*. Presented at IODP planning workshop, Southern Methodist University, Dallas, TX.
- Fortin, W., Goldberg, D. S., Holbrook, W. S., and Küçük, H. M., (2016). "Velocity analysis of gas hydrate systems using prestack waveform inversion," *Gordon Research Conference on Natural Gas Hydrate Systems*, Galveston, TX, Feb 28-March 4.
- Fortin, W., Goldberg, D.S., Küçük, H.M, 2016, Methane Hydrate Concentrations at GC955 and WR313 Drilling Sites in the Gulf of Mexico Determined from Seismic Prestack Waveform Inversion, AGU, Fall Meeting, Session 13837: Experiments, Modeling and Field Studies on Gas Hydrate Formation, San Francisco, CA Dec 12-16, 2016.
- Fortin, W., Goldberg, D.S., Küçük, H. M. (2017). Prestack Waveform Inversion and Well Log Examination at GC955 and WR313 in the Gulf of Mexico for Estimation of Methane Hydrate Concentrations. EOS Trans. American Geophysical Union, Fall Meeting, New Orleans, LA.
- Fortin, W. (2018). Waveform Inversion and Well Log Examination at GC955 and WR313 in the Gulf of Mexico for Estimation of Methane Hydrate Concentrations. Presented at Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX.
- Goldberg, D., Küçük, H. M., Haines, S., Guerin, G., (2016). "Reprocessing of high resolution multichannel seismic data in the Gulf of Mexico: implications for BSR character in the Walker Ridge and Green Canyon areas," *Gordon Research Conference on Natural Gas Hydrate Systems*, Galveston, TX, Feb 28-March 4.
- Hammon, H., Phillips, S., Flemings, P., and the UT-GOM2-1 Expedition Scientists, (2018). Drilling-induced disturbance within methane hydrate pressure cores in the northern Gulf of Mexico. Poster presented at the 2018 Gordon Research Conference and Seminar on Natural Gas Hydrate Systems, Galveston, TX, February 24-March 2, 2018.
- Heber, R., Kinash, N., Cook, A., Sawyer, D., Sheets, J., and Johnson, J.E. (2017). Mineralogy of Gas Hydrate Bearing Sediment in Green Canyon Block 955 Northern Gulf of Mexico. Abstract OS53B-1206 presented at American Geophysical Union, Fall Meeting, New Orleans, LA.
- Hillman, H., Cook, A., and Sawyer, D., (2016). "Mapping and characterizing bottom-simulating reflectors in 2D and 3D seismic data to investigate connections to lithology and frequency dependence," *2016 Gordon Research Conference*, Galveston, TX, Feb 28-March 4.
- Jiachao Liu et al. (2018). Pore-scale CH₄-C₂H₆ hydrate formation and dissociation under relevant pressure-temperature conditions of natural reservoirs. Poster presented at American Geophysical Union, Fall Meeting, Washington, D.C. OS23D-2824
- Johnson, J. (2018). High Porosity and Permeability Gas Hydrate Reservoirs: A Sedimentary Perspective. Presented at Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX.

- Kinash, N. Cook, A., Sawyer, D. and Heber, R. (2017). Recovery and Lithologic Analysis of Sediment from Hole UT-GOM2-1-H002, Green Canyon 955, Northern Gulf of Mexico. Abstract OS53B-1207 presented at American Geophysical Union, Fall Meeting, New Orleans, LA.
- Küçük, H. M., Goldberg, D.S, Haines, S., Dondurur, D., Guerin, G., and Çifçi, G., (2016). “Acoustic investigation of shallow gas and gas hydrates: comparison between the Black Sea and Gulf of Mexico,” *Gordon Research Conference on Natural Gas Hydrate Systems*, Galveston, TX, Feb 28-March 4.
- Malinverno, A., (2015). “Monte Carlo inversion applied to reaction-transport modeling of methane hydrate in continental margin sediments, Fall AGU Meeting, San Francisco, CA, Abstract OS23B-2003.
- Malinverno, A., (2016). “Modeling gas hydrate formation from microbial methane in the Terrebonne basin, Walker Ridge, Gulf of Mexico,” *Gordon Research Conference on Natural Gas Hydrate Systems*, Galveston, TX, Feb 28-March 4.
- Malinverno, A., Cook, A. E., Daigle, H., Oryan, B. (2017). Methane Hydrate Formation from Enhanced Organic Carbon Burial During Glacial Lowstands: Examples from the Gulf of Mexico. EOS Trans. American Geophysical Union, Fall Meeting, New Orleans, LA.
- Meazell, K., (2015). “Methane Hydrate-Bearing Sediments in the Terrebonne Basin, Northern Gulf of Mexico,” *Abstract OS23B-2012, American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 14-18.*
- Meazell, K., and Flemings, P. B., (2016). “New insights into hydrate-bearing clastic sediments in the Terrebonne basin, northern Gulf of Mexico,” *Gordon Research Conference on Natural Gas Hydrate Systems*, Galveston, TX, Feb 28-March 4.
- Meazell, K., and Flemings, P. B., (2016). “The depositional evolution of the Terrebonne basin, northern Gulf of Mexico,” *5th Annual Jackson School Research Symposium, University of Texas at Austin, Austin, TX.*
- Meazell, K., & Flemings, P.B. (2016). Heat Flux and Fluid Flow in the Terrebonne Basin, Northern Gulf of Mexico. Presented at American Geophysical Union, Fall Meeting, San Francisco, CA.
- Meazell, K., Flemings, P. B., Santra, M., and the UT-GOM2-01 Scientists (2018). Sedimentology of the clastic hydrate reservoir at GC 955, Gulf of Mexico. Presented at Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX.
- Moore, M., Darrah, T., Cook, A., Sawyer, D., Phillips, S., Whyte, C., Lary, B., and UT-GOM2-01 Scientists (2017). The genetic source and timing of hydrocarbon formation in gas hydrate reservoirs in Green Canyon, Block GC955. Abstract OS44A-03 presented at American Geophysical Union, Fall Meeting, New Orleans, LA.
- Morrison, J., Flemings, P., and the UT-GOM2-1 Expedition Scientists (2018). Hydrate Coring in Deepwater Gulf of Mexico, USA. Poster presented at the 2018 Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX.
- Murphy, Z., et al. (2018). Three phase relative permeability of hydrate bearing sediments. Poster presented at American Geophysical Union, Fall Meeting, Washington, D.C. OS23D-1647

- Oryan, B., Malinverno, A., Goldberg, D., Fortin, W. (2017). Do Pleistocene glacial-interglacial cycles control methane hydrate formation? An example from Green Canyon, Gulf of Mexico. EOS Trans. American Geophysical Union, Fall Meeting, New Orleans, LA.
- Oti, E., Cook, A. (2018). Non-Destructive X-ray Computed Tomography (XCT) of Previous Gas Hydrate Bearing Fractures in Marine Sediment. Presented at Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX.
- Oti, E., Cook, A., Buchwalter, E., and Crandall, D. (2017). Non-Destructive X-ray Computed Tomography (XCT) of Gas Hydrate Bearing Fractures in Marine Sediment. Abstract OS44A-05 presented at American Geophysical Union, Fall Meeting, New Orleans, LA.
- Oti, E., Cook, A., Phillips, S., Holland, M., Flemings, P., (2018). Using X-ray computed tomography to estimate hydrate saturation in sediment cores from Green Canyon 955 Gulf of Mexico. Talk presented at the American Geophysical Union Fall Meeting, Washington D.C.
- Phillips, S. C., Flemings, P. B., Meyer, D. W., You, K., Kneafsey, T. J., Germaine, J. T., Solomon, E. A., and Kastner, M., (2016). "Extraction of Pore Fluids at In Situ Pressures from Methane Hydrate Experimental Vessels," *Gordon Research Conference on Gas Hydrates*, Galveston, TX, Feb. 28-Mar. 4.
- Phillips, S. C., Flemings, P. B., Holland, M. E., Schulthiss, P. J., Waite, W. F., Jang, J., et al. (**in press**). High concentration methane hydrate in a silt reservoir from the deep-water Gulf of Mexico. AAPG Bulletin. <https://doi.org/10.1306/01062018280> (pending)
- Phillips, S. C., Borgfeldt, T., You, K., Meyer, D., and Flemings, P., (2016). "Dissociation of laboratory-synthesized methane hydrate by depressurization." *Gordon Research Conference on Gas Hydrates*, Galveston, TX, Feb. 28-March 4.
- Phillips, S.C., Flemings, P.B., Holland, M.E., Schultheiss, P.J., Waite, W.F., Petrou, E.G., Jang, J., Polito, P.J., O'Connell, J., Dong, T., Meazell, K., and Expedition UT-GOM2-1 Scientists, (2018). Quantitative degassing of gas hydrate-bearing pressure cores from Green Canyon 955. Gulf of Mexico. Talk and poster presented at the 2018 Gordon Research Conference and Seminar on Natural Gas Hydrate Systems, Galveston, TX, February 24-March 2, 2018.
- Phillips, S.C., *You, K., Borgfeldt, T., *Meyer, D.W., *Dong, T., Flemings, P.B. (2016). Dissociation of LaboratorySynthesized Methane Hydrate in Coarse-Grained Sediments by Slow Depressurization. Presented at American Geophysical Union, Fall Meeting, San Francisco, CA.
- Phillips, S. et al. (2018). High saturation of methane hydrate in a coarse-grained reservoir in the northern Gulf of Mexico from quantitative depressurization of pressure cores. Poster presented at American Geophysical Union, Fall Meeting, Washington, D.C. OS23D-1654
- Portnov, A., Cook, A., Heidari, M., Sawyer, D., Santra, M., Nikolinakou, M. (2018). Salt-driven Evolution of Gas Hydrate Reservoirs in the Deep-sea Gulf of Mexico. Presented at Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX.
- Portnov, A., et al. (2018). Underexplored gas hydrate reservoirs associated with salt diapirism and turbidite deposition in the Northern Gulf of Mexico. Poster presented at American Geophysical Union, Fall Meeting, Washington, D.C. OS51F-1326

- Santra, M., Flemings, P., Scott, E., Meazell, K. (2018). Evolution of Gas Hydrate Bearing Deepwater Channel- Levee System in Green Canyon Area in Northern Gulf of Mexico. Presented at Gordon Research Conference and Gordon Research Seminar on Natural Gas Hydrates, Galveston, TX.
- Santra, M., et al, (2018). Channel-levee hosted hydrate accumulation controlled by a faulted anticline: Green Canyon, Gulf of Mexico. Poster presented at American Geophysical Union, Fall Meeting, Washington, D.C. OS51F-1324
- Santra, M., Flemings, P., Scott, E., Meazell, K. (2018). Evolution of Gas Hydrate Bearing Deepwater ChannelLevee System in Green Canyon Area in Northern Gulf of Mexico. Presented at Gordon Research Conference and Gordon Research Seminar on Natural Gas Hydrates, Galveston, TX
- Treiber, K, Sawyer, D., and Cook, A., (2016). "Dissociation of laboratory-synthesized methane hydrate by depressurization (Poster)" *2016 Gordon Research Conference*, Galveston, TX, Feb 28-March 4.
- Treiber, K, Sawyer, D., and Cook, A., (2016). "Geophysical interpretation of gas hydrates in Green Canyon Block 955, northern Gulf of Mexico, USA (Poster)" *2016 Gordon Research Conference*, Galveston, TX, Feb 28-March 4.
- Worman, S. and, Flemings, P. B., (2016). "Genesis of Methane Hydrate in Coarse-Grained Systems: Northern Gulf of Mexico Slope (GOM²) (poster)," *UT GeoFluids Consortia Meeting*, Austin, TX, March 2nd-March 4th.
- Yang, C., Cook, A., and Sawyer, D., (2016). "Geophysical interpretation of the gas hydrate reservoir system at the Perdido Site, northern Gulf of Mexico," *2016 Gordon Research Conference*, Galveston, TX, Feb 28-March 4.
- You, K. Y., DiCarlo, D., and Flemings, P. B., (2015). "Quantifying methane hydrate formation in gas-rich environments using the method of characteristics," *Abstract OS23B-2005, American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 14-18.
- You, K.Y., Flemings, P.B., and DiCarlo, D., (2016). "Quantifying methane hydrate formation in gas-rich environments using the method of characteristics," *2016 Gordon Research Conference*, Galveston, TX, Feb 28-March 4.
- You, K., Flemings, P.B. (2016). Methane Hydrate Formation in Thick Sand Reservoirs: Long-range Gas Transport or Short-range Methane Diffusion?. Presented at American Geophysical Union, Fall Meeting, San Francisco, CA.
- You, K., and Flemings, P. B. (2018). Methane Hydrate Formation in Thick Marine Sands by Free Gas Flow. Presented at Gordon Research Conference on Gas Hydrate, Galveston, TX. Feb 24- Mar 02, 2018.
- You, K., et al. (2018). Formation of lithology-dependent hydrate distribution by capillary-controlled gas flow sourced from faults. Poster presented at American Geophysical Union, Fall Meeting, Washington, D.C. OS31F-1864

Mechanisms for Methane Transport and Hydrate Accumulation in Coarse-Grained Reservoirs (DE-FE0013919)

University of Texas at Austin

Peer-Reviewed Publications

- Cook, A.E. and Sawyer, D., (2015). The mud-sand crossover on marine seismic data. *Geophysics*, v. 80, no. 6, A109-A114. 10.1190/geo2015-0291.1.
- Daigle, H., Cook, A., and Malinverno, A., (2015). "Permeability and porosity of hydrate-bearing sediments in the northern Gulf of Mexico," *Marine and Petroleum Geology*, vol. 68 part A, pp. 561-564, doi:10.1016/j.marpetgeo.2015.10.004.
- Hillman, J. I. T., Cook, A. E., Sawyer, D., Küçük, H. M., and Goldberg, D. S., (2017). "The character and amplitude of bottom-simulating reflectors in marine seismic data," *Earth & Plan Sci Lett.*, doi:http://dx.doi.org/10.1016/j.epsl.2016.10.058
- Hillman, J.I.T., Cook, A.E., Daigle, H., Nole, M., Malinverno, A., Meazell, K. and Flemings, P.B. (2017). Gas hydrate reservoirs and gas migration mechanisms in the Terrebonne Basin, Gulf of Mexico. *Marine and Petroleum Geology*, doi:10.1016/j.marpetgeo.2017.07.029
- Majumdar, U., Cook, A. E., Shedd, W., and Frye, M. (2016). The connection between natural gas hydrate and bottom-simulating reflectors. *Geophysical Research Letters*, DOI: 10.1002/2016GL069443
- Nole, M., Daigle, H., Cook, A., and Malinverno, A., (2016). "Short-range, overpressure-driven methane migration in coarse-grained gas hydrate reservoirs," *Geophysical Research Letters*, vol. 43, no. 18, pp. 9500-9508.
- Sheik, C., Reese, B., Twing, K., Sylvan, J., Grim, S., Schrenk, M., Sogin, M., and Colwell, F. (2018). Identification and removal of contaminant sequences from ribosomal gene databases: lessons from the census of deep life. *Frontiers in Microbiology*. doi: 10.3389/fmicb.2018.00840
- Kehua You, Peter B. Flemings, Methane hydrate formation in thick sand reservoirs: 1. Short-range methane diffusion, *Marine and Petroleum Geology*, Volume 89, Part 2, 2018, Pages 428-442, ISSN 0264-8172, <https://doi.org/10.1016/j.marpetgeo.2017.10.011>.

Government Reports

- Daigle, H., (2016). "Mechanisms for Methane Transport and Hydrate Accumulation in Coarse-Grained Reservoirs," *Quarterly Research Performance Progress Report (Period Ending 12/31/2015)*. DOE Award No.: DE-FE0013919. January 2016.
- Daigle, H., (2016). "Mechanisms for Methane Transport and Hydrate Accumulation in Coarse-Grained Reservoirs," *Quarterly Research Performance Progress Report (Period Ending 3/31/2016)*. DOE Award No.: DE-FE0013919. April 2016.
- Daigle, H., (2016). "Mechanisms for Methane Transport and Hydrate Accumulation in Coarse-Grained Reservoirs," *Quarterly Research Performance Progress Report (Period Ending 6/30/2016)*. DOE Award No.: DE-FE0013919. July 2016.

- Daigle, H., (2016). "Mechanisms for Methane Transport and Hydrate Accumulation in Coarse-Grained Reservoirs," *Quarterly Research Performance Progress Report* (Period Ending 9/30/2016). DOE Award No.: DE-FE0013919. October 2016.
- Daigle, H., (2017). "Mechanisms for Methane Transport and Hydrate Accumulation in Coarse-Grained Reservoirs," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2016). DOE Award No.: DE-FE0013919. January 2017.

Other Publications

Flemings, P.B., Phillips, S.C, Collett, T., Cook, A., Boswell, R., and the UT-GOM2-1 Expedition Scientists (2018). UT-GOM2-1 Hydrate Pressure Coring Expedition Summary. In Flemings, P.B., Phillips, S.C, Collett, T., Cook, A., Boswell, R., and the UT-GOM2-1 Expedition Scientists, UT-GOM2-1 Hydrate Pressure Coring Expedition Report. University of Texas at Austin Institute for Geophysics, Austin, TX.
<https://ig.utexas.edu/energy/genesis-of-methane-hydrate-in-coarse-grained-systems/expedition-utgom2-1/reports/>

Presentations

- Andris, R., (2016). "The effect of restrictive diffusion on hydrate growth," *Gordon Research Conference on Natural Gas Hydrate Systems*, Galveston, TX, Feb 28-March 4.
- Bihani, A., Daigle, H., Cook, A., Glosser, D., Shushtarian, A., (2015). "Pore size distribution and methane equilibrium conditions at Walker Ridge Block 313, northern Gulf of Mexico," *Abstract OS23B-1999, American Geophysical Union Fall Meeting*, San Francisco, CA, December 14-18.
- Cook, A., Hillman, J., and Sawyer, D., (2015). "Methane migration in the Terrebonne Basin gas hydrate system, Gulf of Mexico," *Abstract OS23D-05, American Geophysical Union Fall Meeting*, San Francisco, CA, December 14-18.
- Cook, A.E., Hillman, J., Sawyer, D., Treiber, K., Yang, C., Frye, M., Shedd, W., Palmes, S. (2016). Prospecting for Natural Gas Hydrate in the Orca & Choctaw Basins in the Northern Gulf of Mexico. Poster presented at American Geophysical Union, Fall Meeting, 2016, San Francisco, CA.
- Cook, A.E., Hillman, J., & Sawyer, D. (2015). Gas migration in the Terrebonne Basin gas hydrate system. Abstract OS23D-05 presented at American Geophysical Union, Fall Meeting, San Francisco, CA.
- Cook, A.E. and Waite, W. (2016). Archie's saturation exponent for natural gas hydrate in coarse-grained reservoirs. Presented at Gordon Research Conference, Galveston, TX, Feb 28-March 4.
- Daigle, H., and Rice, M. A., (2015). "Relative permeability of hydrate-bearing sediments from percolation theory and critical path analysis: theoretical and experimental results," *Abstract B12B-07, American Geophysical Union Fall Meeting*, San Francisco, CA, Dec 14-18.

- Darnell, K., Flemings, P.B., DiCarlo, D.A. (2016). Nitrogen-assisted Three-phase Equilibrium in Hydrate Systems Composed of Water, Methane, Carbon Dioxide, and Nitrogen. Presented at American Geophysical Union, Fall Meeting, San Francisco, CA.
- Erica Ewton et al. (2018). The effects of X-ray CT scanning on microbial communities in sediment cores. Poster presented at American Geophysical Union, Fall Meeting, Washington, D.C. OS23D-1657
- Fang, Y., Flemings, P.B., Daigle, H., O'Connell, J., Polito, P., (2018). Measure permeability of natural hydratebearing sediments using K0 permeameter. Presented at Gordon Research Conference on Gas Hydrate, Galveston, TX. Feb 24- Mar 02, 2018.
- Flemings, P., Phillips, S., and the UT-GOM2-1 Expedition Scientists, (2018). Recent results of pressure coring hydrate-bearing sands in the deepwater Gulf of Mexico: Implications for formation and production. Presented at the 2018 Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX, February 24-March 2, 2018.
- Fortin, W. (2016). Properties from Seismic Data. Presented at IODP planning workshop, Southern Methodist University, Dallas, TX.
- Fortin, W. (2018). Waveform Inversion and Well Log Examination at GC955 and WR313 in the Gulf of Mexico for Estimation of Methane Hydrate Concentrations. Presented at Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX.
- Fortin, W., Goldberg, D. S., Holbrook, W. S., and Küçük, H. M., (2016). "Velocity analysis of gas hydrate systems using prestack waveform inversion," *Gordon Research Conference on Natural Gas Hydrate Systems*, Galveston, TX, Feb 28-March 4.
- Fortin, W., Goldberg, D.S., Küçük, H.M. (2016). Methane Hydrate Concentrations at GC955 and WR313 Drilling Sites in the Gulf of Mexico Determined from Seismic Prestack Waveform Inversion. EOS Trans. American Geophysical Union, Fall Meeting, San Francisco, CA.
- Fortin, W., Goldberg, D.S., Küçük, H. M. (2017). Prestack Waveform Inversion and Well Log Examination at GC955 and WR313 in the Gulf of Mexico for Estimation of Methane Hydrate Concentrations. EOS Trans. American Geophysical Union, Fall Meeting, New Orleans, LA.
- Goldberg, D., Küçük, H. M., Haines, S., Guerin, G., (2016). "Reprocessing of high resolution multichannel seismic data in the Gulf of Mexico: implications for BSR character in the Walker Ridge and Green Canyon areas," *Gordon Research Conference on Natural Gas Hydrate Systems*, Galveston, TX, Feb 28-March 4.
- Hammon, H., Phillips, S., Flemings, P., and the UT-GOM2-1 Expedition Scientists, (2018). Drilling-induced disturbance within methane hydrate pressure cores in the northern Gulf of Mexico. Poster presented at the 2018 Gordon Research Conference and Seminar on Natural Gas Hydrate Systems, Galveston, TX, February 24-March 2, 2018.
- Heber, R., Kinash, N., Cook, A., Sawyer, D., Sheets, J., and Johnson, J.E. (2017). Mineralogy of Gas Hydrate Bearing Sediment in Green Canyon Block 955 Northern Gulf of Mexico. Abstract OS53B-1206 presented at American Geophysical Union, Fall Meeting, New Orleans, LA.

- Hillman, J., Cook, A., and Sawyer, D., (2016). "Mapping and characterising bottom-simulating reflectors in 2D and 3D seismic data to investigate connections to lithology and frequency dependence," *Gordon Research Conference on Natural Gas Hydrate Systems*, Galveston, TX, Feb 28-March 4.
- Hillman, J., Cook, A.E., Daigle, H., Nole, M., and Malinverno, A., (2016). "Determining gas hydrate distribution in sands using integrated analysis of well log and seismic data in the Terrebonne Basin, Gulf of Mexico," presented at *Gas in Marine Sediments Conference*, Tromsø, Norway, 19-22 September 2016.
- Johnson, J. (2018). High Porosity and Permeability Gas Hydrate Reservoirs: A Sedimentary Perspective. Presented at Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX.
- Kinash, N. Cook, A., Sawyer, D. and Heber, R. (2017). Recovery and Lithologic Analysis of Sediment from Hole UTGOM2-1-H002, Green Canyon 955, Northern Gulf of Mexico. Abstract OS53B-1207 presented at American Geophysical Union, Fall Meeting, New Orleans, LA.
- Küçük, H. M., Goldberg, D., Haines, S., Dondurur, D., Guerin G., and Çifçi, G., (2016). "Acoustic investigation of shallow gas and gas hydrates: comparison between the Black Sea and Gulf of Mexico," *Gordon Research Conference on Natural Gas Hydrate Systems*, Galveston, TX, Feb 28-March 4.
- Malinverno, A., (2015). "Monte Carlo inversion applied to reaction-transport modeling of methane hydrate in continental margin sediments," *Abstract OS23B-2003, American Geophysical Union Fall Meeting*, San Francisco, CA, December 14-18 .
- Malinverno, A., (2016). "Modeling gas hydrate formation from microbial methane in the Terrebonne basin, Walker Ridge, Gulf of Mexico," *Gordon Research Conference on Natural Gas Hydrate Systems*, Galveston, TX, Feb 28-March 4.
- Malinverno, A., Cook, A., and Daigle, H., (2016). "Modeling the formation of methane hydrate-bearing intervals in fine-grained sediments," presented at *Gas in Marine Sediments Conference*, Tromsø, Norway, 19-22 September 2016.
- Malinverno, A., Cook, A., and Daigle, H., (2016). "Modeling the formation of hydrate-filled veins in fine-grained sediments from in situ microbial methane," presented at *American Geophysical Union Fall Meeting*, San Francisco, CA, December 12-16.
- Malinverno, A., Cook, A. E., Daigle, H., Oryan, B. (2017). Methane Hydrate Formation from Enhanced Organic Carbon Burial During Glacial Lowstands: Examples from the Gulf of Mexico. EOS Trans. American Geophysical Union, Fall Meeting, New Orleans, LA.
- Meazell, K., Flemings, P. B., Santra, M., and the UT-GOM2-01 Scientists (2018). Sedimentology of the clastic hydrate reservoir at GC 955, Gulf of Mexico. Presented at Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX.
- Meazell, K., & Flemings, P.B. (2016). Heat Flux and Fluid Flow in the Terrebonne Basin, Northern Gulf of Mexico. Presented at American Geophysical Union, Fall Meeting, San Francisco, CA.

- Meazell, K., & Flemings, P.B. (2016). New insights into hydrate-bearing clastic sediments in the Terrebonne basin, northern Gulf of Mexico. Presented at Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX.
- Meazell, K., & Flemings, P.B. (2016). The depositional evolution of the Terrebonne basin, northern Gulf of Mexico. Presented at 5th Annual Jackson School Research Symposium, University of Texas at Austin, Austin, TX.
- Meazell, K. (2015), Methane hydrate-bearing sediments in the Terrebonne basin, northern Gulf of Mexico. Abstract OS23B-2012 presented at American Geophysical Union, Fall Meeting, San Francisco, CA.
- Moore, M., Darrah, T., Cook, A., Sawyer, D., Phillips, S., Whyte, C., Lary, B., and UT-GOM2-01 Scientists (2017). The genetic source and timing of hydrocarbon formation in gas hydrate reservoirs in Green Canyon, Block GC955. Abstract OS44A-03 presented at American Geophysical Union, Fall Meeting, New Orleans, LA.
- Morrison, J., Flemings, P., and the UT-GOM2-1 Expedition Scientists (2018). Hydrate Coring in Deepwater Gulf of Mexico, USA. Poster presented at the 2018 Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX.
- Nole, M., Daigle, H., Mohanty, K., Hillman, J., and Cook, A., (2015). "Assessing methane migration mechanisms at Walker Ridge, Gulf of Mexico, via 3D methane hydrate reservoir modeling," *Abstract OS23D-07, American Geophysical Union Fall Meeting, San Francisco, CA, December 14-18* .
- Nole, M., (2016). "Implications of pore-scale heterogeneities on biogenic methane hydrate distributions in marine sediments," *Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX, Feb 28-March 4*.
- Nole, M., Daigle, H., Cook, A., and Malinverno, A., (2016). "The impact of flow focusing on gas hydrate accumulations in overpressured marine sediments," presented at *Gas in Marine Sediments Conference, Tromsø, Norway, 19-22 September 2016*.
- Nole, M., Daigle, H., Cook, A., Malinverno, A., and Hillman, J.I.T., (2016). "Linking pore-scale and basin-scale effects on diffusive methane transport in hydrate bearing environments through multi-scale reservoir simulations," presented at *American Geophysical Union Fall Meeting, San Francisco, CA, December 12-16*.
- Oryan, B., Malinverno, A., Goldberg, D., Fortin, W. (2017). Do Pleistocene glacial-interglacial cycles control methane hydrate formation? An example from Green Canyon, Gulf of Mexico. EOS Trans. American Geophysical Union, Fall Meeting, New Orleans, LA.
- Oti, E., Cook, A. (2018). Non-Destructive X-ray Computed Tomography (XCT) of Previous Gas Hydrate Bearing Fractures in Marine Sediment. Presented at Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX.
- Oti, E., Cook, A., Buchwalter, E., and Crandall, D. (2017). Non-Destructive X-ray Computed Tomography (XCT) of Gas Hydrate Bearing Fractures in Marine Sediment. Abstract OS44A-05 presented at American Geophysical Union, Fall Meeting, New Orleans, LA.

- Phillips, S.C., Flemings, P.B., Holland, M.E., Schultheiss, P.J., Waite, W.F., Petrou, E.G., Jang, J., Polito, P.J., O'Connell, J., Dong, T., Meazell, K., and Expedition UT-GOM2-1 Scientists, (2017). Quantitative degassing of gas hydrate-bearing pressure cores from Green Canyon 955. Gulf of Mexico. Talk and poster presented at the 2018 Gordon Research Conference and Seminar on Natural Gas Hydrate Systems, Galveston, TX, February 24-March 2, 2018.
- Phillips, S.C., Borgfedt, T., You, K., Meyer, D., and Flemings, P. (2016). Dissociation of laboratory-synthesized methane hydrate by depressurization. Poster presented at Gordon Research Conference and Gordon Research Seminar on Natural Gas Hydrates, Galveston, TX.
- Phillips, S.C., *You, K., Borgfeldt, T., *Meyer, D.W., *Dong, T., Flemings, P.B. (2016). Dissociation of Laboratory-Synthesized Methane Hydrate in Coarse-Grained Sediments by Slow Depressurization. Presented at American Geophysical Union, Fall Meeting, San Francisco, CA.
- Portnov, A., Cook, A., Heidari, M., Sawyer, D., Santra, M., Nikolinakou, M. (2018). Salt-driven Evolution of Gas Hydrate Reservoirs in the Deep-sea Gulf of Mexico. Presented at Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX.
- Santra, M., Flemings, P., Scott, E., Meazell, K. (2018). Evolution of Gas Hydrate Bearing Deepwater Channel-Levee System in Green Canyon Area in Northern Gulf of Mexico. Presented at Gordon Research Conference and Gordon Research Seminar on Natural Gas Hydrates, Galveston, TX.
- Treiber, K, Sawyer, D., & Cook, A. (2016). Geophysical interpretation of gas hydrates in Green Canyon Block 955, northern Gulf of Mexico, USA. Poster presented at Gordon Research Conference, Galveston, TX.
- Wei, L., (2016). "A 1D mass balance model for the formation of gas hydrate in marine sequences," *Gordon Research Conference on Natural Gas Hydrate Systems*, Galveston, TX, Feb 28-March 4.
- Worman, S. and, Flemings, P.B. (2016). Genesis of Methane Hydrate in Coarse-Grained Systems: Northern Gulf of Mexico Slope (GOM²). Poster presented at The University of Texas at Austin, GeoFluids Consortia Meeting, Austin, TX.
- Yang, C., Cook, A., & Sawyer, D. (2016). Geophysical interpretation of the gas hydrate reservoir system at the Perdido Site, northern Gulf of Mexico. Presented at Gordon Research Conference, Galveston, TX, United States.
- Yi Fang, et al. (2018). Permeability, compression behavior, and lateral stress ratio of hydrate-bearing siltstone from UT-GOM2-1 pressure core (GC-955 – northern Gulf of Mexico): Initial Results. Poster presented at American Geophysical Union, Fall Meeting, Washington, D.C. OS23D-1650
- You, K.Y., DiCarlo, D. & Flemings, P.B. (2015), Quantifying methane hydrate formation in gas-rich environments using the method of characteristics. Abstract OS23B-2005 presented at 2015, Fall Meeting, AGU, San Francisco, CA, 14-18 Dec.
- You, K., Flemings, P.B. (2016). Methane Hydrate Formation in Thick Sand Reservoirs: Long-range Gas Transport or Short-range Methane Diffusion? Presented at American Geophysical Union, Fall Meeting, San Francisco, CA.

You, K., and Flemings, P. B. (2018). Methane Hydrate Formation in Thick Marine Sands by Free Gas Flow. Presented at Gordon Research Conference on Gas Hydrate, Galveston, TX. Feb 24- Mar 02, 2018.

Theses/Dissertations

Andris, R., (2016). "The effect of restrictive diffusion on hydrate growth," *M.S. thesis*, University of Texas at Austin.

Bihani, A., (2016). "Pore size distribution and methane equilibrium conditions at Walker Ridge Block 313, northern Gulf of Mexico," *M.S. thesis*, University of Texas at Austin.

Shushtarian, A., (2016). "Effect of a discrete three-phase methane equilibrium zone on the bottom-simulating reflection," *M.S. thesis*, University of Texas at Austin.

Smart, K (2018) Modeling Well Log Responses in Hydrate Bearing Silts. Ohio State University. Undergraduate Thesis.

Characterizing the Response of the Cascadia Margin gas Hydrate Reservoir to Bottom Water Warming Along the Upper Continental Slope (DE-FE0013998)

University of Washington

Peer-Reviewed Publications

- Johnson, H. P., Miller, U. K., Salmi, M. S., and Solomon, E. A., (2015). "Analysis of bubble plume distributions to evaluate methane hydrate decomposition on the upper continental slope," *Geophys. Geochem. Geosyst.*, v. 16, pp. 3825-3839, doi:10.1002/2015GC005955.
- Philip, B. T., Denny, A. R., Solomon, E. A., Kelley, D. S., (2016). "Time-series measurements of bubble plume variability and water column methane distributions above Southern Hydrate Ridge, Oregon," *Geochem. Geophys. Geosyst.*, 17, pp. 1182-1196.

Government Reports

- Solomon, E., (2016). "Characterizing the Response of the Cascadia Margin Gas Hydrate Reservoir to Bottom Water Warming Along the Upper Continental Slope," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2015). DOE Award No.: DE-FE0013998. February 2016.
- Solomon, E., (2016). "Characterizing the Response of the Cascadia Margin Gas Hydrate Reservoir to Bottom Water Warming Along the Upper Continental Slope," *Quarterly Research Performance Progress Report* (Period Ending 3/31/2016). DOE Award No.: DE-FE0013998. May 2016.
- Solomon, E., (2016). "Characterizing the Response of the Cascadia Margin Gas Hydrate Reservoir to Bottom Water Warming Along the Upper Continental Slope," *Quarterly Research Performance Progress Report* (Period Ending 6/30/2016). DOE Award No.: DE-FE0013998. July 2016.
- Solomon, E., (2016). "Characterizing the Response of the Cascadia Margin Gas Hydrate Reservoir to Bottom Water Warming Along the Upper Continental Slope," *Quarterly Research Performance Progress Report* (Period Ending 9/30/2016). DOE Award No.: DE-FE0013998. November 2016.
- Solomon, E., (2017). "Characterizing the Response of the Cascadia Margin Gas Hydrate Reservoir to Bottom Water Warming Along the Upper Continental Slope," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2016). DOE Award No.: DE-FE0013998. February 2017.

Presentations

- Embley, R.W., Merle, S.G., Raineault, N., Baumberger, T., Seabrook, S.A., Johnson, H.P., Trehu, A.M., Lupton, J.E., Thurber, A.R., Hammond, S.R., Solomon, E.A., and Salmi, M., (2016). "Numerous bubble plumes mapped and new seeps characterized on the Cascadia margin," Abstract OS41A-1939, American Geophysical Union Fall Meeting, San Francisco, CA, December 12-16.

- Graw, M. F., Solomon, E. A., Treude, T., Pohlman, J., Colwell, F. S., (2015). "Towards biogeochemical modeling of anaerobic oxidation of methane: Characterization of microbial communities in methane-bearing North American continental margin sediments," **Abstract OS33A-1993, American Geophysical Union Fall Meeting, San Francisco, CA, December 14-18.**
- Johnson, H. P., Miller, U. K., Salmi M. S., Solomon, E. A., (2015). "Analysis of bubble plume distributions to evaluate methane hydrate decomposition on the Cascadia margin," *Abstract OS23B-1990, American Geophysical Union Fall Meeting, San Francisco, CA, December 14-18.*
- Salmi, M. S., Harris, R. N., Johnson, H. P., Solomon, E. A., (2015). "High resolution thermal model of the Washington margin of the Cascadia subduction zone," *Abstract T21D-2870, Presented at American Geophysical Union Fall Meeting, San Francisco, CA, December 14-18 .*
- Solomon, E.A., Kowalski, L., and Whorley, T.L., (2017). "Chronic downward flow of seawater in bacterial mats at Hydrate Ridge—Mechanisms and biogeochemical significance." *Ninth International Conference on Gas Hydrates, Denver, CO.*
- Whorley, T. L., Solomon, E. A., Torres, M. E., Johnson, H. P., Berg, R. D., Philip, B. T., (2015). "Evaluating active methane hydrate dissociation along the Washington margin in response to bottom water warming," *Abstract OS23B-2015, American Geophysical Union Fall Meeting, San Francisco, CA, December 14-18.*
- Whorley, T. L., Solomon, E. A., Torres, M. E., Johnson, H. P., Berg, R. D., Philip, B. T., (2016). "Evaluating water and methane sources at the upslope limit of methane hydrate stability along the Washington margin." *Gordon Research Conference on Natural Gas Hydrate Systems, Galveston, TX, Feb 28-March 4.*
- Whorley, T.L., Solomon, E.A., Philip, B.T., Torres, M.E., and Johnson, H.P., (2017). "Investigating the response of methane hydrates to modern bottom water warming along the upper continental slope of the Cascadia margin," *Ninth International Conference on Gas Hydrates, Denver, CO.*

***Borehole Tool for the Comprehensive Characterization of Hydrate-Bearing Sediments
(DE-FE0013961)***

Georgia Institute of Technology

Government Reports

- Santamarina, J. C., (2014). "Borehole Tool for the Comprehensive Characterization of Hydrate-Bearing Sediments," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2013). DOE Award No.: DE-FE0013961. January 2014.
- Santamarina, J. C., (2014). "Borehole Tool for the Comprehensive Characterization of Hydrate-Bearing Sediments," *Quarterly Research Performance Progress Report* (Period Ending 3/31/2014). DOE Award No.: DE-FE0013961. April 2014.
- Santamarina, J. C., (2014). "Borehole Tool for the Comprehensive Characterization of Hydrate-Bearing Sediments," *Quarterly Research Performance Progress Report* (Period Ending 6/30/2014). DOE Award No.: DE-FE0013961. July 2014.
- Santamarina, J. C., (2014). "Borehole Tool for the Comprehensive Characterization of Hydrate-Bearing Sediments," *Quarterly Research Performance Progress Report* (Period Ending 9/30/2014). DOE Award No.: DE-FE0013961. October 2014.
- Santamarina, J. C., (2015). "Borehole Tool for the Comprehensive Characterization of Hydrate-Bearing Sediments," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2014). DOE Award No.: DE-FE0013961. January 2015.
- Santamarina, J. C., (2015). "Borehole Tool for the Comprehensive Characterization of Hydrate-Bearing Sediments," *Quarterly Research Performance Progress Report* (Period Ending 9/30/2015). DOE Award No.: DE-FE0013961. November 2015.
- Santamarina, J. C., (2016). "Borehole Tool for the Comprehensive Characterization of Hydrate-Bearing Sediments," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2015). DOE Award No.: DE-FE0013961. February 2016.
- Santamarina, J. C., (2016). "Borehole Tool for the Comprehensive Characterization of Hydrate-Bearing Sediments," *Quarterly Research Performance Progress Report* (Period Ending 3/31/2016). DOE Award No.: DE-FE0013961. April 2016.
- Santamarina, J. C., (2016). "Borehole Tool for the Comprehensive Characterization of Hydrate-Bearing Sediments," *Quarterly Research Performance Progress Report* (Period Ending 6/30/2016). DOE Award No.: DE-FE0013961. July 2016.
- Santamarina, J. C., (2016). "Borehole Tool for the Comprehensive Characterization of Hydrate-Bearing Sediments," *Quarterly Research Performance Progress Report* (Period Ending 9/30/2016). DOE Award No.: DE-FE0013961. October 2016.

Impact of Clays on the Compressibility and Permeability of Sands During Methane Extraction from Gas Hydrate (DE-FE0028966)

Louisiana State University

Peer-Reviewed Publications

- Cao, S.C., Jang, J., Jung, J., Waite, W.F., Collett, T.S., Kumar, P., 2018. 2D micromodel study of clogging behavior of fine-grained particles associated with gas hydrate production in NGHP-02 gas hydrate reservoir sediments. *Journal of Marine and Petroleum Geology*. <https://doi.org/10.1016/j.marpetgeo.2018.09.010>.
- Jang, J., Cao, S., Stern, L.A., Jung, J., Waite, W.F., 2018. Impact of pore-fluid chemistry on fine-grained sediment fabric and compressibility. *Journal of Geophysical Research, Solid Earth: Solid Earth*, 123, 5495–5514. <https://doi.org/10.1029/2018JB015872>.
- Jang, J., Dai, S., Yoneda, J., Waite, W.F., Stern, L.A., Boze, L.-G., Collett, T.S., Kumar, P., 2018. Pressure core analysis of geomechanical and fluid flow properties of seals associated with gas hydrate-bearing reservoirs in the Krishna-Godavari Basin, offshore India, *Journal of Marine and Petroleum Geology*. <https://doi.org/10.1016/j.marpetgeo.2018.08.015>.
- Jang, J., Waite, W.F., Stern, L.A., Collett, T.S., Kumar, P., Impact of fine-grained sediment on the nature and development of a gas hydrate reservoir system investigated during NGHP-02 in the Krishna-Godavari Basin, offshore eastern India(in review), *Journal of Marine and Petroleum Geology*.

Government Reports

- Jung, J., (2016). "Impact of Clays on the Compressibility and Permeability of Sands During Methane Extraction from Gas Hydrate," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2016). DOE Award No.: DE-FE0028966. December 2016.
- Jung, J., (2017). "Impact of Clays on the Compressibility and Permeability of Sands During Methane Extraction from Gas Hydrate," *Quarterly Research Performance Progress Report* (Period Ending 03/31/2017). DOE Award No.: DE-FE0028966. March 2017.
- Jung, J., (2018). "Impact of Clays on the Compressibility and Permeability of Sands During Methane Extraction from Gas Hydrate," *Quarterly Research Performance Progress Report* (Period Ending 03/31/2018). DOE Award No.: DE-FE0028966. March 2018.
- Jung, J., (2018). "Impact of Clays on the Compressibility and Permeability of Sands During Methane Extraction from Gas Hydrate," *Quarterly Research Performance Progress Report* (Period Ending 06/30/2018). DOE Award No.: DE-FE0028966. June 2018.
- Jung, J., (2018). "Impact of Clays on the Compressibility and Permeability of Sands During Methane Extraction from Gas Hydrate," *Quarterly Research Performance Progress Report* (Period Ending 09/30/2018). DOE Award No.: DE-FE0028966. September 2018.

Other Publications

- Cao, S.C., Jang, J., Jung, J., Waite, W.F., Collett, T.S., and Kumar, P., 2018b. 2D Micromodel studies of pore-throat clogging by pure fine-grained sediments and natural sediments

from NGHP-02, offshore India: *U.S. Geological Survey data release*, <https://doi.org/10.5066/P9PZ5M7E>.

Jang, J., Cao, S. C., Stern, L. A., Waite, W. F., and Jung, J., 2018. Effect of pore fluid chemistry on the sedimentation and compression behavior of pure, endmember fines: *U.S Geological Survey Data Release*, <https://doi.org/10.5066/F77M076K>. 13

Jang, J., Cao, S., Stern, L.A., Jung, J., Waite, W.F., Impact of pore-fluid chemistry on fine-grained sediment fabric and compressibility, 2018. *Journal of Geophysical Research, Solid Earth: Solid Earth*, 123, 5495–5514. <https://doi.org/10.1029/2018JB015872>.

Jang, J., Dai, S., Yoneda, J., Waite, F. W., Collett, T. S. and Kumar, P. (2018-b). Pressure Core Characterization Tool Measurements of Compressibility, Permeability, and Shear Strength of Fine-Grained Sediment Collected from Area C, Krishna-Godavari Basin, during India's National Gas Hydrate Program Expedition NGHP-02: *U. S. Geological Survey data release*, <https://doi.org/10.5066/P91XJ7DP>

Jang, J., Waite, F. W., Stern, L. A., Collett, T. S. and Kumar, P., 2018b. Dependence of sedimentation behavior on pore-fluid chemistry for sediment collected from Area B, Krishna-Godavari Basin during India's National Gas Hydrate Program, NGHP-02: *U. S. Geological Survey data release*, <https://doi.org/10.5066/P9FXJ1VX>.

Presentations

Cao, S.C., Jang, J., Waite, W.F., Jafari, M., Jung, J., 2017. A 2D micromodel study of fines migration and clogging behavior in porous media: Implications of fines on methane extraction from hydrate-bearing sediments [Abstract]. Talk presented at the 2017 Fall Meeting of the American Geophysical Union Conference, New Orleans, LA. December 11-15, 2017.

Jang, J., Waite, W.F., Jung, J., (2017). "Pore-fluid sensitivity of clays and its impacts on gas production from hydrate-bearing sediments." Ninth International Conference on Gas Hydrates, June 25-30, 2017, Denver, Colorado.

Jang, J., Cao, S., Boze, L.G., Jung, J., Waite, W.F., 2018. Volume change in fine-grained sediments due to pore water salinity changes: gas hydrate-bearing sediments and pore water freshening during gas hydrate dissociation, presented poster at: Fall American Geophysical Conference, December 9-14, 2018, Washington D.C.

Jang, J., Cao, S., Waite, W.F., Jung, J., (2017). Impact of pore-water freshening on clays and the compressibility of hydrate-bearing reservoirs during production. Ninth International Conference on Gas Hydrates, June 25-30, 2017, Denver, Colorado.

Jang, J., Waite, W.F., Jung, J., (2017). Pore-fluid sensitivity of clays and its impacts on gas production from hydrate-bearing sediments [Abstract]. Poster presented at the 9th International Conference on Gas Hydrates, June 25-30, 2017, Denver, Colorado.

Jung, J., Cao, S., Jang, J., Waite, W.F., Lee, J.Y., 2018. Clogging behavior of fines associated with gas hydrate production, from pure fines to NGHP-02 and UBGH-02 reservoir fines, presented talk at: Fall American Geophysical Conference, December 9-14, 2018, Washington D.C.

A Multi-scale Experimental Investigation of Flow Properties in Coarse-grained Hydrate Reservoirs during Production (DE-FE0028967)

University of Texas at Austin

Peer-Reviewed Publications

- Chen, X. and Espinoza, D. N., (2018). Ostwald ripening changes the pore habit and spatial variability of clathrate hydrate. *Fuel*, 214, 614–622. <https://doi.org/10.1016/j.fuel.2017.11.065>
- Chen, X., Verma, R., Nicolas Espinoza, D., and Prodanović, M. (2018). Pore-Scale Determination of Gas Relative Permeability in Hydrate-Bearing Sediments Using X-Ray Computed Micro- Tomography and Lattice Boltzmann Method. *Water Resources Research*, 54(1), 600-608. <https://doi.org/10.1002/2017WR021851>
- Chen, X. and Espinoza, DN (2018), Surface area controls gas hydrate dissociation kinetics in porous media, *Fuel*, 234, 358-363. <https://doi.org/10.1016/j.fuel.2018.07.030>
- Meyer, D.W., Flemings, P.B., DiCarlo, D., You, K., Phillips, S.C., and Kneafsey, T.J. (2018), Experimental investigation of gas flow and hydrate formation within the hydrate stability zone. *Journal of Geophysical Research- Solid Earth* <https://doi.org/10.1029/2018JB015748>

Government Reports

- Flemings, P.B., (2017). "A Multi-scale Experimental Investigation of Flow Properties in Coarse-grained Hydrate Reservoirs during Production," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2016). DOE Award No.: DE-FE0028967. January 2017.
- Flemings, P.B., (2017). "A Multi-scale Experimental Investigation of Flow Properties in Coarse-grained Hydrate Reservoirs during Production," *Quarterly Research Performance Progress Report* (Period Ending 3/31/2017). DOE Award No.: DE-FE0028967. May 2017.
- Flemings, P.B., (2017). "A Multi-scale Experimental Investigation of Flow Properties in Coarse-grained Hydrate Reservoirs during Production," *Quarterly Research Performance Progress Report* (Period Ending 6/30/2017). DOE Award No.: DE-FE0028967. July 2017.
- Flemings, P.B., (2017). "A Multi-scale Experimental Investigation of Flow Properties in Coarse-grained Hydrate Reservoirs during Production," *Quarterly Research Performance Progress Report* (Period Ending 9/30/17). DOE Award No.: DE-FE0028967. October 2017.

- Flemings, P.B., (2018). "A Multi-scale Experimental Investigation of Flow Properties in Coarse-grained Hydrate Reservoirs during Production," *Quarterly Research Performance Progress Report* (Period Ending 12/31/17). DOE Award No.: DE-FE0028967. January 2018.
- Flemings, P.B., (2018). "A Multi-scale Experimental Investigation of Flow Properties in Coarse-grained Hydrate Reservoirs during Production," *Quarterly Research Performance Progress Report* (Period Ending 3/31/2018). DOE Award No.: DE-FE0028967. April 2018.
- Flemings, P.B., (2018). "A Multi-scale Experimental Investigation of Flow Properties in Coarse-grained Hydrate Reservoirs during Production," *Quarterly Research Performance Progress Report* (Period Ending 6/30/18). DOE Award No.: DE-FE0028967. July 2017.
- Flemings, P.B., (2018). "A Multi-scale Experimental Investigation of Flow Properties in Coarse-grained Hydrate Reservoirs during Production," *Quarterly Research Performance Progress Report* (Period Ending 9/30/18). DOE Award No.: DE-FE0028967. October 2018.

Presentations

- Chen, X., Espinoza, N., Verma, R., and Prodanovic, M., 2017. X-Ray Micro-CT Observations of Hydrate Pore Habit and Lattice Boltzmann Simulations on Permeability Evolution in Hydrate Bearing Sediments (HBS). Presented at the 2017 AGU Fall Meeting, December 11-15, 2017, New Orleans, LA.
- Chen, X., D. Nicolas Espinoza, Nicola Tisato, Peter B. Flemings (2018). X-ray Computed Micro-Tomography Study of Methane Hydrate Bearing Sand: Enhancing Contrast for Improved Segmentation, Gordon Research Conference – Natural Gas Hydrate Systems, Galveston, TX
- Chen, X., D. Nicolas Espinoza, Nicola Tisato, Rahul Verma, Masa Prodanovic, Peter B. Flemings, (2018). New Insights Into Pore Habit of Gas Hydrate in Sandy Sediments: Impact on Petrophysical and Transport Properties, Gordon Research Conference – Natural Gas Hydrate Systems, Galveston, TX
- Dong, T., Lin, J. F., Flemings, P. B., Polito, P. J., 2016. Pore-scale study on methane hydrate dissociation in brine using micro-Raman spectroscopy. Presented at the 2016 Extreme Physics and Chemistry workshop, Deep Carbon Observatory, Palo Alto, Calif., 10-11 Dec.
- Dong, T., Lin, J.-F., Flemings, P.B., Gu, J.T., Liu, J., Polito, P.J., O'Connell, J. (2017) Pore-scale study on gas hydrate formation and dissociation under relevant reservoir conditions of the Gulf of Mexico, presented at the 2017 Extreme Physics and Chemistry workshop, Deep Carbon Observatory, November 4-5, Tempe, AZ.
- Dong, T., Lin, J.-F., Gu, J.T., Polito, P.J., O'Connell, J., Flemings, P.B. (2017), Spatial and temporal dependencies of structure II to structure I methane hydrate transformation in porous media under moderate pressure and temperature conditions, Abstract OS53B-1188 Presented at 2017 Fall Meeting, December 11-15, New Orleans, LA.
- Dong, T., Lin, J.-F., Gu, J.T., Polito, P.J., O'Connell, J., Flemings, P.B. (2018), Transformation of metastable structure-II to stable structure-I methane hydrate in porous media during hydrate formation, poster presented at 2018 Jackson School of Geosciences Symposium, Feb. 3, 2018, Austin, TX.

- Dong, T., Lin, J.-F., Flemings, P.B., Gu, J.T., Polito, P.J., O'Connell, J. (2018), Pore-scale methane hydrate dissociation in porous media using Raman spectroscopy and optical imaging, poster presented at Gordon Research Conferences on Natural Gas Hydrate Systems, Feb. 25-March 2, 2018, Galveston, TX.
- Lin, J. F., Dong, T., Flemings, P. B., Polito, P. J., 2017. Characterization of methane hydrate reservoirs in the Gulf of Mexico, presented at the Third Deep Carbon Observatory International Science Meeting, St. Andrews, Scotland, 23-25, March.
- Murphy, Z., Fukuyama, D., Daigle, H., DiCarlo, D. (2018), Relative permeability of hydrate-bearing sediment, poster presented at Gordon Research Conference on Natural Gas Hydrate Systems, Feb. 25-Mar. 2, 2018, Galveston, TX.
- Phillips, S.C., You, K., Flemings, P.B., Meyer, D.W., and Dong, T., 2017. Dissociation of laboratory-synthesized methane hydrate in coarse-grained sediments by slow depressurization. Poster presented at the 9th International Conference on Gas Hydrates, June 25-30, 2017, Denver, CO.
- Xiongyu Chen, D. Nicolas Espinoza, Nicola Tisato, Peter B. Flemings (2018). X-ray Computed Micro-Tomography Study of Methane Hydrate Bearing Sand: Enhancing Contrast for Improved Segmentation, Gordon Research Conference – Natural Gas Hydrate Systems, Galveston, TX
- Xiongyu Chen, D. Nicolas Espinoza, Nicola Tisato, Rahul Verma, Masa Prodanovic, Peter B. Flemings, (2018). New Insights Into Pore Habit of Gas Hydrate in Sandy Sediments: Impact on Petrophysical and Transport Properties, Gordon Research Conference – Natural Gas Hydrate Systems, Galveston, TX

Characterizing Ocean Acidification and Atmospheric Emission Caused by Methane Released from Gas Hydrate Systems along the US Atlantic Margin (DE-FE0028980)

University of Rochester

Peer-Reviewed Publications

Government Reports

- Kessler, J.D., 2017. "Characterizing Ocean Acidification and Atmospheric Emission Caused by Methane Released from Gas Hydrate Systems along the US Atlantic Margin," *Quarterly Research Performance Progress Report* (Period Ending 12/2016). DOE Award No.: DE-FE0028980. March 2017.
- Kessler, J.D., 2017. "Characterizing Ocean Acidification and Atmospheric Emission Caused by Methane Released from Gas Hydrate Systems along the US Atlantic Margin," *Quarterly Research Performance Progress Report* (Period Ending 03/2017). DOE Award No.: DE-FE0028980. 2017.
- Kessler, J.D., 2017. "Characterizing Ocean Acidification and Atmospheric Emission Caused by Methane Released from Gas Hydrate Systems along the US Atlantic Margin," *Quarterly Research Performance Progress Report* (Period Ending 06/2017). DOE Award No.: DE-FE0028980. 2017.

- Kessler, J.D., 2017. "Characterizing Ocean Acidification and Atmospheric Emission Caused by Methane Released from Gas Hydrate Systems along the US Atlantic Margin," *Quarterly Research Performance Progress Report* (Period Ending 09/2017). DOE Award No.: DE-FE0028980. 2017.
- Kessler, J.D., 2018. "Characterizing Ocean Acidification and Atmospheric Emission Caused by Methane Released from Gas Hydrate Systems along the US Atlantic Margin," *Quarterly Research Performance Progress Report* (Period Ending 12/2017). DOE Award No.: DE-FE0028980. 2018.
- Kessler, J.D., 2018. "Characterizing Ocean Acidification and Atmospheric Emission Caused by Methane Released from Gas Hydrate Systems along the US Atlantic Margin," *Quarterly Research Performance Progress Report* (Period Ending 03/2018). DOE Award No.: DE-FE0028980. 2018.
- Kessler, J.D., 2018. "Characterizing Ocean Acidification and Atmospheric Emission Caused by Methane Released from Gas Hydrate Systems along the US Atlantic Margin," *Quarterly Research Performance Progress Report* (Period Ending 06/2018). DOE Award No.: DE-FE0028980. 2018.

Advanced Simulation and Experiments of Strongly Coupled Geomechanics and Flow for Gas Hydrate Deposits: Validation and Field Application (DE-FE0028973)

Texas A&M University

Peer-Reviewed Publications

- Kim J., 2018, Unconditionally Stable Sequential Schemes for All-way Coupled Thermoporoelasticity: Undrained-Adiabatic and Extended Fixed-Stress Splits, *Computer Methods in Applied Mechanics and Engineering*, 341:93-112.
- Kim, J., 2018, A new numerically stable sequential algorithm for coupled finite-strain elastoplastic geomechanics and flow, *Computer Methods in Applied Mechanics and Engineering*, 335(15): pp. 538-562.
- Moridis, G.J., Reagan, M.T., Queiruga, A.F., Kim, S.J. 2019 System Response to Gas Production from a Heterogeneous Hydrate Accumulation at the UBGH2-6 Site in the Ulleung Basin of the Korean East Sea, *Journal of Petroleum Sciences and Engineering* 178: 655-665
- Yoon, H.C., Zhou, P. , Kim, J., 2020, Robust modeling of hysteretic capillary pressure and relative permeability for two phase flow in porous media, *Journal of Computational Physics*, Vol 402, 108915

Government Reports

- Kim, J., 2017. "Advanced Simulation and Experiments of Strongly Coupled Geomechanics and Flow for Gas Hydrate Deposits: Validation and Field Application," *Quarterly Research Performance Progress Report* (Period Ending 12/31/2018). DOE Award No.: DE-FE0028973. December 2017.
- Kim, J., 2018. "Advanced Simulation and Experiments of Strongly Coupled Geomechanics and Flow for Gas Hydrate Deposits: Validation and Field Application," *Quarterly Research Performance Progress Report* (Period Ending 3/31/2018). DOE Award No.: DE-FE0028973. March 2018.

Kim, J., 2018. "Advanced Simulation and Experiments of Strongly Coupled Geomechanics and Flow for Gas Hydrate Deposits: Validation and Field Application," *Quarterly Research Performance Progress Report* (Period Ending 6/30/2018). DOE Award No.: DE-FE0028973. June 2018.

Kim, J., 2018. "Advanced Simulation and Experiments of Strongly Coupled Geomechanics and Flow for Gas Hydrate Deposits: Validation and Field Application," *Quarterly Research Performance Progress Report* (Period Ending 9/30/2018). DOE Award No.: DE-FE0028973. September 2018.

Other Publications

Yoon, H.C, Guo, X., Kim, J., Killough, J., 2019 Flexible and practical parallel implementation for coupled elastoplastic geomechanics and non-isothermal flow, *International Journal of Rock Mechanics and Mining Sciences* 120:96-107

Presentations

Adams, J., Akkutlu, I.Y., Moridis, G.J., 2019. Modeling of hydrate formation hysteresis in porous media. SPE-195540 presented at the SPE EUROPEC featured at 81th EAGE Conference and Exhibition, London, UK, June 3-6

Kim, J., Lee J.Y, 2019, Wellbore stability and possible geomechanical failure in the vicinity of the well during pressurization at the gas hydrate deposit in the Ulleung Basin, 53rd US Rock Mechanics/Geomechanics Symposium, 24-29 Jun, New York, NJ

Kim, J., Lee S., Moridis G.J., 2019, Advanced Simulation for Strongly Coupled Non-isothermal Flow and Geomechanics for the Gas Hydrate Deposits, SIAM Conference on Mathematical & Computational Issues in the Geosciences, Houston, TX, Mar. 11-14

Yoon, H.C., Kim, J., Lee, J.Y., Field-wide Simulation and Analyses of the Geomechanical Responses Different Depressurizations for the Gas Hydrate Deposit Located in Ulleung Basin, South Korea, AGU (American Geophysical Union) Fall Meeting 2018, December 10-14 2018, Washington D.C.,

Yoon, S., Kim, J., 2019, The Modeling of Fault Activation and Induced Seismicity by using CoupledFlow-geomechanics Simulation and its Field Application, SIAM Conference on Mathematical & Computational Issues in the Geosciences, Houston, TX, Mar. 11-14

Yoon, S., Kim, J., 2019, The fast marching method for simulation of coupled flow and geomechanics and fault activation, 53rd US Rock Mechanics/Geomechanics Symposium, 24-29 Jun, New York, NJ

Yoon, S., Lee, H., Kim, J., Shinn, Y.J., 2019, Numerical investigation on geomechanical responses of a pilot-scale CO₂ storage site, South Korea, 53rd US Rock Mechanics/Geomechanics Symposium, 24-29 Jun, New York, NJ

Section IV: Publications Resulting from Work with the Dept. of Energy's National Labs

Additional publications produced by the National Labs in association with the Program's major field projects are included within Section II.

Brookhaven National Laboratory

Peer-Reviewed Publications

- Eaton, M., K. Jones, and Mahajan, D., (in review). "Methane hydrate formation/decomposition in depleted Sediments," *Proceedings of the Geological Society*, London, England.
- Eaton, M., Mahajan, D., and Flood, R., (2007). "A novel high-pressure apparatus to study hydrate-sediment interactions," in D. Mahajan, Taylor, C., and G. Ali Mansoori, eds. *Journal of Petroleum Science and Engineering – Natural Gas Hydrate/Clathrate (Elsevier)*, Volume 56, Issues 1-3, pp. 101-107.
- Jones, K., Kerkar, P., Mahajan, D., Lindquist, W., and Feng, H., (in review). "Microstructure of Natural Hydrate Host Sediments," *Nuclear Instruments and Methods in Physics Research: Section B*.
- Jones, K., Feng, H., Tomov, S., Winters, W., Prodanović M., and Mahajan, D., (2007). "Characterization of methane hydrate host sediments using synchrotron-computed microtomography (CMT)," D. Mahajan, Taylor, C., and G. Ali Mansoori eds. *Journal of Petroleum Science and Engineering – Natural Gas Hydrate/Clathrate (Elsevier)*, Volume 56, Issues 1-3, pp. 136-145.
- Jones, K., Feng, H., Lanzirooti, A., and Mahajan, D., (2005). "Synchrotron X-ray Microprobe and Computed Microtomography for Characterization of Nanocatalysts," *Nuclear Instruments and Methods in Physics Research: Section B*, Volume 241, pp. 331-334.
- Mahajan, D., Servio, P., Jones, K., Feng, H., and Winters, W., (2004). "Methane Hydrate Studies, Delineating Properties of Host Sediments to Establish Reproducible Decomposition Kinetics," in Taylor, C., and J. Kwan, eds., *Recent Advances in the Study of Gas Hydrates*, NY, American Institute of Chemical Engineers and Kluwer Academic/Plenum Publishers, p. 239-250.
- Servio, P., Eaton, M., Mahajan, D., and Winters, W., (2005). "Fundamental Challenges to Methane Recovery from Gas Hydrates," *Topics in Catalysis*, Volume 32, n. 3-4, pp. 101-104.
- Zheng, L., Zhang, H., Zhang, M., Kerkar, P., and Mahajan, D., (in review). "Modeling methane hydrate formation in marine sediments," in Collett, T., A. Johnson, C. Knapp and Boswell, R., eds., *Natural Gas Hydrates: Energy Resource and Associated Geologic Hazards*, The American Association of Petroleum Geologists Hedberg Special Publication.

Other Publications

Mahajan, D., Kotzle, T., Klooster, W., Brammer, L., McMullan, R., and Goland, A., (2000). "Crystal Growth, Structure Characterization, and Schemes for Economical Transport: An Integrated Approach to the Study of Natural Gas Hydrates," *Annals of the New York Academy of Sciences, Volume 912*, pp. 940-949.

Presentations

- Eaton, M. and Mahajan, D., (2006). "Methane Hydrate Kinetics in Depleted Host Sediments using the FISH unit," *International Workshop on Science & Technology Issues in Methane Hydrates R&D, Engineering Conference International, Kauai, HI* March 5-9.
- Eaton, M., Mahajan, D., Flood, R., Koga, T., and Rafailovich, M., (2005). "Hydrate-Sediment Interactions in a Novel High-Pressure Apparatus," *Symposium on Gas Hydrates and Clathrates, 229th American Chemical Society National Meeting, San Diego, CA*, March 13-17.
- Jones, K., Feng, H., Tomov, S., Winters, W., Eaton, M., and Mahajan, D., (2005). "Morphology of methane hydrate host sediments," *Symposium on Gas Hydrates and Clathrates, 229th American Chemical Society National Meeting, San Diego, CA*, March 13-17.
- Kerkar, P., Jones, K., Feng, H., and Mahajan, D., (2006). "Spectroscopic Characterization of Host Sediments," *International Workshop on Science & Technology Issues in Methane Hydrates R&D, Engineering Conference International, Kauai, HI*, March 5-9.
- Mahajan, D., (2006). "Mimicking natural systems in the FISH unit: Methane hydrate formation/decomposition in depleted Sediments," *New Insights on Natural and Synthetic Systems, Sediment-Hosted Gas Hydrates, The Geological Society, London, UK*, January 25-26.
- Mahajan, D., (2004). "Technical Challenges to Mining Methane Hydrates: The next Energy Frontier," *Marine Sciences and Atmospheric Sciences Colloquium Series, New York, NY*, February 6.
- Mahajan, D., Jones, K., Feng, H., and Winters, W., (2003). "Methane Hydrate Studies: Delineating Properties of Sediments Using Synchrotron Computed Microtomography (CMT)," *Symposium on Gas Hydrates, American Institute of Chemical Engineering Spring National Meeting, New Orleans, LA*, March 30-April 3.
- Mahajan, D., Koetzle, T., Brammer, L., Klooster, W., McGraw, R., McMullan, R., and Senum, G., (2002). "Structure Characterization and Sono-Stimulated Kinetic Study with Tracers in Pressure Vessels: An Integrated Approach to the Study of Gas Hydrates," *Symposium on the Fundamentals of Advanced Materials for Energy Conversion, Session on Gas Clathrate Hydrates, TMS Annual Meeting, Seattle, WA*, February 17-21.
- Mahajan, D., (2001). "Update of results from National Laboratories," *Methane Hydrate Advisory Committee Meeting, Office of Fossil Energy, U. S. Department of Energy, Woods Hole, MA*, May 17-18.
- Servio, P., and Mahajan, D., (2003). "Kinetic Reproducibility of Methane Production from Methane Hydrates," *Symposium on Synthetic Clean Fuels from Natural Gas and Coal-bed Methane: 30 Years Since the First Oil Crisis, 226th American Chemical Society National Meeting, New York, NY*, September 7-11.

Yoon, S., Jones, K., Feng, H., Winters, W., and Mahajan, D., (2003) "Methane hydrate studies: delineating properties of sediments by computed microtomography (CMT)," *AICHE Spring National Meeting*, New Orleans, LA, March 30-April 3.

Theses/Dissertations

Eaton, M., (2007). "Mimicking Marine-based Natural Systems: A Study of Sediment-Hydrate Interactions Under In Situ Conditions," *Ph. D. Dissertation*, Stony Brook University.

Peer-Reviewed Publications

- Anderson B., Kurihara, M., White, M. D., Moridis, G. J., Wilson, S. J., Pooladi-Darvish, M., Gaddipati, M., Masuda, Y., Collett, T. S., Hunter, R. B., Narita, H., Rose, K. K., and Boswell, R., (2011). "Regional long-term production modeling from a single well test, Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope." *Marine and Petroleum Geology* 28(2):493-501 . doi:10.1016/j.marpetgeo.2010.01.015
- Briggs, B. R., Inagaki, F., Morono, Y., Futagami, T., Huguet, C., Rosell-Mele, A., Lorenson, T. D., and Colwell, F. S., (2012). "Bacterial dominance in subseafloor sediments characterized by methane hydrates," *FEMS Microbiology Ecology*, v. 81, no.1, pp. 88-98, doi: 10.1111/j.1574-6941.2012.01311.x
- Long, P. E., Holland, M., Schultheiss, P., Riedel, M., Weinberger, J. L., Trehu, A. M., and Schaef, H. T., (2010). "Infrared (IR) Imaging of Gas Hydrate-Bearing Cores: State-of-the-Art and Future Prospect," Michael Riedel, Ele Willoughby, and Satinder Chopra eds., *Geophysical Characterization of Gas Hydrates, Society of Exploration Geophysicists Special Publication*.
- Long, P. E., Rose, K. K., Schaef, H. T., Torres, M. E., Solomon, E. S., Kastner, M., Johnson, J. E., Giosan, L., Winters, W. J., Dewri, S., and Kumar, P., (2009). "Gas hydrate occurrence in marine sediments and volcanic ash of the Andaman Arc: Results from NGHP Expedition 01, Site 17," *Prepr. Pap.-Am. Chem. Soc., Div. Fuel Chem. 2009, 54 (1)*, pp. 135-136
- McGrail, B. P., Ahmed, S., Schaef, H. T., Owen, A. T., Martin, P. F., and Zhu, T., (2007). "Gas Hydrate Property Measurements in Porous Sediments with Resonant Ultrasound Spectroscopy," *J. Geophys. Res.* 112 (B05202), doi:10.1029/2005JB004084.
- McGrail, B., Ahmed, S., Owen, A., Martin, P., and Zhu, T., (in press). "Gas Hydrate Property Measurements in Porous Sediments With Resonant Ultrasound Spectroscopy," *Journal of Geophysical Research. Solid Earth* 112(B05202); doi:10.1029/2005JB004084
- McGrail, B., Young, J., Martin, P., and Alexander, M., (2005). "Scientific Results from Mallik 2000 Gas Hydrate Production Research Well Program, Mackenzie Delta, Northwest Territories," in Dallimore, S., and Collett, T., eds., *Geological Survey of Canada Bulletin* 585, p.110.
- Milkov, A. V., Claypool, G. E., Lee, Y. J., Torres, M. E., Borowski, W. S., Tomaru, H., Sassen, R., and Long, P. E., (2004). "Ethane Enrichment and Propane Depletion in Subsurface Gases Indicate Gas Hydrate Occurrence in Marine Sediments at Southern Hydrate Ridge Offshore Oregon." *Org. Geochem.* 35(9):1067-1080, 10.1016/j.orggeochem.2004.04.003.
- Riedel, M., Long, P. E., and Collett, T. S., (2006). "Estimates of in Situ Gas Hydrate Concentration from Resistivity Monitoring of Gas Hydrate Bearing Sediments During Temperature Equilibration." *Marine Geology* 227(3-4):215-225, 10.1016/j.marpetgeo.2005.10.007.
- Schaef, H. T., McGrail, B. P., Owen, A. T., and Long, P. E., (2009). "Characterization of NGHP-01 Hydrate Samples by In Situ High-Pressure X-Ray Diffraction Coupled with Residual Gas Analysis," *Marine Geology (In Review)*.

- Torres, M. E., Tréhu, A. M., Cespedes, N., Kastner, M., Wortmann, U. G., Kim, J.-H., Long, P. E., A. Malinverno, A., Pohlman, J. W., Riedel, M., Collett, T., (2008). "Methane hydrate formation in turbidite sediments of northern Cascadia, IODP Expedition 311," *Earth and Planetary Science Letters* 271, pp. 170–180.
- Trehu, A. M., Long, P. E., Torres, M. E., Bohrmann, G., Rack, F. R., Collett, T. S., Goldberg, D. S., Milkov, A. V., Riedel, M., Schultheiss, P., Bangs, N. L., Barr, S. R., Borowski, W. S., Claypool, G. E., Delwiche, M. E., Dickens, G. R., Gracia, E., Guerin, G., Holland, M., Johnson, J. E., Lee, Y. J., Liu, C. S., Su, X., Teichert, B., Tomaru, H., Vanneste, M., Watanabe, M., and Weinberger, J. L., (2004). "Three-Dimensional Distribution of Gas Hydrate beneath Southern Hydrate Ridge: Constraints from ODP Leg 204," *Earth Planet. Sci. Lett.* 222(3-4):845-862, 10.1016/j.epsl.2004.03.035.
- Trehu, A. M., Long, P. E., Torres, M. E., Bohrmann, G., Rack, F. R., Collett, T. S., Goldberg, D. S., Milkov, A. V., Riedel, M., Schultheiss, P., Bangs, N. L., Barr, S. R., Borowski, W. S., Claypool, G. E., Delwiche, M. E., Dickens, G. R., Gracia, E., Guerin, G., Holland, M., Johnson, J. E., Lee, Y. J., Liu, C. S., Su, X., Teichert, B., Tomaru, H., Vanneste, M., Watanabe, M., and Weinberger, J. L., 2004. "Three-Dimensional Distribution of Gas Hydrate beneath Southern Hydrate Ridge: Constraints from ODP Leg 204 (Vol 222, Pg 845, 2004)," *Earth Planet. Sci. Lett.* 227(3-4):557-558, 10.1016/j.epsl.2004.09.016.
- Weinberger, J., Brown, K., and Long, P., (2005). "Painting a Picture of Gas Hydrate Distribution with Thermal Images," *Geophysical Research Letters*, Volume 32.
- White, M. D., Wurstner, S. K., and McGrail, B. P., (2011). ""Numerical studies of methane production from Class 1 gas hydrate accumulations enhanced with carbon dioxide injection," *Marine and Petroleum Geology* 28(2):546-560. doi:10.1016/j.marpetgeo.2009.06.008
- Yoo S., and Xantheas, S. S., (2012). "Enhancement of Hydrogen Storage Capacity in Hydrate Lattices," *Chemical Physics Letters* 525-526:13-18. doi:10.1016/j.cplett.2011.12.036

Government Reports

- McGrail B. P., Schaef, H. T., White, M. D., Zhu, T., Kulkarni, A. S., Hunter, R. B., Patil, S. L., Owen, A. T., and Martin, P. F., (2007). "Using Carbon Dioxide to Enhance Recovery of Methane from Gas Hydrate Reservoirs: Final Summary Report," *PNNL-17035, Pacific Northwest National Laboratory*, Richland, WA.
- White M. D., Wurstner, S. K., and McGrail, B. P., (2009). "*Comparative Assessment of Advanced Gas Hydrate Production Methods: Final Report*," *PNWD-4081, Battelle—Pacific Northwest Division*, Richland, WA.
- White, M., (2018). "Kinetic Parameters for the Exchange of Hydrate Formers," Quarterly Research Performance Report for the Period Ending 12/31/2017, for Pacific Northwest National Laboratories FWP 65213. January 2018.
- White, M., (2018). "Kinetic Parameters for the Exchange of Hydrate Formers," Quarterly Research Performance Report for the Period Ending 03/31/2018, for Pacific Northwest National Laboratories FWP 65213. March 2018.

White, M., (2018). "Kinetic Parameters for the Exchange of Hydrate Formers," Quarterly Research Performance Report for the Period Ending 6/30/2018, for Pacific Northwest National Laboratories FWP 65213. July 2018.

White, M., (2018). "Kinetic Parameters for the Exchange of Hydrate Formers," Quarterly Research Performance Report for the Period Ending 9/30/2018, for Pacific Northwest National Laboratories FWP 65213. September 2018.

Other Publications

Ahmed, S., (2005). "Theoretical Considerations in the Application of RUS to Determine the Amount of Gas Hydrate/Ice in Berea Sandstone," *PNNL-SA-46362, Pacific Northwest National Laboratory*, Richland, WA.

Ahmed, S., and McGrail, B. P., (2005). "Theoretical Considerations in the Application of Resonant Ultrasound to Determine Amount of Gas Hydrate/Ice in Berea Sandstone," *PNNL-SA-44620, Pacific Northwest National Laboratory*, Richland, WA.

Ahmed, S., and McGrail, B. P., (2005). "Theoretical Considerations in the Application of RUS to Determine the Amount of Gas Hydrate/Ice in Berea Sandstone," *PNNL-SA-45737, Pacific Northwest National Laboratory*, Richland, WA.

Alexander, M. L., Young, J. S., and Martin, P. F., (2004). "Gas Hydrate Formation and Dissociation in the Environmental Scanning Electron Microscope," *PNNL-SA-41422, Pacific Northwest National Laboratory*, Richland, WA.

Briggs, B., Hangsterfer, A., Brodie, E. L., Daly, R., Holland, M., Carini, P., Torres, M. E., Kastner, M., Long, P. E., Schaef, H. T., Delwiche, M. E., Winters, W. J., Riedel, M., and Colwell, F. S., (2008). "Distribution of the dominant microbial communities in marine sediments containing high concentrations of gas hydrates," *PNNL-SA-59562, 6th International Conference on Gas Hydrates*, Vancouver, Canada.

Long, P. E., Schaef, H. T., McGrail, B. P., Torres, M. E., Trehu, A. M., Cespedes, N., Kastner, M., Wortmann, U., and Riedel, M., (2007). "IODP Expedition 311 IR Imaging correlation to pore water chemistry and post-cruise high-pressure X-ray diffraction (HXR) and residual gas analyses (RGA)," *PNNL-SA-54922, IODP Expedition 311 2nd Post Cruise Meeting*, Paris, France.

Long, P. E., Schaef, H. T., Torres, M. E., Holland, M., Schultheiss, P. J., Kastner, M., Solomon, E., and Winters, W. J., (2007). "Infrared (IR) Imaging results from Indian National Gas Hydrate Program, Expedition 01: Implications for gas hydrate abundance and correlation to physical properties and pore water chemistry," *PNNL-SA-58141, India National Gas Hydrate Program, Expedition 01*, Delhi, India.

Long, P. E., Holland, M., Schultheiss, P., Riedel, M., Weinberger, J., Trehu, A. M., and Schaef, H. T., (2010). "Infrared (IR) Imaging of Gas Hydrate-Bearing Cores: State-of-the-Art and Future Prospects," *Geophysical Characterization of Gas Hydrates*.

McGrail, B. P., and White, M. D., (2005). "Numerical simulation of CO₂ injection and sequestration in saline and hydrate bearing aquifers," *PNNL-SA-44745, Pacific Northwest National Laboratory*, Richland, WA.

- McGrail, B. P., Zhu, T., Hunter, R. B., White, M. D., and Patil, S. L., (2004). "A New Method for Enhanced Production of Gas Hydrates with CO₂," *PNNL-SA-41275, Pacific Northwest National Laboratory*, Richland, WA.
- McGrail, B. P., Ahmed, S., Owen, A. T., Phale, H. A., and Newburn, M. K., (2004). "A New Method for Gas Hydrate Equilibrium Measurements in Porous Media Using Resonant Ultrasound Spectroscopy," *PNNL-SA-43580, Pacific Northwest National Laboratory*, Richland, WA.
- Schaefer, H. T., Long, P. E., McGrail, B. P., and Owen, A. T., (2007). "High-pressure X-ray diffraction (HXRD) coupled with residual gas analyses (RGA) of gas hydrate-bearing sediment samples from the Indian National Gas Hydrate Program, Expedition 01," *PNNL-SA-58146, NGHP Expedition 01 Symposium*, Delhi, India.
- Schaefer, H. T., McGrail, B. P., Owen, A. T., Zhu, T., and Hunter, R. B., (2005). "Enhanced Gas Hydrate Recovery with CO₂ Sequestration," *PNNL-SA-44412, Pacific Northwest National Laboratory*, Richland, WA.
- White, M. D., (2004). "STOMP Website," *PNNL-SA-43651 Pacific Northwest National Laboratory*, Richland, WA.
- White, M. D., and McGrail, B. P., (2006). "Numerical Simulation of Methane Hydrate Production from Geologic Formations via CO₂ Injection," *PNWD-SA-7506, 2nd International Symposium on Gas Hydrate Technology*, Daejeon, Korea.
- White, M. D., and McGrail, B. P., (2008). "Using Numerical Simulation to Interpret Experimental Flow and Recovery Test Results from the Mount Elbert Gas Hydrate Well," *PNNL-SA-60012, 6th International Conference on Gas Hydrates*, Vancouver, BC, Canada.
- White, M. D., (2011). "Role of Guest Molecule Exchange Kinetics on the Injectivity of Liquid CO₂ into Gas Hydrate Bearing Formations," *PNWD-SA-9322, 2011 SIAM Conference on Mathematical & Computational Issues in the Geosciences*, Long Beach, CA.
- Young, J. S., McGrail, B. P., and Martin P. F., (2003). "Examination of Gas Hydrates in Sediments with Environmental Scanning Electron Microscopy," *PNNL-SA-38738, Pacific Northwest National Laboratory*, Richland, WA.

Presentations

- Ahmed, S. (2005). "Theoretical Considerations in the Application of RUS to Determine the Amount of Gas Hydrate/Ice in Berea Sandstone," *PNNL-SA-46362, World Congress Ultrasonics/Ultrasonics International 05*, Beijing, China, August 30.
- Ahmed, S., and McGrail, B. P., (2007). "Application of Acoustic Waves to Determine the Amount of Gas Hydrate in Core Samples," *PNNL-SA-54318, National Energy Technology Laboratory (NETL)*, Pittsburgh, PA, March 13.
- Alexander, M. L., Young, J. S., and Martin, P. F., (2004). "Gas Hydrate Formation and Dissociation in the Environmental Scanning Electron Microscope," *PNNL-SA-41422, Goldschmidt Geochemistry Conference*, Copenhagen, Denmark, June 8.

- Anderson, B. J., Wilder, J. W., Kurihara, M., White, M. D., Moridis, G. J., Wilson, S. J., Pooladi-Darvish, M., Masuda, Y., Collett, T., and Hunter, R., (2008). "Analysis of modular dynamic formation test results from the 'Mount Elbert' stratigraphic test well, Milne Point, Alaska," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Anderson, B., Boswell, R., Collett, T. S., Farrell, H., Ohtsuka, S., and White, M., (2014). "Review of the findings of the Ignik Sikumi CO₂-CH₄ gas hydrate exchange field trial," *Proceedings of the 8th International Conference on Gas Hydrates (ICGH8-2014)*, Beijing, China, July 28-August 1.
- Long, P. E., Schaef, H. T., Torres, M. E., Holland, M., Schultheiss, P. J., Kastner, M., Solomon, E., and Winters, W. J., (2008). "Infrared Imaging results from Indian National Gas Hydrate Program Expedition 1: Implications for gas hydrate abundance and correlation to physical properties and pore water chemistry," *PNNL-SA-58983, NGHP-01 Gas Conference 2008*, Delhi, India, February 7.
- Long, P. E., (2007). "Quantification of Gas Hydrate Abundance Using IR Images of Core From Expedition 311," *Second Post-cruise meeting for Expedition 311*, Paris, France, April 23.
- McGrail, B. P., Ahmed, S., Owen, A. T., and Martin, P. F., (2006). "Resonant Ultrasound Spectroscopy: A New Technique for Measurement of Gas Hydrate Properties in Porous Sediments," *11th International Conference on the Physics and Chemistry of Ice*, Bremerhaven, Germany, July 25.
- McGrail, B., Martin, P., White, M., Ahmed, A., Owen, A., Schaef, T., Young, S., and Alexander, M., (2006). "Gas Hydrate Science at Pacific Northwest National Laboratory," *U. S. DOE-NETL Gas Hydrates Program Review*, Denver, CO, January 18.
- McGrail, B., Schaef, T., White, M., Owen, A., Martin, P., and Long, P., (2006). "PNNL Gas Hydrate Research Capabilities," *Inter-Laboratory Hydrate Workshop, Colorado School of Mines*, Golden, CO.
- McGrail B. P., Ahmed, S., Owen, A. T., Phale, H. A., and Newburn, M. K., (2005). "A New Method for Gas Hydrate Equilibrium Measurements in Porous Media Using Resonant Ultrasound Spectroscopy," *PNNL-SA-43580, American Chemical Society*, San Diego, CA, March 14.
- McGrail B. P., and M. D. White. 2005. "Numerical simulation of CO₂ injection and sequestration in saline and hydrate bearing aquifers." Presented by Mark D. White at Fourth Annual Conference on Carbon Sequestration, Alexandria, VA on May 2, (2005). PNNL-SA-44745.
- McGrail, B., (2005). Gas Hydrate Equilibria Measurements in Porous Sediments With Resonant Ultrasound Spectroscopy, San Diego, CA, 229th American Chemical Society National Meeting, March 13-17.
- McGrail, B. P., M. L. Alexander, J. S. Young, and P. F. Martin. 2004. "Gas Hydrate Formation and Dissociation in the Environmental Scanning Electron Microscope." Presented at Goldschmidt Geochemistry Conference, Copenhagen, Denmark on June 9, (2004).
- McGrail B. P., Zhu, T., R. B. Hunter, M. D. White, and S. L. Patil. 2004. "A New Method for Enhanced Production of Gas Hydrates with CO₂." Presented by B. Peter McGrail (Invited Speaker) at AAPG HEDBERG CONFERENCE, Vancouver, BC, Canada on September 14, (2004). PNNL-SA-41275.

- McGrail, B., J. Young, and P. Martin, 2003, Preliminary Results of X-ray Microtomography, Resonant Ultrasound, and Environmental Electron Microscopy Analyses of Mallik 5L-38 Core Samples, Whistler, BC, Workshop on the Mallik 5L-38 Gas Hydrate Research Well, January 23.
- McGrail, B., Martin, P., Young, J., Owen, A., and Alexander, M., (2003). "Analyses of Mallik 5L-38 Core Samples with Environmental Scanning Electron Microscopy and Resonant Ultrasound Spectroscopy," *Mallik 2002 Gas Hydrate Production Research Well Symposium*, Makuhari, Japan, December 9.
- Schaef H. T., McGrail, B. P., Owen, A. T., Zhu, T., and Hunter, R. B., (2005). "Enhanced Gas Hydrate Recovery with CO₂ Sequestration," *4th Annual Conference on Carbon Capture and Sequestration*, Alexandria, VA, May 2. PNNL-SA-44412.
- Schaef, T., (2008). "High pressure X-ray diffraction (HXR) coupled with residual gas analyses (RGA) of gas hydrate bearing sediment samples from the Indian National Gas Hydrate Program, Expedition 01" *NGHP Gas Hydrate Conference*, New Delhi, India, Feb. 6-8.
- Schaef, H. T., McGrail, B. P., White, M. D., and Long, P.E., (2008). "Characterization of Natural Hydrate Bearing Core Samples." Presented by Herbert T. Schaef (Invited Speaker) at DOE-NETL Methane Hydrate Program Peer Review of funded National Lab and Inter-Agency Efforts, Pittsburgh, PA on August 26, (2008). PNNL-SA-62123.
- White, M. D., and McGrail, B. P., (2003). "Numerical Investigations of Multifluid Hydrodynamics During Injection of Supercritical CO₂ into Porous Media," in J. Gale and Y. Kaya, eds. *6th International Conference on Greenhouse Gas Control Technologies (GHGT-6)*, Pergamon, Oxford, United Kingdom, 30th September-4th October, vol. 1, pp. 449-456.
- White, M. D., and McGrail, B. P., (2006). "STOMP-HYD: A New Numerical Simulator for Analysis of Methane Hydrate Production from Geologic Formations," in A. Reedman, Y. S. Park, J. J. Bahk and N. Chaimanee, eds., *Proceedings of the 2nd International Symposium on Gas Hydrate Technology at the 43rd Coordinating Committee for Geoscience Programmes in East and Southeast Asia (CCOP) Annual Session, October 29 - November 3, 2006*, Daejeon, Republic of Korea, pp. 77-86.
- White, M. D., and McGrail, B. P., (2008). "Designing a Pilot-Scale Experiment for the Production of Natural Gas Hydrates and Sequestration of CO₂ in Class 1 Hydrate Accumulations," *GHGT-9*, Washington, DC, November 17. PNWD-SA-8404.
- White, M. D., and McGrail, B. P., (2008). "Numerical Simulation of Methane Hydrate Production from Geologic Formations via Carbon Dioxide Injection," *Special Session on Gas Production from Hydrates for the 2008 Offshore Technology Conference*, Houston, TX, May 5-8.
- White, M. D., and McGrail, B. P., (2008). "Numerical Simulation of Methane Hydrate Production From Geologic Formations via Carbon Dioxide Injection," *Waves of Change: Proceedings of the Offshore Technology Conference*, Houston, TX, May 5-8. Paper No. OCT 19458.
- White, M. D., (2010). "Impact of Kinetics on the Injectivity of Liquid CO₂ into Arctic Hydrates." *Arctic Technology Conference*, Houston, TX, February, 7-9. PNWD-SA-9217.

- White, M. D., and Lee, W. S., (2014). "Guest molecule exchange kinetics for the 2012 Ignik Sikumi Gas Hydrate Field Trial," *Proceedings of the Offshore Technology Conference*, Houston, TX, May 5-8. OTC, 25374-MS.
- Wilder, J. W., Moridis, G. J., Wilson, S. J., Kurihara, M., White, M. D., Masuda, Y., and Anderson, B. J., (2008). "An international effort to compare gas hydrate reservoir simulators," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Young J. S., McGrail, B. P., and Martin, P. F., (2003). "Examination of Gas Hydrates in Sediments with Environmental Scanning Electron Microscopy," *Pacific Northwest Microscopy Society Meeting*, Richland, WA, May 29. PNNL-SA-38738.

Peer-Reviewed Publications

- Elliott, S. M., Maltrud, M., Reagan, M. T., Moridis, G. J., Cameron-Smith, P. J., (2011). "Marine Methane Cycle Simulations for the Period of Early Global Warming," *J. Geophysical Res. Biogeo.*, 116, G01010, doi: 10.1029/2010JG001300.
- Elliott, S. M., Reagan, M. T., Moridis, G. J., Cameron-Smith, P. J., (2010). "Geochemistry of Clathrate-Derived Methane in Arctic Ocean Waters," *LBNL-3389E, Geophys. Res. Lett.*, 37, L12607, doi:10.1029/2010GL043369.

Presentations

- Elliott, S., (2011). "Arctic Marine Biogeochemistry Modeling," *2011 Summer School, Program in Interdisciplinary Biological and Biomedical Sciences*, U. of New Mexico, Albuquerque, NM.
- Elliott, S., (2011). "Arctic Marine Biogeochemistry Modeling," *2011 IARC Summer School*, U. of Alaska, Fairbanks, AK, May 23-June 4.
- Elliott, S., (2011). "Arctic marine methane cycle simulations for the period of global warming," *USGS/DOE Climate-Hydrates Research Workshop*, Boston, MA, March 15-16.
- Elliott, S., (2011). "Trace Greenhouse Gases and Sea Ice," *NCAR Polar Climate Working Group Meeting*, Boulder, CO, Feb 28–March 1.
- Elliott, S., (2010). "Arctic marine methane cycle simulations for the period of global warming," *AGU Fall Meeting 2010*, Dec 13-17.
- Elliott, S., (2009). "Arctic Marine Methane Cycle Simulations for the Period of Global Warming," *AGU Fall Meeting 2009*, San Francisco, CA, December 14-18.
- Maltrud, M., (2012). "Global ocean methane cycle simulations in the Community Earth System Model," *NCAR Biogeochemistry Working Group Meeting*, Boulder CO.

Peer-Reviewed Publications

- Alp, D., Parlaktuna, M., Moridis, G., (2007). "Geologic Carbon Sequestration and Methane Hydrates Research from the TOUGH Symposium 2006: Gas production by depressurization from hypothetical Class 1G and Class 1W hydrate reservoirs," in J. C. Denton, C. M. Oldenburg, T. J. Kneafsey and Rutqvist, J., eds., *Energy Conversion and Management*, Vol. 48, Issue 6, pp. 1864-1879.
- Boswell, R., Myshakin, E., Moridis, G.J., Konno, Y., Collett, T.S., Reagan, M.T., Ajayi, T., Seol, Y., "Scientific Results of Numerical Simulation of Gas Hydrate Reservoirs in the Offshore of India: National Gas Hydrate Program Expedition-02," *J. Marine and Petroleum Geology*, in press. doi: 10.1016/marpetgeo.2018.09.026, 2018.
- Boswell, R., Shelander, D., Lee, M., Latham, T., Collett, T., Geurin, G., Moridis, G., Reagan, M., and Goldberg, D., (2009). "Occurrence of gas hydrate in Oligocene Frio sand: Alaminos Canyon Block 818: northern Gulf of Mexico," *Marine and Petroleum Geology*.
- Dai, S., Santamarina, J. C., Waite, W. F. and Kneafsey, T. J., (2012). "Hydrate morphology: Physical properties of sands with patchy hydrate saturation," *Journal of Geophysical Research: Solid Earth*, 117(B11): B11205.
- Freifeld, B., Kneafsey, T., and Rack, F., (2006). "On-site geologic core analysis using a portable X-ray computed tomographic system," in R. Rothwell, ed., *New Techniques in Sediment Core Analysis, Special Publication*, 267, pp.165-178.
- Freifeld, B. M., and Kneafsey, T. J., (2004.) "Investigating methane hydrate in sediments using X-ray computed tomography," *Advances in the Study of Gas Hydrates*, pp. 227-238.
- Gupta, A., Kneafsey, T., Moridis, G., Seol, Y., Kowalsky, M., and Sloan, E., Jr., (2006). "Methane hydrate thermal conductivity in a large heterogeneous porous sample," *Journal of Physical Chemistry B*. DOI: 10.1021/jp0619639LBNL-59088.
- Gupta, A., Moridis, G., Kneafsey, T., and Sloan, E. D., (2009). "Modeling Pure Methane Hydrate Dissociation Using a Numerical Simulator from a Novel Combination of X-ray Computed Tomography and Macroscopic Data," *Energy & Fuels*. DOI: 10.1021/ef9006565.
- Kim, J., Moridis, G. J., and Rutqvist, J., (2012). "Coupled flow and geomechanical analysis for gas production in the Prudhoe Bay Unit L-106 Well Unit C Gas hydrate deposit in Alaska." *Journal of Petroleum Science and Engineering*, v. 92-93, pp. 143-157.
- Kim, J., Moridis, G. J., Yang, D., and Rutqvist, J., (2012). "Numerical Studies on Coupled Flow and Geomechanics in Hydrate Deposits," *SPE Journal*, 17(2), 485-501, doi: 10.2118/141304-PA.
- Kneafsey, T. J., Seol, Y., Gupta, A., Tomutsa, L., (2010). "Permeability of Laboratory-Formed Methane-Hydrate-Bearing Sand," *SPE Journal*, [10.2118/139525-pa](https://doi.org/10.2118/139525-pa).
- Kneafsey, T. J., Liu, H., Winters, W., Boswell, R., Hunter, R., and Collett, T. S., (2009). "Analysis of core samples from the BPXA-DOE-USGS Mount Elbert gas hydrate stratigraphic test well: Insights into core disturbance and handling," *Marine and Petroleum Geology*, doi:10.1016/j.marpetgeo.2009.10.009.

- Kneafsey, T. J., Seol, Y., Moridis, G. J., Tomutsa, L., Freifeld, B. M., (2009). "Laboratory measurements on core-scale sediment and hydrate samples to predict reservoir behavior," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*, pp. 705–713.
- Kneafsey, T., Tomutsa, L., Moridis, G., Seol, Y., Freifeld, B., Taylor, C., and Gupta, A., (2007). "Methane hydrate formation and dissociation in a partially saturated core-scale sand sample," in D. Mahajan, Taylor, C., and G. Ali Mansoori, eds., *Journal of Petroleum Science and Engineering – Natural Gas Hydrate/Clathrate, Volume 56, Issues 1-3*, pp. 108-126.
- Kneafsey, T., Tomutsa, L., Taylor, C., Gupta, A., Moridis, G., Freifeld, B., and Seol, Y., (2004). "Methane hydrate formation and dissociation in a partially-saturated sand," *Papers of the American Chemical Society, Volume. 49*.
- Kneafsey, T. and Moridis, G.J., (2014). "X-Ray Computed Tomography Examination Of NGHP Cores And Comparison Of Hydrate Dissociation In NGHP-01 And Mount Elbert Cores: Experimental Observations And Numerical Modeling," *Journal of Marine and Petroleum Geology*, v. 58, pp. 526-539.
- Kowalsky, M. B., Nakagawa, S., and Moridis, G. J., (2010). "Feasibility of monitoring gas hydrate production with time-lapse vertical seismic profiling," *SPE Journal*, *SPE-132508-PA*, doi: 10.2118/132508-PA.
- Kowalsky, M., and Moridis, G., (2007). "Comparison of Kinetic and Equilibrium Reaction Models in the Simulation of the Behavior of Gas Hydrates in Porous Media," *Journal of Energy Conversion and Management*, *48(6)*, pp. 1850-1863.
- Kwon, T. H., Kneafsey, T. J., and Rees, E.V. L. (2011) "Thermal dissociation behavior and dissociation enthalpies of methane-carbon dioxide mixed hydrates," *Journal of Physical Chemistry B, Vol. 115*, pp. 8169-8175, doi: 10.1021/jp111490w.
- Kwon, T.-H., K.-R. Lee, G.-C. Cho and J. Y. Lee (2011). "Geotechnical properties of deep oceanic sediments recovered from the hydrate occurrence regions in the Ulleung Basin, East Sea, offshore Korea." *Marine and Petroleum Geology* 28(10): 1870-1883.
- Li, G., Moridis, G. J., Zhang, K., Li, X. S., (2010). "Evaluation of Gas Production Potential from Marine Gas Hydrate Deposits in Shenhu Area of South China Sea," *Energy Fuels* 2010, *24*, pp. 6018-6033. DOI: 10.1021/ef100930m
- Moridis, G.J., Reagan, M.T., Queiruga, A.F., "Simulation of Gas Production from Multilayered Hydrate-Bearing Media with Fully Coupled Flow, Thermal, Chemical and Geomechanical Processes Using TOUGH+Millstone, Part I: The Hydrate Simulator," *Transport in Porous Media*, 128, 405-430, doi: 10.1007/s11242-019-01254-6.
- Moridis, G. J., Kim, J., Reagan, M. T., and Kim, S-J., (2013). "Feasibility of gas production from a gas hydrate accumulation at the UBGH2-6 site of the Ulleung basin in the Korean East Sea," *Journal of Petroleum Science and Engineering*, v. 108, pp. 180-210. doi: 10.1016/j.cageo.2013.04.001.

- Moridis, G. J., Collett, T. S., Boswell, R., Hancock, S., Rutqvist, J., Santamarina, C., Kneafsey, T., Reagan, M. T., Pooladi-Darvish, M., Kowalsky, M., Sloan, E. D., and Coh, C., (2012). "Gas Hydrates as a Potential Energy Source: State of Knowledge and Challenges," in J. W. Lee ed., *Advanced Biofuels and Bioproducts*, pp. 977-1035, doi: 10.1007/978-1-4614-3348-4.
- Moridis, G. J., and Reagan, M. T., (2011). "Estimating the Upper Limit of Gas Production From Class 2 Hydrate Accumulations in the Permafrost: 1. Concepts, System Description, and the Production Base Case," *LBNL-01615E, JPSE, 76*, pp. 194-204.
- Moridis, G. J., and Reagan, M. T., (2011). "Estimating the Upper Limit of Gas Production From Class 2 Hydrate Accumulations in the Permafrost: 2. Alternative Well Designs and Sensitivity Analysis," *LBNL-04272E, JPSE, 76*, pp. 124-137.
- Moridis, G. J., Reagan, M. T., Boyle, K. L., and Zhang, K., (2011). "Evaluation of the Gas Production Potential of Some Particularly Challenging Types of Hydrate Deposits," *Transport in Porous Media*, doi: 10.1007/s11242-011-9762-5.
- Moridis, G. J., Collett, T. S., Pooladi-Darvish, M., Hancock, S., Santamarina, C., Boswell, R., Kneafsey, T., Rutqvist, J., Kowalsky, M. J., Reagan, M. T., Sloan, E. D., Sum, A. K., and Koh, C., "Challenges, Uncertainties and Issues Facing Gas Production From Hydrate Deposits in Geologic Systems," *LBNL-04254E, SPE Reservoir Evaluation and Engineering, 14(1)*, pp. 76-112.
- Moridis, G. J., Collett, T. S., Pooladi-Darvish, M., Pooladi-Darvish, M., Santamarina, C., Boswell, R., Kneafsey, T. J., Rutqvist, J., Kowalsky, M. B., Reagan, M. T., Sloan, E. D., Sum, A., and Koh, C., (2011). "Challenges, Uncertainties, and Issues Facing Gas Production From Gas-Hydrate Deposits," *SPE Res Eval & Eng 14 (1)*, pp. 76-112. SPE-131792-PA. doi: 10.2118/131792-PA.
- Moridis, G. J., Silpngarnlert, S., Reagan, M. T., Collett, T., and Zhang, K., (2010). "Gas Production From a Cold, Stratigraphically Bounded Hydrate Deposit at the Mount Elbert Site, North Slope, Alaska," *LBNL-3005E, Marine & Petroleum Geology*, doi: 10.1016/j.marpetgeo.2010.01.005
- Moridis, G. J., Collett, T. S., Boswell, R., Kurihara, M., Reagan, M. T., Sloan, E. D., and Koh, C., "Toward Production From Gas Hydrates: Assessment of Resources, Technology, and Potential" *LBNL-00161E, SPE 114163, SPE Journal, SPE Journal, 12(5)*, pp. 745-771.
- Moridis, G. J., Collett, T. S., Boswell, R., Hancock, S., Rutqvist, J., Santamarina, C., Kneafsey, T., Reagan, M. T., Pooladi-Darvish, M., Kowalsky, M., Sloan, E. D., and Coh, C., (2012). "Gas Hydrates as a Potential Energy Source: State of Knowledge and Challenges," In J. W. Lee ed., *Advanced Biofuels and Bioproducts*, pp. 977-1035, doi: 10.1007/978-1-4614-3348-4.
- Moridis, G. J., and Reagan, M. T., (2009). "Gas Production From Class 2 Hydrate Accumulations in the Permafrost," *LBNL-01615E, SPE 110858, SPE Journal*.
- Moridis, G.J., Reagan, M.T., Queiruga, A.F., Kim, S.-J. "System Response to Gas at the UBGH2-6 Site in the Ulleung Basin of the Korean East Sea," *J. Pet. Sci. Eng.*, in press.
- Moridis, G., Reagan, M., Kim, S., Seol Y., and Zhang, K., (2009). "Evaluation of the Gas Production Potential of Marine Hydrate Deposits in the Ulleung Basin of the Korean East Sea," *LBNL-63812, SPE 110859, SPE Journal, SPE Journal, 14(4)*, pp. 759-781, doi:10.2118/110859-PA.

- Moridis, G., Reagan, M. T., Boyle, K. L., and Zhang, K., (2011). "Evaluation of the Gas Production Potential of Challenging Hydrate Deposits," *Transport in Porous Media*, v. 90, pp. 269-299, doi: 10.1007/s11242-011-9762-5.
- Moridis, G., Kowalsky, M. B., (2007). "Response of Oceanic Hydrate-Bearing Sediments to Thermal Stresses," *Society of Petroleum Engineers Journal*, Volume 12, Number 2, pp. 253-268.
- Moridis, G. and Sloan, E. Dendy, (2007). "Geologic Carbon Sequestration and Methane Hydrates Research from the TOUGH Symposium 2006: Gas production potential of disperse low-saturation hydrate accumulations in oceanic sediments," in J. C. Denton, C. M. Oldenburg, T. J. Kneafsey and Rutqvist, J., eds., *Energy Conversion and Management*, Vol. 48, Issue 6, pp. 1834-1849.
- Moridis, G., Kowalsky, M., Pruess, K., (2007). "Depressurization-Induced Gas Production from Class 1 Hydrate Deposits," *SPE Reservoir Evaluation and Engineering*, Vol. 10, No. 5, p.458-481.
- Moridis, G., and Kowalsky, M., (2005). "Gas Production from Unconfined Class 2 Hydrate Accumulations in the Oceanic Subsurface (Lawrence Berkeley National Laboratory, Report No. 57299)," in Max, M., A. Johnson, W. Dillon and Collett, T., eds., *Economic Geology of Natural Gas Hydrates*.
- Moridis, G., (2004). "Numerical Studies of Gas Production from Class 2 and Class 3 Hydrate Accumulations at the Mallik Site, Mackenzie Delta," *SPE Reservoir Evaluation and Engineering*, Volume 7, n.3, pp. 175-183.
- Moridis, G., (2003). "Numerical Studies of Gas Production from Methane Hydrates," *Society of Petroleum Engineers Journal*, Volume 32, n. 8, pp. 359-370.
- Moridis, G., and Reagan, M., (in review). "Similarity Solution for Gas Production from Dissociating Hydrates in Geologic Media, *Transport in Porous Media*."
- Moridis, G., Collett, T., Dallimore, S., Satoh, T., Hancock, S., and Weatherhill, B., (2004). "Numerical Studies Of Gas Production From Several Methane Hydrate Zones at the Mallik Site, Mackenzie Delta," *Journal of Petroleum Science and Engineering*, Volume 43, pp. 219-239.
- Moridis, G., Collett, T., Dallimore, S., Inoue, T., and Mroz, T., (2005). "Analysis and Interpretation of the Thermal Test of Gas Hydrate Dissociation in the JAPEX/JNOC/GSC Mallik 5L-38 Gas Hydrate Production Research Well (Lawrence Berkeley National Laboratory, Report No.57296)," in Dallimore, S. and Collett, T., eds., *Scientific results from the Mallik 2002 gas hydrate production well program*, Geological Survey of Canada, Bulletin 585.
- Moridis, G. and Collett, T., (2004). Gas Production from Class 1 Hydrate Accumulations, in Taylor, C., and J. Qwan, eds., *Recent Advances in the Study of Gas Hydrates*, American Institute of Chemical Engineers and Kluwer Academic/Plenum Publishers, pp. 75-88.
- Moridis, G., Reagan, M.T., Queiruga, A.F., Kim, S.-J. "System Response to Gas Production from a Heterogeneous Hydrate Accumulation at the UBGH2-6 Site in the Ulleung Basin of the Korean East Sea," *J. Pet. Sci. Eng.*, in press. 8.

- Moridis, G., Queiruga, A.F., Reagan, M.T., "The TOUGH+Millstone Code for the Analysis of Coupled Flow, Thermal, Chemical and Geomechanical Processes in Hydrate-Bearing Geologic Media, Part I: The Hydrate Simulator," in revision for *Transport in Porous Media*.
- Moridis, G.J., Reagan, M.T., Queiruga, A.F., Collett, T.S., Boswell, R., "Evaluation of the Performance of the Oceanic Hydrate Accumulation at the NGHP-02-9 Site of the KrishnaGodawari Basin During a Single and Multi-Well Production," *J. Marine and Petroleum Geology*, in press.
- Queiruga, A.F., Moridis, G.J., Reagan, M.T., "The TOUGH+Millstone Code for the Analysis of Coupled Flow, Thermal, Chemical and Geomechanical Processes in Hydrate-Bearing Geologic Media, Part II: Numerical Algorithms and the Stone Geomechanical Simulator," in revision for *Transport in Porous Media*.
- Queiruga, A.F., Moridis, G.J., Reagan, M.T., (2019) "Simulation of Gas Production from Multilayered Hydrate-Bearing Media with Fully Coupled Flow, Thermal, Chemical and Geomechanical Processes Using TOUGH+Millstone, Part II: Geomechanical Formulation and Numerical Coupling" *Transport in Porous Media*, 128, 221-241, doi: 10.1007/s11242-019-01242-w.
- Reagan, M.T., Moridis, G.J., Freeman, C.M., Pan, L., Boyle, K.L., Keen, N., Husebo, J.A., "Field-Scale Simulation of Production from Oceanic Gas Hydrate Deposits," *Transport in Porous Media*, 108(1), 151-169, 2015.
- Reagan, M. T., Moridis, G. J., Elliott, S. M., Maltrud, M., "Dissociation of Oceanic Hydrates in Response to Climate Change and the Biogeochemical Consequences," *Fire in the Ice, DOE Methane Hydrates Program*.
- Reagan, M. T., Moridis, G. J., (2007). "Oceanic Gas Hydrate Instability and Dissociation Under Climate Change Scenarios," *LBNL-62999, Geophys. Res. Lett.*, 34, L22709, doi: 10.1029/2007GL031671.
- Reagan, M. T., and Moridis, G. J., (2008). "The dynamic response of oceanic hydrate deposits to ocean temperature change," *LBNL-01026E, J. Geophys. Res. Oceans*, 113, C12023, doi:10.1029/2008JC004938.
- Reagan, M. T. and Moridis, G. J., (2009). "Large-Scale Simulation of Oceanic Gas Hydrate Dissociation in Response to Climate Change," *LBNL-2908E, Geophys. Res. Lett.*, 36, L23612, doi:10.1029/2009GL041332.
- Reagan, M. T., Moridis, G. J., Elliott, S. M., and Maltrud, M., (2011). "Contributions of Oceanic Gas Hydrate Dissociation to the Formation of Arctic Ocean Methane Plumes," *J. Geophys. Res. Oceans*, 116, C09014, doi: 10.1029/2011JC007189.
- Reagan, M.T., Moridis, G.J., Seim, K.S., (2017). "Fast Parametric Relationships for the Large-Scale Reservoir Simulation of Mixed CH₄-CO₂ Gas Hydrate Systems," *Computers and Geosciences*, 103, pp. 191-203.
- Reagan, M.T., Queiruga, A.F., Moridis, G.J., "The TOUGH+Millstone Code for the Analysis of Coupled Flow, Thermal, Chemical and Geomechanical Processes in Hydrate-Bearing Geologic Media, Part III: Application to Production Simulation," in revision for *Transport in Porous Media*.

- Reagan, M.T., Queiruga, A.F., Moridis, G.J., "Simulation of Gas Production from Multilayered Hydrate-Bearing Media with Fully Coupled Flow, Thermal, Chemical and Geomechanical Processes Using TOUGH+Millstone, Part III: Application to Production Simulation," *Transport in Porous Media*, 129, 179-202, doi: 10.1007/s11242-019-01283-1.
- Rees E. V. L., Kneafsey, T. J., and Seol, Y., (2011). "Methane Hydrate Distribution from Prolonged and Repeated Formation in Natural and Compacted Sand Samples: X-Ray CT Observations," *Journal of Geological Research*, vol. 2011, Article ID 791815, doi:10.1155/2011/791815 LBNL-5029E
- Rees, E.V. L., Kneafsey, T. J., and Seol, Y., (2011). "X-Ray CT observations of methane hydrate distribution from prolonged and repeated formation in natural and synthetic compacted sand samples," *J. of Geological Research*, article 791815, doi:10.1155/2011/791815.
- Rutqvist, J., and Moridis, G. J., (2009). "Numerical studies on the geomechanical stability of hydrate-bearing sediments," *SPE Journal*, 14(2): 267-282, 2009, SPE-126129-PA, doi: 10.2118/126129-PA.
- Rutqvist J., Moridis, G. J., Grover T., and Collett T., (2009). "Geomechanical response of permafrost-associated hydrate deposits to depressurization-induced gas production," *Journal of Petroleum Science and Engineering* 67, pp. 1–12.
- Rutqvist, J. and G. J. Moridis, (2012). "Coupled Multiphase Fluid Flow and Wellbore Stability Analysis Associated with Gas Production from Oceanic Hydrate-Bearing Sediments," *Journal of Petroleum Science and Engineering*, pp. 92-93, 65-81, doi: 10.1016/j.petrol.2012.06.004.
- Seol, Y., and Kneafsey, T. J., (2009). "X-ray computed-tomography observations of water flow through anisotropic methane hydrate-bearing sand," *Journal of Petroleum Science and Engineering* 66, pp. 121–132, doi:10.1016/j.petrol.2009.01.008.
- Seol, Y., and Kneafsey, T. J., (2011) "Methane hydrate induced permeability modification for multiphase flow in unsaturated porous media," *J. Geophys. Res.*, 116(B8), B08102.
- Shi, H., Holmes, J.A., Durlofsky, L.J., Aziz, K., Diaz, L., Alkaya, B., Oddie, G., (2005) "Drift-Flux Modeling of Two-Phase Flow in Wellbores." *SPE J.* 10(1): 24-33.
- Waite, W., C. Santamarina, D. Cortes, Dugan, B., N. Espinoza, J. Germaine, Jang, J., J. Jung, T. J. Kneafsey, H. Shin, K. Soga, Winters, W., T-S. Yun (2009). "Physical Properties of Hydrate-Bearing Sediments," *Rev. Geophys.*, 47, RG4003, doi:10.1029/2008RG000279.
- Waite, W. F., Kneafsey, T. J., Winters, W. J., and Mason D. H., (2008). "Physical property changes in hydrate-bearing sediment due to depressurization and subsequent repressurization," *J. Geophys. Res.*, 113, B07102, LBNL-664E doi:10.1029/2007JB005351.
- White, M.D., Kneafsey, T.J., Seol, Y., Waite, W.F., Uchida, S., Lin, J.-S., Myshakin, E.M., Gai, X., Gupta, S., Reagan, M.T., Queiruga, A.F., Kimoto, S., IGHCCS2 Participants, "An International Code Comparison Study on Coupled Thermal, Hydrologic and Geomechanical Processes of Natural Gas Hydrate-Bearing Sediments," *Marine and Petroleum Geology*, in review.

White, M.D., Kneafsey, T.J., Seol, Y., Waite, W.F., Uchida, S., Lin, J.-S., Myshakin, E.M., Gai, X., Gupta, S., Reagan, M.T., Queiruga, A.F., Kimoto, S., IGHCCS2 Participants, "An International Code Comparison Study on Coupled Thermal, Hydrologic and Geomechanical Processes of Natural Gas Hydrate-Bearing Sediments," *Marine and Petroleum Geology*, in review.

Yun, T. S., C. Lee, J.-S. Lee, J. J. Bahk and J. C. Santamarina (2011). "A pressure core based characterization of hydrate-bearing sediments in the Ulleung Basin, Sea of Japan (East Sea)." *Journal of Geophysical Research: Solid Earth* 116(B2): n/a-n/a.

Government Reports

Freifeld, B, Kneafsey, T., Pruess, J., Reiter, P., and Tomutsa, L., (2002). "X-ray Scanner for ODP Leg 204: Drilling Gas Hydrates on Hydrate Ridge, Cascadia Continental Margin," *LBNL-51327*.

Kneafsey, T. J., Rees, E.V. L., Nakagawa, S., and Kwon, T-H., (2010). "Examination of Hydrate Formation Methods: Trying to Create Representative Sample," *LBNL Report Number: LBNL-4845E*.

Kneafsey, T. J. and Rees, E.V. L., (2010). "X-ray CT observations of methane hydrate distribution changes over time in a natural sediment core from the BPX-DOE-USGS Mount Elbert Gas Hydrate Stratigraphic Test Well, March 31, 2010," *LBNL-4852E*.

Kneafsey, T., Nakagawa, S., and Moridis, G., (2007). "Approach to Forming Hydrate Bearing Samples in Fine-Grained Material," *Topical Report, FWP ESD05-036*, DOE No. DE-FC26-05NT42664.

Kneafsey, T. J., (2013). "Properties of Hydrate-Bearing Sediments Subjected to Changing Gas Compositions," *Topical Report, ESD12-011*.

Kneafsey, T. J., (2013). "Properties of Hydrate-Bearing Sediments Subjected to Changing Gas Compositions," *Quarterly Report for work performed under ESD12-011, for period covering July 1-September 30, 2013*.

Kneafsey, T. J., (2014). "Properties of Hydrate-Bearing Sediments Subjected to Changing Gas Compositions," *Progress Report for work performed under ESD12-011, for period covering July 1, 2013-April 30, 2014*.

Kneafsey, T. J., (2014). "Properties of Hydrate-Bearing Sediments Subjected to Changing Gas Compositions," *Quarterly Report for work performed under ESD12-011, for period covering October 1-December 31, 2014*.

Kneafsey, T. J., (2016). "Properties of Hydrate-Bearing Sediments Subjected to Changing Gas Compositions," *Quarterly Report for work performed under ESD12-011, for period covering February 1-April 30, 2016*.

Kneafsey, T.J., (2018). "Properties of Sediments Containing Methane Hydrate, Water, and Gas Subjected to Changing Gas Compositions," *Quarterly Research Performance Report for work performed under ESD12-011, for period ending December 31, 2017. January, 2018*.

Kneafsey, T.J., (2018). "Properties of Sediments Containing Methane Hydrate, Water, and Gas Subjected to Changing Gas Compositions," *Quarterly Research Performance Report for work performed under ESD12-011, for period ending March 31, 2018. May, 2018*.

- Kneafsey, T.J., (2018). "Properties of Sediments Containing Methane Hydrate, Water, and Gas Subjected to Changing Gas Compositions," Quarterly Research Performance Report for work performed under ESD12-011, for period ending June 30, 2018. September, 2018.
- Kneafsey, T.J., 2018. "LBNL-KIGAM Collaboration in the Investigation of the Gas Production Potential of Hydrate Deposits in the Korean East Sea," Quarterly Research Performance Progress Report, FP00003995 (Period Ending 12/31/2017), January 2018.
- Kneafsey, T.J., 2018. "LBNL-KIGAM Collaboration in the Investigation of the Gas Production Potential of Hydrate Deposits in the Korean East Sea," Quarterly Research Performance Progress Report, FP00003995 (Period Ending 03/31/2018), March 2018.
- Moridis, G., Collett, T., Dallimore, S., Satoh, T., Hancock, S., Weatherill, B., (2002). "Numerical Studies of Gas Production from Several CH₄-Hydrate Zones at the Mallik Site, Mackenzie Delta," *Topical Report, LBNL-50257*.
- Moridis, G. and Sloan, D., (2006). "Gas Production Potential of Disperse Low-Saturation Hydrate Accumulations in Oceanic Sediments," *LBNL-61446*.
- Moridis, G. J., Kneafsey, T., Kowalsky, M., and Reagan, M. T., (2007). "Numerical, Laboratory And Field Studies of Gas Production From Natural Hydrate Accumulations in Geologic Media," *OSTI Report 918665 (Dec. 2007)*.
- Moridis, G., (2009). "Interrelation of Global Climate and the Response of Oceanic Hydrate Accumulations." *U. S. DOE Annual Report, Fiscal Year 2009*.
- Moridis, G., (2009). "Characterization of Recoverable Resources from Methane Hydrate Deposits: Year End Report." *U. S. DOE Annual Report, Fiscal Year 2009*.
- Moridis, G., (2009). "Laboratory Studies in Support of Characterization of Recoverable Resources from Methane Hydrate Deposits" *U. S. DOE Annual Report, Fiscal Year 2009. ESD05-048*.
- Moridis, G., (2013). "Numerical Studies for the Characterization of Recoverable Resources from Methane Hydrate Deposits" *2012 Annual Research Progress Report. ESD12-011*.
- Nakagawa, S. and Kneafsey, T. J., (2011). "Application of the Split Hopkinson Resonant Bar test for seismic property characterization of hydrate-bearing sand undergoing water saturation," LBNL number pending.
- Reagan, M.T., (2018). "NUMERICAL STUDIES FOR THE CHARACTERIZATION OF RECOVERABLE RESOURCES FROM METHANE HYDRATE DEPOSITS," Quarterly Research Performance Report, DOE Award Number ESD12-010, Period Ending 03/31/2018. March, 2018.
- Reagan, M.T., (2018). "NUMERICAL STUDIES FOR THE CHARACTERIZATION OF RECOVERABLE RESOURCES FROM METHANE HYDRATE DEPOSITS," Quarterly Research Performance Report, DOE Award Number ESD12-010, Period Ending 06/30/2018. June, 2018.
- Reagan, M.T., (2018). "NUMERICAL STUDIES FOR THE CHARACTERIZATION OF RECOVERABLE RESOURCES FROM METHANE HYDRATE DEPOSITS," Quarterly Research Performance Report, DOE Award Number ESD12-010, Period Ending 09/30/2018. September, 2018.
- Reagan, M.T., (2018). "NUMERICAL STUDIES FOR THE CHARACTERIZATION OF RECOVERABLE RESOURCES FROM METHANE HYDRATE DEPOSITS," Final Project Report, DOE Award Number ESD12-010, Period Ending 09/30/2018. December, 2018.

Rutqvist J., and Moridis, J. T., (2008). "A Numerical Model for Analysis of the Geomechanical Performance of Hydrate-Bearing Sediments," *Earth Sciences Division Research Summaries 2006-2007, LBNL-771E*, Lawrence Berkeley National Laboratory, Berkeley, CA.

Other Publications

Freifeld, B. M., Kneafsey, T. J., Tomutsa, L., Stern, L. A., and Kirby, S. H., (2002). "Use of X-Ray Computed Tomographic Data for Analyzing the Thermodynamics of a Dissociating Porous Sand/Hydrate Mixture," *Proceedings of the Fourth International Conference on Gas Hydrates, Yokohama, May 19-23, (2002)*. pp. 750-755, LBNL-49859.

Ghezzehei, T. A. and Kneafsey, T. J., (2010). "Measurements of the Capillary Pressure-Saturation Relationship of Methane Hydrate Bearing Sediments," *OTC-20550, 2010 Offshore Technology Conference*, Houston, TX, May 3-6.

Grover, T., Moridis, G. J., and Holditch, S., (2008). "Analysis of Reservoir Performance of the Messoyakha Hydrate Reservoir," *Paper SPE 114375, 2008 SPE Annual Technical Conference and Exhibition*, Denver, CO, September 21-24.

Gullapalli, I., Moridis, G. J., Silpngarm, S., Reik, B., Kamal, M., Jones, E., and Collett, T., (2008). "Designing a Reservoir Flow Rate Experiment for the GOM Hydrate JIP Leg II LWD Drilling," *6th International Conference on Gas Hydrates*, Vancouver, BC, July 6-10.

Gupta, A., Kneafsey, T., Moridis, G. J., Seol, Y., Kowalsky, M., Sloan, E. Jr., (2006). "Estimation of Composite Thermal Conductivity of a Heterogeneous Methane Hydrate Sample Using ITOUGH2," *TOUGH Symposium*, Berkeley, CA, May 15-17.

Gupta, A., Sloan, E. D., Kneafsey, T. J., Tomutsa, L., Moridis, G. J., (2005). "Modeling methane hydrate dissociation x-ray CT data using a heat transfer model," *Fifth International Conference on Gas Hydrates*, Trondheim, Norway, June

Kim, J., Yang, D., Moridis, G. J., and Rutqvist, J., (2011). "Numerical Studies on Coupled Flow and Geomechanics in Hydrate Deposits," *Paper SPE 141304, 2011 Reservoir Simulation Symposium*, The Woodlands, TX, Feb 21-23.

Kneafsey, T. J., and Nakagawa, S., (2011). "Repeated Methane Hydrate Formation and Dissociation in a Partially Water Saturated Sand: Impact on Hydrate Heterogeneity and Sonic-Frequency Seismic Properties," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July 17-21.

Kneafsey, T. J. and Moridis, G. J., "Methane Hydrate Dissociation by Depressurization in a Mount Elbert Sandstone Sample: Experimental Observations and Numerical Simulations" *OTC Paper Number 944097, LBNL-4936E, the Arctic Technology Conference*, Houston, TX, February, 7-9.

Kneafsey, T. J., Seol, Y., Gupta, A., and Tomutsa, L., (2008). "Permeability of Laboratory-Formed Methane-Hydrate-Bearing Sand," *2008 Offshore Technology Conference*, Houston, TX, May 5-8, OTC 19536-PP.

Kneafsey, T., Seol, Y., Gupta, A., Tomutsa, L., and Moridis, G. J., (2007). "Relative Permeability of Gas Hydrate Bearing Sediments," *Eos Trans. AGU, /88/(23), Jt. Assem. Suppl., Abstract NS51B-02*.

- Kneafsey, T. J., Tomutsa, L., Moridis, G. J., Taylor, C. E., and Gupta, A., "Methane Hydrate Formation and Dissociation in a Partially Saturated Sand – Measurements and Observations," *LBNL 56379 Abs, Fifth International Conference on Gas Hydrates*, Trondheim, Norway, June.
- Kneafsey, T. J., Moridis, G., Freifeld, B., Tomutsa, L., Seol, Y. and Taylor, C. E., (2005). "Understanding Methane Hydrate Behavior Using X-ray Computed Tomography," *U. S. DOE-NETL Fire in the Ice Newsletter*, Winter.
- Kneafsey, T. J., Tomutsa, L., Taylor, C. E., Gupta, A., Moridis, G., Freifeld, B. and Seol, Y., (2005). "Methane hydrate formation and dissociation in a partially saturated sand," *The 229th ACS National Meeting*, San Diego, CA.
- Kowalsky, M., Nakagawa, S., and Moridis, G. J., (2008). "Feasibility of Monitoring Gas Hydrate Production with Geophysical Methods," *OTC 19489, 2008 Offshore Technology Conference*, Houston, TX, May 5-8.
- Kowalsky, M. and Moridis, G. J., (2007). "Comparison of kinetic and equilibrium reaction models in simulating gas hydrate behavior in porous media," *Proceedings of the TOUGH Symposium 2006*, May 15-17, (2006).
- Li, G., Moridis, G. J., Zhang, K., Li, X., (2010). "Evaluation of Gas Production Potential from Marine Gas Hydrate Deposits in the Shenhu Area of the South China Sea: Depressurization and Thermal Stimulation Methods," *2010 Offshore Technology Conference*, Houston, TX, May.
- Moridis, G.J. and N. Keen, MeshMaker V2.0S And V2.0P: New Grid Generators For Complex Heterogeneous Domains in TOUGH2/TOUGH+ Simulations, *Proc. TOUGH Symposium 2015*, Lawrence Berkeley National Laboratory, Berkeley, California, September 28-30, 2015.
- Moridis, G. J., Reagan, M. T., Kuzma, H. A., Zhao, Y., Boyle, K., Rector, J. W., (2011). "Evaluation of the Hydrate Deposit at the PBU L-106 Site, North Slope, Alaska, for a Long-Term Test of Gas Production," *Proc. 2011 Arctic Technology Conference*, Houston, TX, February 7–9.
- Moridis, G.J., Reagan, M.T., Kim, J., Kim, S.-J. "System Response During Short- and LongTerm Gas Production from a Gas Hydrate Deposit at the Site of a Planned Field Test in the Ulleung Basin of the Korean East Sea," *OTC 25384, Proc. 2014 Offshore Technology Conference*, Houston, TX, 5-8 May 2014.
- Moridis, G. J., and Reagan, M. T., (2010). "Evaluation of Two North Slope, Alaska, Deposits for a Potential Long-Term Test of Gas Production From Hydrates," *SPE 133601, 2010 SPE Western North American Regional Meeting*, Anaheim, CA, May 27-29.
- Moridis, G. J., Collett, T. S., Pooladi-Darwish, M., Hancock, S., Santamarina, C., Boswell, R., Kneafsey, T., Rutqvist, J., Kowalsky, M. J., Reagan, M. T., Sloan, E. D., Sum, A. K., and Koh, C., (2010). "Challenges, Uncertainties and Issues Facing Gas Production From Hydrate Deposits in Geologic Systems," *SPE-131792A, Proc. SPE Unconventional Gas Conference*, Pittsburgh, PA, February 23–25.

- Moridis, G., Reagan, M., Boyle, K., and Zhang, K., (2009). "Evaluation of the gas production potential of challenging hydrate deposits, Proceedings of the TOUGH Symposium 2009, September 14-16, (2009).
- Moridis, G. J., Reagan, M. T, Zhang, K., (2008). "The Use of Horizontal Wells in Gas Production from Hydrate Accumulations," *Proc. of the 6th International Conference on Gas Hydrates*, Vancouver, BC, July 6-10.
- Moridis, G., Reagan, M., and Zhang, K., (2008). "On the Performance of Class 2 and Class 3 Hydrate Deposits During Co-Production With Conventional Gas (OTC 19435)," *2008 Offshore Technology Conference*, Houston, TX, May 5-8.
- Moridis, G. J., Reagan, M. T., and Zhang, K., (2008). "Field-Scale Studies on the Enhanced Performance of Class 2 and Class 3 Hydrate Deposits Through Co-Production With Conventional Gas" *OTC 19435, 2008 Offshore Technology Conference*, Houston, TX, May 5-8.
- Moridis, G. J. and Reagan, M. T., (2007). "Strategies for Gas Production From Oceanic Class 3 Hydrate Accumulations," *LBNL-62758, OTC 18865, 2007 Offshore Technology Conference*, Houston, TX, April 30–May 3.
- Moridis, G., and Rutqvist, J., (2007). "Numerical Studies of Geomechanical Stability of Hydrate-Bearing Sediments," *paper 18860, Offshore Technology Conference*, Houston, TX, April 30-May 3.
- Moridis, G., Collett, T., Boswell, R., Kurihara, M., Reagan, M., Koh, C., and Sloan, E. Dendy, (2008). "Toward Production from Gas Hydrates: Current Status, Assessment of Resources, and Simulation-Based Evaluation of Technology and Potential," *SPE Unconventional Reservoirs Conference*, Keystone, CO, February 11-12.
- Moridis, G. J. and Reagan, M. T., (2007). "Gas Production from Oceanic Class 2 Hydrate Accumulations," *LBNL-62757, OTC 18866, 2007 Offshore Technology Conference*, Houston, TX, April 30 - May 3.
- Moridis, G., and Kowalsky, M., (2006). "Geomechanical implications of thermal stresses on hydrate-bearing sediments," *U. S. DOE-NETL Fire in the Ice Newsletter*, Winter.
- Moridis, G., and Kowalsky, M., (2006). "Response of Oceanic Hydrate-Bearing Sediments to Thermal Stresses," *Proceedings of the SPE Offshore Technology Conference*, *paper 18193*, May.
- Moridis G., (2006). "Hydrates — Technology at the Moment," *Society of Petroleum Engineers Advanced Technology Workshop on Unconventional Gas Resources*, Keystone, CO, April 20.
- Moridis, G., Seol, Y., and Kneafsey, T., (2005). "Studies of Reaction Kinetics of Methane Hydrate Dissociation in Porous Media," *Proceedings of the 5th International Conference on Gas Hydrates*, pp. 21-30, Trondheim, Norway, June 13-16.
- Moridis, G., Kowalsky, M., and Pruess, K., (2005). "Depressurization-Induced Gas Production From Class-1 Hydrate Deposits," *Society of Petroleum Engineering Annual Technical Conference and Exhibition*, Dallas, TX, October 9-12.
- Moridis, G., (2002). "Numerical Studies of Gas Production from Methane Hydrates," *Society Petroleum Engineers Gas Technology Symposium*, Calgary, AB, April 29-May 2.

- Moridis, G.J., Reagan, M.T., and Queiruga, A.F., 2017. "Long-Term System Behavior Following Cessation of Gas Production from Hydrate Deposits," *Proc. 9th Int. Conference on Gas Hydrates*, Denver, CO, 1-3 June 2017.
- Moridis, G.J., Queiruga, A.F., and Reagan, M.T., 2017. "The T+H+M Code for the Analysis of Coupled Flow, Thermal, Chemical and Geomechanical Processes in Hydrate-Bearing Geologic Media," *Proc. 9th Int. Conference on Gas Hydrates*, Denver, CO, 1-3 June 2017.
- Moridis, G.M., Reagan, M.T., and Queiruga, A.F., 2018. Geomechanical Stability and Overall System Behavior of Sloping Oceanic Accumulations of Hydrates Responding to Dissociation Stimuli, OTC-24896-MS, *Proc. Offshore Technology Conference-Asia*, 20 March 2018.
- Moridis, G.J., User's Manual of the MeshMaker V2.0 Code: A Mesh Generator for Domain Discretization in Simulations of the TOUGH+ and TOUGH2 Families of Codes, Report LBNL-1005134, Lawrence Berkeley National Laboratory, Berkeley, CA, 2016.
- Moridis, G.J., "User's Manual for the HYDRATE v1.5 Option of TOUGH+ v1.5: A Code for the Simulation of System Behavior in Hydrate-Bearing Geologic Media," Lawrence Berkeley National Laboratory report LBNL-6869E, February 2016.
- Nakagawa, S., Keafsey, T. J., and Moridis, G. J., (2008). "Mechanical strength and seismic property measurements of hydrate-bearing sediments (HBS) during hydrate formation and loading tests," *OTC 19559, 2008 Offshore Technology Conference*, Houston, TX, May 5-8.
- Reagan, M. T., Moridis, G. J., Elliott, S. M., and Maltrud, M., (2011). "Simulation of Arctic Gas Hydrate Dissociation in Response to Climate Change: Basin-Scale Assessment," *OTC 22153, Proc. 2011 Arctic Technology Conference*, Houston, TX, 7-9 February 2011.
- Reagan, M. T., Moridis, G. J., Elliott, S. M., Maltrud, M., and Cameron-Smith, P. J., (2011). "Basin-Scale Assessment of Gas Hydrate Dissociation in Response to Climate Change," *Proc. 7th International Conference on Gas Hydrates*, Edinburgh, Scotland, UK, July 17-21.
- Reagan, M., (2010). "The Effect of Reservoir Heterogeneity on Gas Production From Hydrate Accumulations in the Permafrost," *SPE 132649, 2010 SPE Western North American Regional Meeting*, Anaheim, California, May 27-29.
- Reagan, M., Moridis, G. J., Zhang, K., (2009). "Regional Simulation of Oceanic Gas Hydrate Dissociation in Response to Climate Change (poster)," *TOUGH Symposium 2009*, Berkeley, CA, September 14.
- Reagan, M. T., Moridis, G. J., Zhang, K., (2008). "Modeling of Gas Hydrate Instability and Methane Release in Response to Climate Change," *LBNL-00712E, Proc. of the 6th International Conference on Gas Hydrates*, Vancouver, BC, July 6-10.
- Reagan, M., Moridis, G. J., (2008). "Reactive transport modeling of oceanic gas hydrate instability and dissociation in response to climate change," *6th International Conference on Gas Hydrates 2008*, Vancouver, BC, July 9-12.
- Reagan, M. T., Moridis, G. J., and Zhang, K., (2008). "Sensitivity Analysis of Gas Production from Class 2 and Class 3 Hydrate Deposits," *LBNL-01657E, OTC 19554, 2008 Offshore Technology Conference*, Houston, TX, May 5-8

- Reagan, M., Moridis, G. J., and Zhang, K., (2009). "Large-scale simulation of oceanic gas hydrate dissociation in response to climate change," *Proceedings of the TOUGH Symposium 2009*, September 14-16.
- Reagan, M. T., Moridis, G. J., Boyle, K. L., Freeman, C. M., Pan, L., Keen, N., and Husebo, J. A., (2012). "Massively parallel simulation of field-scale oceanic gas hydrate deposits," *Proceedings of the 2012 TOUGH Symposium*, Berkeley, CA, September 17-19.
- Reagan, M. T., Kowalsky, M. B., Moridis, G. J., Silpngarmert, S., (2010). "The Effect of Reservoir Heterogeneity on Gas Production From Hydrate Accumulations in the Permafrost," *SPE 132649, 2010 SPE Western North American Regional Meeting*, Anaheim, CA, May 27-29.
- Reagan, M. T., Moridis, G. J., Elliott, S. M., Maltrud, M., and Cameron-Smith, P. J., (2011). "Basin-Scale Assessment of Gas Hydrate Dissociation in Response to Climate Change," *Proc. 6th International Conference on Gas Hydrates*, Edinburgh, Scotland, UK, July 17-21.
- Reagan, M. T., Moridis, G. J., Elliott, S. M., Maltrud, M., "Dissociation of Oceanic Hydrates in Response to Climate Change and the Biogeochemical Consequences," *Fire in the Ice, DOE Methane Hydrates Program*.
- Reagan, M. T., Moridis, G. J., "Strategies for Gas Production From Oceanic Class 3 Hydrate Accumulations," *OTC 18665, 2007 Offshore Technology Conference*, Houston, TX, May 1-3.
- Rees, E. V.L, Nakagawa, S., and Keafsey, T. J., (2011). "The Geomechanical Properties of Synthetic Hydrate Bearing Sediments," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July 17-21.
- Rutqvist, J., Moridis, G. J., Kim, J., and Reagan, M. T., (2011). "Geomechanical Performance Analysis of Potential Long-Term Tests of Gas Production from Hydrate Deposits in the North Slope, Alaska," *Paper OTC 22154, 2011 Arctic Technology Conference*, Houston, TX, February 7-9.
- Rutqvist, J., and Moridis, G. J., (2010). "A modeling study of geomechanical performance of sloping oceanic hydrate deposits subjected to production activities," *OTC-21048 2010 Offshore Technology Conference*, Houston, TX, May 3-6.
- Rutqvist J., Moridis, G., Grover, T., and Collet, T., (2008). "Geomechanical response of known permafrost hydrate deposits to depressurization-induced production," *6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Rutqvist, J., and Moridis, G., (2008). "Development of a Numerical Simulator for Analyzing the Geomechanical Performance of Hydrate-Bearing Sediments," *Paper No. 139, 42th U. S. Rock Mechanics Symposium*, San Francisco, CA, June 29-July 2.
- Rutqvist, J., Grover, T., and Moridis, G., (2008). "Coupled Hydrologic, Thermal and Geomechanical Analysis of Wellbore Stability in Hydrate-Bearing Sediments," *OTC-19572. 2008 Offshore Technology Conference*, Houston, TX, May 4-8.
- Rutqvist, J., and Moridis, G., (2007). "Numerical Studies on the Geomechanical Stability of Hydrate-Bearing Sediments," *OTC-18860. 2007 Offshore Technology Conference*, Houston, TX, April 30 -May 3.

- Rutqvist, J., Moridis, G. J., Grover, T., Silpngarmert, S., Collett, T. S., and Holditch, S. A., (2012). "Coupled Multiphase Fluid Flow and Wellbore Stability Analysis Associated with Gas Production from Oceanic Hydrate-Bearing Sediments," *Journal of Petroleum Science and Engineering*, v. 92-93, pp. 65-81.
- Seol, Y., Keafsey, T. J., Myshakin, E., (2011). "Quantitative Applications of X-ray CT Observations for Core-Scale Hydrate Studies," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July 17-21.
- Seol, Y., and Keafsey, T. J., (2008). "Fluid flow through heterogeneous methane hydrate bearing sand: observations using x-ray CT scanning," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Seol, Y., Keafsey, T. J., Tomutsa, L., and G. J. Moridis, (2006). "Preliminary relative permeability estimates of methane hydrate-bearing sand," *LBNL-60368, TOUGH Symposium 2006*, Berkeley, CA, May 15-17.
- Su, Z., Moridis, G. J., Zhang, K., Wu, N., (2010). "Numerical Investigation of Gas Production Strategies for the Hydrate Deposits in the Shenhu Area," *2010 Offshore Technology Conference*, Houston, TX, May.
- Tomutsa, L., B. Freifeld, Kneafsey, T., and Stern, L., (2002). "X-ray Computed Tomography observation of methane hydrate dissociation," *paper SPE 75533, Proceedings, Society of Petroleum Engineers Gas Technology Symposium*.
- Zhang, K., Moridis, G. J., N. Wu, and X. Li, (2010). "Evaluation of Alternative Horizontal Well Designs for Gas Production From Hydrate Deposits in the Shenhu Area, South China Sea," Paper SPE 131151, 2010 CPS/SPE International Oil & Gas Conference and Exhibition Beijing, China, June 8–10.
- Zhang K., and Moridis, G. J., (2008). "A Domain Decomposition Approach for Large-Scale Simulations of Coupled Processes in Hydrate-Bearing Geologic Media," *6th International Conference on Gas Hydrates*, Vancouver, BC, July 6-10.

Presentations

- Borglin, E., Kneafsey, T. J., and Nakagawa, S., (2013). "Methane hydrate behavior when exposed to a 23% carbon dioxide 77% nitrogen gas under conditions similar to the ConocoPhillips 2012 Ignik Sikumi Gas Hydrate Field Trial," *AGU Fall Meeting*, San Francisco CA, December 13.
- Chiaromonte L., Kowalsky, M. B., Rutqvist, J., and Moridis, G. J., (2009). "Design of a potential long-term test of gas production from a hydrate deposit at the PBU-L106 site in North Slope, Alaska: Geomechanical system response and seismic monitoring." *AGU Fall Meeting 2009*, San Francisco, CA, December 14-18.
- Freifeld, B., Kneafsey, T., Tomutsa, L., and J. Pruess, (2003). "Development of a Portable X-ray Computed Tomographic Imaging System for Drill-Site Investigation of Recovered Core, Pau, France," *2003 International Symposium of the Society of Core Analysts*, September 21–24.

- Freifeld, B., Kneafsey, T., Tomutsa, L., Stern, L., and Kirby, S., (2002). "Use of X-Ray Computed Tomographic Data for Analyzing the Thermodynamics of a Dissociating Porous Sand/Hydrate Mixture," *4th International Conference on Gas Hydrates*, Yokohama, Japan, May 19-23.
- Freifeld, B., Kneafsey, T., J. Pruess, and Tomutsa, L., (2003). "Field Characterization of Hydrate-Bearing Core Using X-Ray Computed Tomography: Gas Hydrate in the Natural Environment and Implications for Energy Resources, Seafloor Stability, Climate, and the Biology of the Deep Sea," *Geological Society of America Annual Meeting*, Seattle, WA, November 5.
- Ghezzehei, T. A., and Keafsey, T. J., (2010). "Measurements of the Capillary Pressure-Saturation Relationship of Methane Hydrate Bearing Sediments," *OTC-20550, 2010 Offshore Technology Conference*, Houston, TX, May 3-6.
- Grover, T., Moridis, G. J., and Holditch, S., (2008). "Analysis of Reservoir Performance of Messoyakha Gas Hydrate Field," *Paper ISOPE-2008-TPC-622, 18th International Offshore and Polar Engineering*, Vancouver, BC, July 6-11.
- Grover, T., Moridis, G. J., and Holditch, S., (in press). "Analysis of Reservoir Performance of the Messoyakha Hydrate Reservoir," *Paper SPE 114375, 2008 SPE Annual Technical Conference and Exhibition*, Denver, CO, September 21-24.
- Gullapalli, I., Moridis, G. J., Silpngarm, S., Reik, B., Kamal, M., Jones E., and Collett, T., (2008). "Designing a Reservoir Flow Rate Experiment for the GOM Hydrate JIP Leg II LWD Drilling," *6th International Conference on Gas Hydrates*, Vancouver, BC, July 6-10.
- Gupta, A., Kneafsey, T., Moridis, G. J., Seol, Y., Kowalsky, M., Sloan, E. Jr., (2006). "Estimation of Composite Thermal Conductivity of a Heterogeneous Methane Hydrate Sample Using ITOUGH2," *TOUGH Symposium*, Berkeley, CA, May 15-17.
- Gupta, A., Sloan, E., Kneafsey, T., Tomutsa, L., and Moridis, G. J., (2005). "Modeling Methane Hydrate Dissociation X-Ray CT Data Using a Heat Transfer Model," *Fifth International Conference on Gas Hydrates*, Trondheim, Norway, June 13-16.
- Hancock, S., Collett, T., Dallimore, S., Satoh, T., Inoue, T., Weatherill, B., Moridis, G. J., Huenges, E., Hennings, J., and Carle, D., (2004). "Overview of Production Test Results from the Japex/JNOC/GSC Mallik 5L-38 Gas Hydrate Research Well," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Hancock, S., Collett, T., Pooladi-Darvish, M., Gerami, S., Moridis, G. J., Okazawa, T., Osadetz, K., Dallimore, S., and Weatherill, B., (2004). "A Preliminary Investigation on the Economics of Onshore Gas Hydrate Production Based on the Mallik Field Discovery," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Kim, J., and Moridis, G. J., (2012). "Modeling and Numerical Simulation for Coupled Flow and Geomechanics in Composite Gas Hydrate Deposits," *46th U. S. Rock Mechanics/Geomechanics Symposium*, Chicago, IL, June 24-27.
- Kim, J., Moridis, G. J., Yang, D., and Rutqvist, J., (2011). "Numerical studies on two-way coupled fluid flow and geomechanics in hydrate deposits," *SPE Reservoir Simulation Symposium*, The Woodlands, TX, February 21-23.

- Kneafsey, T. J., Flemings, P. B., Bryant, S. L., You, K., and Polito, P. J., (2013). "Preliminary experimental examination of controls on methane expulsion during melting of natural gas hydrate systems," *AGU Fall Meeting*, San Francisco, CA, December 11.
- Kneafsey, T. J., and Seol, Y., (2010). "Macroscale X-ray Computed Tomography Imaging of Hydrate-Bearing Sediments: Seeing Hydrate-Related Process," *Gordon Research Conference, Natural Gas Hydrate Systems - Hydrate-Sediment-Fluid Interactions At Pore To Regional Scale*, Colby College, Waterville ME, June 6-11.
- Kneafsey, T. J., Lu, H., Winters, W. J., Hunte, R. B., (2009). "Effects of core retrieval, handling, and preservation on hydrate-bearing samples," *AGU Fall Meeting 2009*, San Francisco, CA, December 14-18.
- Kneafsey, T. J., H. Lu, Winters, W., Boswell, Ray, Hunter, R., Collett, T., Moridis, G. J., Waite, W., and Walker, M., (2009). "Hydrate-Bearing Sample Alteration from Core Retrieval, Handling, and Preservation," *American Association of Petroleum Geologists, Annual Convention & Exhibition*, Colorado, June 7-10.
- Kneafsey, T. J., Gupta, A., Seol, Y., and Tomutsa, L., (2008). "Permeability of Laboratory-Formed Methane Hydrate-Bearing Sand," *OTC-19536-PP, SPE Offshore Technology Conference*, Houston, TX, May 7.
- Kneafsey, T. J., and Tomutsa, L., (2008). "CT Scanning, Analysis, and Production Test - Mt Elbert Core Samples," *BP-DOE Mount Elbert-01 Gas Hydrate Stratigraphic Test Data Analyses/Interpretation & Production Test Design Workshop*, March 2008.
- Kneafsey, T., Tomutsa, L., (2008). "X-ray Computed Tomography Scanning of NGHP Core Samples," *National Gas Hydrate Program Gas Hydrate Conference 2008*, New Delhi, India, February 6-8.
- Kneafsey, T., (2006). "Gas Production from Hydrates: An Idea Whose Time Has Come," *Hart Energy Publishing Methane Hydrates Conference*, Houston, TX, Dec. 5-6.
- Kneafsey, T., Freifeld, B., Tomutsa, L., Seol, Y., and Elsen, H., (2004). "Measurements on Laboratory Core-Scale Sediment/Hydrate Samples to Predict Reservoir Behavior," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Kneafsey, T., Seol, Y., Gupta, A., Tomutsa, L., and Moridis, G. J., (2007). "Relative Permeability of Gas Hydrate Bearing Sediments," *Eos Trans. AGU, /88/(23), Joint Assembly Supplement, Abstract NS51B-02, AGU Joint Assembly*, Acapulco, Mexico, May 22-25.
- Kneafsey, T. J., Moridis, G. J., and M. B. Kowalsky, (2005). "Engineering Models: The TOUGH-Fx/Hydrate Simulator," *Integration of Modeling and USGS Hydrate Laboratory Research*, Denver CO, August 2-3.
- Kneafsey, T. J., Tomutsa, L., Taylor, C. E., Gupta, A., Moridis, G. J., Freifeld, B. M., Seol, Y. "Methane Hydrate Formation and Dissociation in a Partially Saturated Sand," *CSM Hydrate Consortium Meeting*, Golden CO, March 24-25.
- Kneafsey, T., Tomutsa, L., Seol, Y., and Moridis, G. J., (2006). "Relative Permeability Measurements of Hydrate-Bearing Sediments," *ECI Science and Technology Issues in Methane Hydrate R&D*, Kauai, HI, March 5-9.

- Kneafsey, T., Tomutsa, L., Seol, Y., Moridis, G. J., (2005). "On relative permeability of hydrate-bearing sediments," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 5-9.
- Kneafsey, T., Tomutsa, L., Taylor, C., Gupta, A., Moridis, G. J., Freifeld, B., and Seol, Y., (2005). "Methane hydrate formation and dissociation in a partially saturated sand," *LBNL-56933 Ext. Abs., The 229th ACS National Meeting*, San Diego, CA, March 13-17.
- Kneafsey, T. J., Tomutsa, L., Moridis, G. J., Taylor, C. E., and Gupta, A., (2005). "Methane Hydrate Formation and Dissociation in a Partially Saturated Sand – Measurements and Observations," *LBNL 56379 Abs, Fifth International Conference on Gas Hydrates*, Trondheim, Norway, June.
- Kowalsky, M., Nakagawa, S., and Moridis, G. J., (2008). "Feasibility of Monitoring Gas Hydrate Production with Geophysical Methods," *OTC 19489, 2008 Offshore Technology Conference*, Houston, TX, May 5-8.
- Kowalsky, M., and Moridis, G. J., (2006). "Comparison of Kinetic and Equilibrium Reaction Models in the Simulation of Gas Hydrates in Porous Media," *American Association of Petroleum Geologists Annual Meeting*, Houston, TX, The April 9-12.
- Kwon, T., Kneafsey, T. J., E. V. Rees, "Dissociation Heat of Methane-Carbon Dioxide Hydrate Mixtures," *American Geophysical Union Fall Meeting*, San Francisco CA, Dec. 13-17, 2010.
- Li, G., Moridis, G. J., Zhang, K., Li, X., (2010). "Evaluation of Gas Production Potential from Marine Gas Hydrate Deposits in the Shenhu Area of the South China Sea: Depressurization and Thermal Stimulation Methods," *2010 Offshore Technology Conference*, Houston, TX, May.
- Moridis G., (2006). "Hydrates — Technology at the Moment," *Society of Petroleum Engineers Advanced Technology Workshop on Unconventional Gas Resources*, Keystone, CO, April 20.
- Moridis, G., (2006). "Unconventional Oil and Gas Resources," *Society of Petroleum Engineers International Oil and Gas Conference and Exhibition in China (IOGCEC)*, Beijing, China, December 5-7.
- Moridis, G., (2006). "Depressurization-induced Gas Production from Class 1 and Class 2 Hydrate Deposits," *ECI Science and Technology Issues in Methane Hydrate R&D*, Kauai, HI, March 5-9.
- Moridis, G., (2004). "Numerical Studies of Gas Production from Oceanic Hydrate Accumulations," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Moridis, G., (2002). "Numerical Studies of Gas Production from Methane Hydrates," *Society Petroleum Engineers Gas Technology Symposium*, Calgary, AB, April 29-May 2.
- Moridis, G., (2002). "Numerical Simulation Studies of Thermally-Induced Gas Production From Hydrate Accumulations With No Free Gas Zones at the Mallik Site, Mackenzie Delta," *Asia Pacific Oil and Gas Conference and Exhibition*, Melbourne, Australia, October 8-10.

- Moridis, G. J., (2011). "Promise, issues and limitations facing gas production from hydrate deposits, including geomechanical concerns," *Institute for Advanced Sustainability*, Potsdam, Germany, November 8-9.
- Moridis, G. J., (2012). "Recent modeling studies of gas production from hydrate deposits and of the corresponding geomechanical system response," *34th International Geological Congress*, Brisbane, Australia, August 5-10.
- Moridis, G. J., (2012). "Evaluation of CO₂ substitution for CH₄ in hydrate-bearing media. Invited speaker," *Gordon Research Conference on Natural Gas Hydrate Systems*, Ventura, CA, March 18-23.
- Moridis, G., and Kowalsky, M., (2006). "Sensitivity Analysis of Depressurization-induced Long-term Production from Class 1 Hydrate Deposits," *The American Association of Petroleum Geologists Annual Meeting*, Houston, TX, April 9-12.
- Moridis, G., Kowalsky, M., and Pruess, K., (2005). "Depressurization-Induced Gas Production From Class-1 Hydrate Deposits," *Society of Petroleum Engineering Annual Technical Conference and Exhibition*, Dallas, TX, October 9-12.
- Moridis, G., Seol, Y., and Kneafsey, T., (2005). "Numerical Study of Hydrate Preservation during Core Recovery," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 5-9.
- Moridis, G., Seol, Y., Collett, T., Dallimore, S., Inoue, T., Mroz, T., and Henniges, J., (2003). "Thermal Properties of Hydrates from Temperature Data Analysis of an Isolated Formation Interval in the 5L-28 Mallik Research Well," *Mallik Consortium Scientific Meeting*, Chiba, Japan December 8-10.
- Moridis, G., Seol, Y., and Kneafsey, T., (2005). "Studies of reaction kinetics of methane hydrate dissociation in porous media," *LBNL-57298, Fifth International Conference on Gas Hydrates (ICGH 5)*, Trondheim, Norway,
- Moridis, G., Collett, T., Dallimore, S., Satoh, T., Hancock, S., and Weatherhill, B., (2002). "Numerical Studies Of Gas Production Scenarios Hydrate Accumulations at the Mallik Site, Mackenzie Delta," *Fourth International Conference on Gas Hydrates*, Yokohama, Japan, May 19-23.
- Moridis, G., and Reagan, M., (2007). "Gas Production From Oceanic Class-2 Hydrate Accumulations," *paper 18866 (LBNL-62757), Offshore Technology Conference*, Houston, TX, April 30-May 3.
- Moridis, G., and Reagan, M., (2007). "Strategies for Gas Production From Oceanic Class-3 Hydrate Accumulations," *paper 18865 (LBNL-62758), Offshore Technology Conference*, Houston, TX, April 30-May 3.
- Moridis, G., and Rutqvist, J., (2007). "Numerical Studies of Geomechanical Stability of Hydrate-Bearing Sediments," *paper 18860, Offshore Technology Conference*, Houston, TX, April 30-May 3.
- Moridis, G., Collett, T., Boswell, R., Kurihara, M., Reagan, M., Koh, C., and Sloan, E. Dendy, (2008). "Toward Production from Gas Hydrates: Current Status, Assessment of Resources, and Simulation-Based Evaluation of Technology and Potential," *SPE Unconventional Reservoirs Conference*, Keystone, Colorado, February 11-12.

- Moridis, G., (2008). "Modeling Studies of Gas Production From Hydrate Deposits and of the Corresponding Geomechanical System Response," *National Gas Hydrate Program Gas Hydrate Conference 2008*, New Delhi, India, February 6-8.
- Moridis, G., Reagan, M., and Zhang, K., (2008). "The Use of Horizontal Wells in Gas Production from Hydrate Accumulations," 6th International Conference on Gas Hydrates 2008, Vancouver, BC, July 9-12.
- Moridis, G., Reagan, M., and Zhang, K., (2008). "On the Performance of Class 2 and Class 3 Hydrate Deposits During Co-Production With Conventional Gas (OTC 19435)," *2008 Offshore Technology Conference*, Houston, TX, May 5-8.
- Moridis, G. J., and Reagan, M. T., Silpngarmert, S., Zhang, K., (2008). "Gas Production of Class 3 Hydrate Deposit at the Mount Elbert Site, North Slope, Alaska," *AGU Fall Meeting*, San Francisco, CA, December 15-19.
- Moridis, G. J., (2009). "Differences between gas production from oceanic and permafrost-associated hydrates," *Research Center of Statoil (the national oil company of Norway)*, Oslo, Norway, March.
- Moridis, G. J., (2009). "Numerical, laboratory and field studies of gas production from hydrates," *China University of Geosciences*, Wuhan, China, March.
- Moridis, G. J., (2009). "Promises and challenges of gas production from hydrates," *Guangzhou Center for Gas Hydrate Research, Guangzhou Institute for Energy Conversion, Chinese Academy of Sciences*, Guangzhou, China, March.
- Moridis, G. J., (2009). "Promises and challenges of gas production from hydrates," *2009 SPE Western Regional Meeting*, San Jose, CA, March 24-26.
- Moridis, G. J., (2009). "Limitations and special challenges of gas production from oceanic hydrate deposits," *National Research Center of the Chinese National Offshore Oil Company*, Beijing, China, March.
- Moridis, G. J., (2009). "Numerical, laboratory and field studies of gas production from hydrates," *Colorado School of Mines*, Golden, CO, April.
- Moridis, G. J., (2009). "Promises and challenges of gas production from hydrates," *Sacramento Petroleum Association*, Sacramento, CA, May.
- Moridis, G. (2009). "Interrelationship of dissociating oceanic hydrates and global climate: Methane hydrate response to rising water temperatures," *2009 Goldschmidt Conference*, Davos, Switzerland, 21-26 June 2009.
- Moridis, G., Reagan, M., Kim, S., Seol, Y., and Zhang, K., (2007). "Evaluation of the Gas Production Potential of Marine Hydrate Deposits in the Ulleung Basin of the Korean East Sea," *2007 SPE Asia Pacific Oil & Gas Conference and Exhibition*, Jakarta, Indonesia, October 30–November 1.
- Moridis, G.J., Reagan, M.T., Queiruga, A.F., 2017. "Long-Term System Behavior Following Cessation of Gas Production from Hydrate Deposits," *Ninth Int. Conference on Gas Hydrates*, Denver, CO, 1-3 June 2017.

- Moridis, G.J., Queiruga, A.F., Reagan, M.T., 2017. "The T+H+M Code for the Analysis of Coupled Flow, Thermal, Chemical and Geomechanical Processes in Hydrate-Bearing Geologic Media," *Ninth Int. Conference on Gas Hydrates*, Denver, CO, 1-3 June 2017.
- Moridis, G.M., Reagan, M.T., Queiruga, A.F., 2018. Geomechanical Stability and Overall System Behavior of Sloping Oceanic Accumulations of Hydrates Responding to Dissociation Stimuli, OTC-24896-MS, Offshore Technology Conference-Asia, 20 March 2018.
- Nakagawa, S., Keafsey, T. J., Moridis, G. J., (2008). "Mechanical strength and seismic property measurements of hydrate-bearing sediments (HBS) during hydrate formation and loading tests," *OTC 19559, SPE Offshore Technology Conference*, Houston, TX, May 8.
- Reagan, M. T., (2012). "Consequences of hydrate dissociation in response to climate change, (poster)," *2nd Gordon Research Conference on Natural Gas Hydrates*, Ventura, CA, March 18-23.
- Reagan, M. T., (2012). "Massively parallel simulation of field-scale oceanic gas hydrate deposits," *AIChE Spring Meeting*, Houston, TX, April 1-5,
- Reagan, M. T., (2012). "The response of marine clathrates to climate change: beyond the "clathrate gun,"" *Climate Sensitivity on Decadal to Century Timescales*, Aspen Global Change Institute, May 24, Aspen, CO.
- Reagan, M., (2011). "Basin-Scale Assessment of Hydrate Dissociation in Response to Climate Change," *7th International Conference on Gas Hydrates*, Edinburgh, UK, July 18-22.
- Reagan, M., (2011). "Simulation of Arctic Gas Hydrate Dissociation in Response to Climate Change: Basin-Scale Assessments," *USGS/DOE Climate-Hydrates Research Workshop*, Boston, MA, March 15-16.
- Reagan, M., (2011). "Advanced Computation in Energy Science (Hydrates & Climate)," *LBNL Advisory Board Meeting—Early Career Panel*, March 29.
- Reagan, M., (2011). "Simulation of Arctic Gas Hydrate Dissociation in Response to Climate Change: Basin-Scale Assessment," *OTC 22153, 2011 Arctic Technology Conference*, Houston, TX, February 7–9.
- Reagan, M., (2010). "Basin-Scale Simulation of Oceanic Gas Hydrate Dissociation in Response to Climate Change," *AGU Fall Meeting 2010*, San Francisco, CA, December 13-17.
- Reagan, M., (2010). "Oceanic Hydrates, Methane, Ocean Chemistry, and Climate," *Gordon Research Conference on Natural Gas Hydrates*, Colby College, Waterville, ME, June 6-10.
- Reagan, M., (2010). "Climate Change and the Response of Oceanic Hydrate Accumulations," *European Geosciences Union General Assembly*, Vienna, Austria, May 7.
- Reagan, M., (2010). "The Effect of Reservoir Heterogeneity on Gas Production From Hydrate Accumulations in the Permafrost," *SPE 132649, 2010 SPE Western North American Regional Meeting*, Anaheim, California, May 27-29.
- Reagan, M., (2010). "Arctic Methane, Hydrates, and Global Climate," LBNL Environmental and Energy Technology Division Seminar, 17 March 2010. Reagan, M., 2010, "Arctic Methane, Hydrates, and Global Climate," *DOE Laboratory Energy R&D Working Group (LERDWG) Meeting*, Washington, DC, Feb 17.

- Reagan, M., Moridis, G. J., Elliott, S. M., Maltrud, M., Jones, P., (2010). "LBNL Research Program on Gas Production from Hydrates: Numerical Simulation Studies," *NETL Methane Hydrates Program Symposium*, Atlanta, GA, January 25-29.
- Reagan, M., Elliott, S., Moridis, G. J., Maltrud, M., Jones, P., (2010). "Interrelation of Global Climate and the Response of Oceanic Hydrate Accumulations," *NETL Methane Hydrates Program Symposium*, Atlanta, GA, January 25-29.
- Reagan, M. T., Moridis, G. J., (2009). "Large-Scale Simulation of Oceanic Gas Hydrate Dissociation in Response to Climate Change," *AGU Fall Meeting 2009*, San Francisco, CA, December 14-18.
- Reagan, M., Moridis, G. J., Zhang, K., (2009). "Regional Simulation of Oceanic Gas Hydrate Dissociation in Response to Climate Change (poster)," *TOUGH Symposium 2009*, Berkeley, CA, September 14.
- Reagan, M., Moridis, G. J., (2008). "Dynamic Response Of Oceanic Hydrate Deposits To Ocean Temperature Change," *USGS Methane and Climate Symposium*, MIT, Cambridge, MA, February 25-26.
- Reagan, M., Moridis, G. J., and Zhang, K., (2008). "Sensitivity Analysis of Gas Production from Class 2 and Class 3 Hydrate Deposits (OTC 19554)," *2008 Offshore Technology Conference*, Houston, TX, May 5-8.
- Reagan, M., Moridis, G. J., (2008). "Reactive transport modeling of oceanic gas hydrate instability and dissociation in response to climate change," *6th International Conference on Gas Hydrates 2008*, Vancouver, BC, July 9-12.
- Reagan, M. T., Moridis, G. J., (2008). "Oceanic gas hydrate dissociation in response to climate change and the fate of hydrate-derived methane," *AGU Fall Meeting*, San Francisco, CA, December 15-19.
- Reagan, M. T., Moridis, G. J., (2007). "Oceanic Gas Hydrate Instability And Dissociation In Response To Climate Change," *AGU Fall Meeting 2007*, San Francisco, CA, December 9-14.
- Reagan, M. T., Moridis, G. J., (2007). "Strategies for Gas Production From Oceanic Class 3 Hydrate Accumulations," *OTC 18665, 2007 Offshore Technology Conference*, Houston, TX, May 1-3.
- Reagan, M.T., 2018. "Modeling at the Reservoir and Field Scales," (invited) Keynote Session, Gordon Research Conference on Natural Gas Hydrates, Galveston, TX, 25 February-2 March 2018.
- Reagan, M.T., 2018. "Current Advances in Laboratory and Simulation Studies at LBNL," National University of Singapore, 27 March 2018.
- Rees E. V., Nakagawa, S., T. J., Kneafsey, (2011). "Seismic Property changes in Methane Gas Hydrate Bearing Sediments During Geomechanical Testing," *GC41B-0804, American Geophysical Union Fall Meeting*, San Francisco CA, Dec. 5-9.
- Rees, E. V. L., Nakagawa, S., and Keafsey, T. J., (2011). "The Geomechanical Properties of Synthetic Hydrate Bearing Sediments," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, Edinburgh, Scotland, United Kingdom, July 17-21.

- Rees, E. V., Kneafsey, T. J., Kwon, T., (2010). "Synthesising Uniform Gas Hydrate in Natural Porous Media under Partially Saturated and Fully Water Saturated Conditions," *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 13-17.
- Rutqvist, J., Moridis, G. J., (2008). "Development of a Numerical Simulator for Analyzing the Geomechanical Performance of Hydrate-Bearing Sediments," *42nd U. S. Rock Mechanics Symposium and 2nd U. S.-Canada Rock Mechanics Symposium*, San Francisco, CA, June 29-July 2.
- Rutqvist, J., Grover, T., and Moridis, G. J., (2007). "Numerical Studies of Geomechanical Stability of Hydrate-Bearing Sediments," *OTC-18860, LBNL-62759, Offshore Technology Conference*, Houston, TX, April 30 -May 3.
- Rutqvist, J., and Moridis, G. J., (submitted). "Coupled Hydrologic, Thermal and Geomechanical Analysis of Well Bore Stability in Known Oceanic Hydrate-Bearing Sediments," *OTC-19572, 2008 Offshore Technology Conference*, Houston, TX.
- Rutqvist, J., Moridis, G. J., Collett, T., (2008). "Geomechanical Response of Known Permafrost Hydrate Deposits to Depressurization and Thermal Loading," *6th International Conference on Gas Hydrates*, Vancouver, BC, July 9-12.
- Seol, Y., Keafsey, T. J., and E. V. Rees (2009). "X-ray CT observations of methane hydrate distribution in natural sediment and laboratory formed compacted sand samples," *Eos Trans. AGU, 90(52), Fall Meet. Suppl., Abstract OS31A-1193*.
- Seol, Y., and Keafsey, T. J., (2009). "Relative Permeability Parameter Estimation for Laboratory-Formed Hydrate-Bearing Sediments," *American Association of Petroleum Geologists, Annual Convention & Exhibition*, Colorado June, 7-10.
- Seol, Y., Keafsey, T. J., and Moridis, G. J., (2007), "Numerical simulation of hydrate formation morphology in cylindrical experimental sand columns," *Eos Trans. AGU, 88(52), Fall Meet. Suppl., Abstract OS23A-1037*.
- Seol, Y., Kneafsey, T., Tomutsa, L., and Moridis, G. J., (2006). "Preliminary Relative Permeability Estimates of Methane Hydrate-Bearing Sand," *LBNL-60368, TOUGH Symposium*, Berkeley, CA, May 15-17.
- Seol, Y., Keafsey, T. J., and Moridis, G. J., (2007). "Numerical simulation of hydrate formation morphology in cylindrical experimental sand columns," *Eos Trans. AGU, 88(52), Fall Meet. Suppl., Abstract OS23A-1037*.
- Seol, Y. and Keafsey, T. J., (2008). "Fluid flow through heterogeneous methane-hydrate bearing sand: observations using x-ray CT scanning," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Su, Z., Moridis, G. J., Zhang, K., Wu, N., (2010). "Numerical Investigation of Gas Production Strategies for the Hydrate Deposits in the Shenhu Area," *2010 Offshore Technology Conference*, Houston, TX, May.
- Tomutsa, L., Stern, L., Kneafsey, T., and Freifeld, B., (2002). "Use of computed X-ray tomography in measurement of synthetic hydrates and hydrate/sand mixtures during dissociation," *Fourth International Conference on Gas Hydrates*, Yokohama, Japan, May 19-24.

- Tomutsa, L., Freifeld, B., Kneafsey, T., and Stern, L., (2002). "X-ray Computed Tomography Observation of Methane Hydrate Dissociation," *SPE 75533, LBNL 49580, SPE Gas Technology Symposium*, Calgary, AB, April 30-May 2.
- Waite, W. F., Keafsey, T. J., Santamarina, J. C., Winters, W. J., Yun, T-S., Mason, D. H., Ruppel, C., (2006). "Physical Property Changes in Hydrate-Bearing Sediment Samples due to Depressurization/ Repressurization," *American Geophysical Union*, San Francisco CA, Dec. 11-15.
- Zhang K., and Moridis, G. J., (2008). "A Domain Decomposition Approach for Large-Scale Simulations of Coupled Processes in Hydrate-Bearing Geologic Media," *6th International Conference on Gas Hydrates*, Vancouver, BC, July 6-10.

Peer-Reviewed Publications

- Circone, S., Stern, L., Kirby, S., Pinkston, J., and Durham, W., (2000). "Pure methane hydrate dissociation rates at 0.1 MPa and temperatures above 272 K," in G. Holder and P. Bishnoi eds., *Gas hydrates: Challenges for the Future, Annals of the New York Academy of Sciences*, vol. 912, pp. 544-556.
- Circone, S., Stern, L., Kirby, S., Durham, W., Chakoumakos, B., Rawn, C., and Rondinone, A., (2003). "CO₂ hydrate: synthesis, composition, dissociation behavior, and a comparison to structure I CH₄ hydrate," *J. Physical Chemistry B.*, 107 (23), pp. 5529-5539.
- Circone, S., Stern, L., Kirby, S., Pinkston, J., and Durham, W., (2000). "Methane hydrate dissociation rates at 0.1 MPa and temperatures above 272 K," in G. D. Holder and P. R. Bishnoi eds., *Gas Hydrates: Challenges for the Future, New York Academy of Sciences, New York*, pp. 544-555,
- Durham, W., Stern, L., and Kirby, S., (2003). "Ductile Flow of Methane Hydrate," *Canadian Journal of Physics*, Volume 81, pp. 373-380.
- Durham, W., Stern, L., Kirby, S., and Circone, S., (2005). "Rheological comparisons and structural imaging of sI and sII end-member gas hydrates and hydrate/sediment aggregates," *Proceedings of the 5th International Conference on Gas Hydrates*, vol. 2, pp. 607-614.
- Durham, W., Kirby, S., Stern, L., and Zhang, W., (2003). "The strength and rheology of methane clathrate hydrate," *J. Geophys. Res.*, vol. 108 (B4), pp. 2182-2193.
- Durham, W., Stern, L., Kirby, S., and Circone, S., (2005). "Rheological comparisons and structural imaging of sI and sII endmember gas hydrates and hydrate/sediment aggregates," *Proceedings of the 5th International Conference on Gas Hydrates*, Trondheim, Norway.
- Durham, W., Kirby, S., Stern, L., and Zhang, W., (2003). "The Strength and Rheology of Methane Clathrate Hydrate," *Journal Geophysical Research*, Volume 108, pp. 2182-2193.
- Rehder, G., Kirby, S., Durham, W., Stern, L., Peltzer, E., Pinkston, J., and Brewer, P., (2004). "Dissolution rates of pure methane hydrate and carbon dioxide hydrate in undersaturated seawater at 1000 m depth," *Geochim, Cosmochim. Acta*. vol. 68 (2), pp. 285-292.
- Stern, L., Circone, S., Kirby, S., and Durham, W., (2001). "Anomalous preservation of pure methane hydrate at 1 atm.," *J. Phys. Chem. B*, v. 105 (9), pp. 1756-1762.
- Stern, L., Circone, S., Kirby, S., and Durham, W., (2002). "New insights into the phenomenon of anomalous or "self" preservation of gas hydrates," *Proceedings of the 4th International Conference on Gas Hydrates, Yokohama Japan, (2002)*. pp. 673-677.
- Stern, L., Circone, S., Kirby, S., and Durham, W., (2001). "Preservation of methane hydrate at 1 atm," *Energy & Fuels*, vol. 15 (2), p.499-501.
- Stern, L., Circone, S., Kirby, S., and Durham, W., (2004). "Scanning Electron Microscopy (SEM) investigations of laboratory-grown gas hydrates formed from melting ice, and comparison to natural hydrates," *American Mineralogist*, vol. 89 (8-9), pp. 1162-1175.

- Stern, L., Circone, S., Kirby, S., and Durham, W., (2005). "SEM imaging of gas hydrate formation processes and growth textures, and comparison to natural hydrates of marine and permafrost origin," *Proceedings of the 5th International Conference on Gas Hydrates, Trondheim, Norway, June 2005, vol. 1*, pp. 300-309.
- Stern, L., Circone, S., Kirby, S., and Durham, W., (2003). "Temperature, pressure, and compositional effects on anomalous or "self" preservation of gas hydrates.," *Can. Journ. Phys*, 81 (1-2), pp. 271-283.
- Stern, L., Kirby, S., and Durham, W., (2005). "SEM imaging of grain structure and phase distribution within hydrate-bearing intervals from Mallik well 5L-38: What can we learn from comparisons with laboratory-synthesized samples?" *Geological Survey of Canada, Bulletin 585 (paper 31)*.
- Stern, L., Kirby, S., and W. Durham (2005). "Scanning electron microscopy imaging of grain structure and phase distribution within gas-hydrate-bearing intervals from JAPEx/JNOC/GSC et al. Mallik 5L-38: What can we learn from comparisons with laboratory-synthesized samples?," in S. R. Dallimore and Collett, T. S. eds. *Scientific Results from the eMallik 2002 Gas Hydrate Production Research Well Program, Mackenzie Delta, Northwest Territories, Geological Survey of Canada, Bulletin 585*, 19 pp.
- Stern, L., Kirby, S., Durham, W., Circone, S., and Waite, W., (2000). "Synthesis of pure methane hydrate suitable for measurement of physical properties and decomposition behavior," *Natural Gas Hydrate: In Oceanic and Permafrost Environments*, p.323-349.
- Waite, W., Helgerud, M., Nur, A., Pinkston, J., Stern, L., Kirby, S., and Durham, W., (2000). "Laboratory measurements of compressional and shear wave speeds through pure methane hydrate," in G. Holder and P. Bishnoi, eds. *Gas hydrates: Challenges for the Future, Annals of the New York Academy of Sciences, vol. 912*, pp. 1003-1011.

Presentations

- Durham, W., Kirby, S., Stern, L., (2006). "Constraining the flow and fracture of planetary ices through laboratory experiments," *AGU Eos Trans., 87(52) Fall Meeting Supplement, abstract P42B-02*.
- Durham, W., McDaniel, S., Stern, L., and Kirby, S., (2003). "Ice rheology in the planetary context," *American Geophysical Union 2003 Spring Meeting, Nice, France, April*.
- Durham, W., Stern, L., and Kirby, S., (2002). "Ductile flow of methane hydrate," *International Symposium on the Physics and Chemistry of Ice, Newfoundland, July 14-19*.
- Durham, W., Stern, L., and Kirby, S., (2003). "The rheology of clathrate hydrates and its relationship to planetary ice," *The Study of Matter under Extreme Conditions Conference, Miami, FL, March 24-28*.
- Durham, W., Stern, L., Kirby, S., and Circone, S., (2006). "Laboratory studies of sI and sII gas hydrates: physical properties and thermodynamic stability," *Science & Technology issues in Methane Hydrate R&D Conference, Kauai, HI, March 5-9*.
- Durham, W., Stern, L., Kirby, S., and Circone, S., (2005). "Rheology and structural imaging of sI and sII end-member gas hydrates and hydrate/sand aggregates," *5th International Conference on Gas Hydrates, Trondheim, Norway, June*.

- Kirby, S., Stern, L., and Durham, W., (2000). "Synthesis and physical properties of pure methane hydrate: challenges, new developments, and trends," *Abstracts of the Western Pacific Geophysical Meeting*, Tokyo, Japan.
- Kirby, S., Stern, L., Brewer, P., Circone, S., and Durham, W., (2003). "Laboratory and seafloor experiments in support of the science of hydrate hydrocarbon clathrate hydrates in nature," *AGU Fall 2003 meeting*, San Francisco, CA December.
- Stern, L., Circone, S., Kirby, S., and Durham, W., (2002). "New insights into the phenomenon of anomalous or "self" preservation of gas hydrates," *International Symposium on the Physics and Chemistry of Ice*, Newfoundland, July 14-19.
- Stern, L., Durham, W., Kirby, S., Circone, S., and Helgerud, M. (2004). "Experimental observations pertinent to the mechanical and thermal stability of sl methane hydrate/sand aggregates," *AAPG 2004 National Meeting*, Dallas, TX, April.
- Stern, L., Durham, W., Kirby, S., McCarthy, C., Kubo, T., Rieck, K., and Pathare, A., (2007). "Planetary ices up close: imaging by cryogenic SEM," *American Geophysical Union 2007 Fall Meeting*.
- Stern, L., Kirby, S., Circone, S., Waite, W., Helgerud, M., Pinkston, J., and Durham, W., (2002). "Laboratory investigations of gas hydrate physical properties and phase stability," *4th International Conference on Gas Hydrates*, Yokohama, Japan, May 19-24.
- Stern, L., Kirby, S., Circone, S., and Durham, W., (2004). "Scanning Electron Microscopy (SEM) imaging of laboratory-grown gas hydrates, and comparisons with recovered samples from marine and permafrost origin," *AAPG Hedberg Research Conference ("Natural Gas Hydrates: Energy Resource Potential and Associated Geologic Hazards")*, Vancouver BC, September.
- Stern, L., Kirby, S., Circone, S., and Durham, W., (2005). "SEM imaging of gas hydrate formation processes and growth textures, and comparison to natural hydrate of marine and permafrost origin," *5th International Conference on Gas Hydrates*, Trondheim, Norway, June.
- Stern, L., Kirby, S., Circone, S., and Durham, W., (2001). "Synthesis of Gas Hydrates for Measurement of Physical Properties and Phase Stability," *American Crystallographic Association 2001 Annual Meeting*, Los Angeles CA.
- Stern, L., Peltzer, E., Durham, W., Kirby, S., Brewer, P., Circone, S., and Rehder, G., (2002). "Dissolution of Hydrocarbon Hydrates in Seawater at 1030-m, Effects of Porosity, Structure, and Compositional Variation as Determined by Video and SEM Imaging," *EOS, Transactions of the American Geophysical Union*, 83 (47) pp. F777.

Peer-Reviewed Publications

- Chakoumakos, B., Rawn, C., Rondinone, A., Stern, L., Sircone, S., Kirby, S., Ishii, Y., Jones, C., Toby, B., and Dender, D., (2003). "Temperature Dependence of Polyhedral Cage Volumes in Clathrate Hydrates," *Canadian Journal of Physics, Volume 81*, pp. 183-189.
- Sircone, S., Stern, L., Kirby, S., Durham, W., Chakoumakos, B., Rawn, C., Rondinone, A., and Ishii, Y., (2003). "CO₂ Hydrate: Synthesis, Composition, Structure, Dissociation Behavior, and a Comparison to Structure I CH₄ Hydrate," *Journal of Physical Chemistry B*, *107*, pp. 5529-5539.
- Colwell, F., Boyd, S., Delwiche, M., Reed, D., Phelps, T., and Newby, D., (2008). "Estimates of biogenic methane production rates in deep marine sediments at Hydrate Ridge," *Cascadia Margin, Applied and Environmental Microbiology*, *74*, pp. 3444-3452.
- Elwood Madden, M., Ulrich, S., Szymcek, P., McCallum, S., Phelps, T., (2009). "Experimental formation of massive hydrate deposits from accumulation of CH₄ gas bubbles within synthetic and natural sediments," *Marine and Petroleum Geology*, *26*, pp. 369-378.
- Elwood Madden, M., Ulrich, S., Onstott, T., and Phelps, T., (2007). "Salinity-induced hydrate dissociation: a mechanism for recent CH₄ release on Mars," *Geophysical Research Letters*, *34* L11202.
- Jones, C., Marshall, S., Chakoumakos, B., Rawn, C., and Ishii, Y., (2003). "Structure and thermal expansivity of tetrahydrofuran deuterate determined by neutron powder diffraction," *Journal of Physical Chemistry B*, *107*, pp. 2026-6031.
- Jung, J., Jang, J., Santamarina, J., Tsouris, C., Phelps, T., and Rawn, C., (2012). "Gas Production from Hydrate-Bearing Sediments: The Role of Fine Particles," *Energy and Fuels*, *26*, pp. 480-487.
- Leeman, J., Rawn, C., Ulrich, S., Elwood Madden, M., Ulrich, S., and Phelps, T., (2012). "Interpreting temperature-strain data from mesoscale clathrate experiments," *Computers and Geosciences*, v. *38*, pp. 62-67, doi:10.1016/j.cageo.2011.05.004.
- McCallum, S., Riestenberg, D., Zatsepina, O., and Phelps, T., (2007). "Effect of pressure vessel size on the formation of gas hydrates," in D. Mahajan, Taylor, C., and G. Ali Mansoori, eds., *Journal of Petroleum Science and Engineering – Natural Gas Hydrate/Clathrate (Elsevier)*, Volume *56*, Issues 1-3, pp. 54-64, March.
- Phelps, T., Peters, D., Marshall, S., West, O., Liang, L., Alexiades, V., Jacobs, G., Blencoe, J., Naney, M., and Heck, J., (2001). "A new experimental facility for investigating the formation and properties of gas hydrates under simulated seafloor conditions," *Review of Scientific Instruments*, Volume *72*, p.1514-1521.
- Rawn, C., Leeman, J., Ulrich, S., Alford, J., Phelps, T., and Madden, M., (2011). "Fiber optic sensing technology for detecting gas hydrate formation and decomposition," *Review of Scientific Instruments*, Volume *82*, 024501.
- Rawn, C., Rondinone, A., Chakoumakos, B., Sircone, S., Stern, L., Kirby, S., and Ishii, Y., (2003). "Neutron Powder Diffraction Studies as a Function of Temperature of Structure II Hydrate Formed from Propane," *Canadian Journal of Physics*, Volume *81*, pp. 431-438.

- Riesterberg, D., West, O., Lee, S., McCallum, S., and Phelps, T., (2003). "Sediment Surface Effects on Methane Hydrate Formation and Dissociation," *Marine Geology, Volume 198*, pp. 181-190.
- Rondinone A., Chakoumakos, B., Rawn, C., and Ishii, Y., (2003). "Neutron Diffraction Study of Structure I and Structure II Trimethylene Oxide Clathrate Deuterate," *Journal of Physical Chemistry B, 107*, pp. 6046-6050.
- Rondinone, A., Jones, C., Marshall, S., Chakoumakos, B., Rawn, C., and Lara-Curizo, E., (2003). "A Single-Crystal Sapphire Cell for in situ Neutron Diffraction Study of Gas-Hydrate," *Canadian Journal of Physics, Volume 81*, p.381-385.
- Subramaniam, S. Lance, M., Rawn, C., Chakoumakos, B., and Rondinone, A., (2005). "Raman Spectroscopic Studies on Structure I and Structure II Trimethylene Oxide Hydrate," *Can. J. Phys.*, *83*, pp. 941-949.
- Zatsepina, O., Riesterberg, D., McCallum, S., M. Gborigi, C. Brandt, B. Buffett, and Phelps, T., (2004). "Influence of water thermal history and overpressure on CO₂-hydrate nucleation and morphology," *American Mineralogist, Volume 89*, pp. 1254-1259.

Government Reports

- Elwood Madden, M., Phelps, T., Rawn, C., McCallum, S., Szymcek, P., Ulrich, S., Taylor, C., (2006). "Hydrate Formation and Dissociation via Depressurization in Simulated and Field Samples," *Interim Report*.

Other Publications

- Chakoumakos, B., Rawn, C., Rondinone, A., Marshall, S., Stern, L., Circone, S., Kirby, S., Jones, C., Toby, B., and Ishii, Y., "The Use of Rigid Body Constraints in Rietveld Refinements of Neutron Diffraction Data of Clathrate Hydrates," *Proceedings of the Fourth International Conference on Gas Hydrates*, p.655.
- Madden, M., (2007). "New Sensing Technology at Oak Ridge National Lab Expands Capabilities for Meso-Scale Hydrate Research," *U. S. DOE-NETL Fire in the Ice Newsletter*, Winter.
- Rawn, C. J., Sassen, R., Ulrich, S. M., Phelps, T. J., Chakoumakos, B. C., and Payzant, E. A., "Low Temperature X-ray Diffraction Studies of Natural Gas Hydrate Samples from the Gulf of Mexico," *Proceedings of the 6th International Conference on Gas Hydrate (ICGH 2008)*.
- Rawn, C., and Phelps, T., (2004). "Oak Ridge facilities for studying natural gas hydrates are well suited for graduate education and collaborations," *U. S. DOE-NETL Fire in the Ice Newsletter*, Fall.
- Rawn, C., Rondinone, A. J., Chakoumakos, B. C., Marshall, S. L., Stern, L. A., Circone, S., Kirby, S. H., Jones, C. Y., Toby, B. H., and Ishii, Y., (2002). "Neutron Powder Diffraction Studies as a Function of Temperature of Structure II Hydrate Formed from a Methane + Ethane Gas Mixture," *Proceedings of the Fourth International Conference on Gas Hydrates*, p. 595.
- Rondinone, A., Chakoumakos, B. C., Rawn, C. J., and Ishii, Y., (2002) "Neutron Diffraction Study of Structure I and Structure II Trimethylene Oxide Clathrate Deuterate," *Proceedings of the Fourth International Conference on Gas Hydrates*, p. 625.
- Madden, M., (2007). "New Sensing Technology at Oak Ridge National Lab Expands Capabilities for Meso-Scale Hydrate Research," *U. S. DOE-NETL Fire in the Ice Newsletter*, Winter.

Ulrich, S. M., Elwood-Madden, M. E., Rawn, C. J., Szymcek, P., and Phelps, T. J., (2008). "Application of Fiber Optic Temperature and Strain Sensing Technology to Gas Hydrates," *Proceedings of the 6th International Conference on Gas Hydrate (ICGH 2008)*.

Presentations

Chakoumakos, B., Rawn, C., Rondinone, A., Marshall, S., Stern, L., Circone, S., Kirby, S., Jones, C., Toby, B., and Ishii, Y., (2002). "The use of rigid body constraints in Rietveld refinements of neutron diffraction data of clathrate hydrates, Yokohama, Japan, 4th International Conference on Gas Hydrates, May 19-23.

Everett, S. M., Rawn, C. J., Chakoumakos, B. C., Keffer, D. J., Huq, A., and Phelps, T. J., (2012). "Neutron Diffraction Studies of Mixed CO₂ – CH₄ Gas Hydrates (poster)," *Gordon Research Conference for Natural Gas Hydrate Systems*, Ventura, CA, March.

Everett, S. M., Rawn, C. J., Chakoumakos, B. C., Keffer, D. J., Huq, A., and Phelps, T. J., (2012). "Molecular visualization of CH₄ and CO₂ in mixed gas hydrates by high resolution neutron diffraction," *Presentation at the STAIR annual meeting*, Elizabethton, TN, May.

Everett, S. M., Rawn, C. J., Chakoumakos, B. C., Keffer, D. J., Huq, A., and Phelps, T. J., (2012). "Molecular visualization of CH₄ and CO₂ in mixed gas hydrates by high resolution neutron diffraction," *American Crystallographic Association meeting*, Boston, MA, July.

Leeman, J. R., Elwood Madden, M. E., Alford, J. E., Phelps, T. J., and Rawn, C. J., (2009). "Meso-scale clathrate experiments: effect of grain size on formation pathways," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 14-18.

Madden, M. Elwood, (2007). "Experimental formation of massive hydrate deposits from accumulation of CH₄ gas bubbles within synthetic and natural sediments" *American Geophysical Union Fall Meeting*, San Francisco, CA, December 11.

Madden, M. Elwood, Ulrich, S. M., and Phelps, T. J., (2007). "Impacts, Salinity, and Climate Change: Global-Scale Triggers for Hydrate Dissociation on Earth and Mars," *American Geophysical Union Fall Meeting*, San Francisco, CA, December.

Madden, M. Elwood, (2006). "Just add Salt: Salinity-Induced Hydrate Dissociation as a Possible Source for Atmospheric Methan on Mars," *American Geophysical Union Fall Meeting*, San Francisco, CA, December.

McCallum, S., Riestenberg, D., Rawn, C., and Phelps, T., (2005). "Mesoscale research of gas hydrates," *229th American Chemical Society National Meeting*, San Diego, CA, March 13-17.

Rawn, C. J., (2011). "Fire in the Ice: Harvesting Methane from Oceans and Permafrost," *Society of Women Engineers, Region D Conference*, Knoxville, TN, March 5.

Rawn, C. J., Leeman, J. R., Ulrich, S. M., Alford, J. E., Madden, M. E., and Phelps, T. J., (2010). "Homogeneous and heterogeneous sediment experiments using fiber optic sensing technology for detecting gas hydrate formation," *Goldschmidt Conference: Earth, Energy, and the Environment*, Knoxville, TN, June 13-18.

Rawn, C. J. and Phelps, T. J., (2010). "Hydrate Formation and Dissociation in Simulated and Field Samples," *Atlanta Hydrate Meeting*, Atlanta, GA, January 25-29.

- Rawn, C. J., Phelps, T. J., Alford, J. E., Leeman, J. R., Elwood Madden, M. E., and Ulrich, S. M., (2010). "Fiber Optic Sensing Technology for Detecting Gas Hydrate Formation and Decomposition," *Atlanta Hydrate Meeting*, Atlanta, GA, January 25-29.
- Rawn, C. J., (2010). "Fire in the Ice: How ORNL High Pressure Studies Support Harvesting CH₄ and Storing CO₂ in Gas Hydrates," *MST Division Lunchtime Seminar*, Oak Ridge National Laboratory, TN, January 13.
- Rawn, C. J., Chakoumakos, B. C., Garlea, V. O., Leeman, J. R., Alford, J. E., and Phelps, T. J., (2009). "High Pressure Neutron Powder Diffraction Study of CO₂ Hydrate," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 14-18.
- Rawn, C. J., (2008). "Fire in the Ice: Harvesting Methane from Oceans and Permafrost," *Chemistry Department Seminar*, Spelman College, Atlanta, GA, March 31.
- Rawn, C. J., (2008). "Fire in the Ice: Harvesting Methane from Oceans and Permafrost," *Biological and Environmental Sciences Brown Bag Lunch Seminar*, Oak Ridge National Laboratory, Oak Ridge, TN, February 27.
- Rawn, C. J. 2009, "Fire in the Ice: Harvesting Methane from Oceans and Permafrost," *Smoky Mountain Chapter of the American Meteorological Society*, Knoxville, TN, January 26.
- Rawn, C. J., (2008). "Fire in the Ice: Harvesting Methane from Oceans and Permafrost" *University of Tennessee Science Forum*, Knoxville, TN, November 21.
- Rawn, C., Sassen, R., Ulrich, S. M., Payzant, E. A., Chakoumakos, B. C., and Phelps, T. J., (2008). "Low Temperature X-ray Diffraction Study of Natural Gas Hydrate Samples from the Gulf of Mexico," *6th International Conference on Gas Hydrates*, Vancouver, July 7-10.
- Rawn, C., Rondinone, A., Chakoumakos, B., Marshall, S., Stern, L., Circone, S., Kirby, S., Jones, C., Toby, B. and Ishii, Y., (2002). "Neutron powder diffraction studies as a function of temperature of structure II hydrate formed from a methane + ethane gas mixture," *4th International Conference on Gas Hydrates*, Yokohama, Japan, May 19-23.
- Riesterberg, D., Phelps, T., Lee, S., West, O., and Tsouris, C., (2002). "SPS investigations of the formation and stability of gas hydrates," *Methane Hydrates Interagency R&D Conference*, Washington, DC, March.
- Riesterberg, D., West, O., Liang, L., and Phelps, T., (2000). "Effects of particle size and mineralogy on methane hydrate nucleation and dissociation pressures," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 15-19.
- Riesterberg, D., Zatsepina, O., and Phelps, T., (2004). "Gas Hydrate Nucleation Processes," *American Geophysical Union Meeting*, San Francisco, CA, December 8-12.
- Ulrich, S., Elwood Madden, M., Szymcek, P., McCallum, S., Phelps, T. J., (2007). "Formation of Massive Hydrate From the Accumulation of Free CH₄ gas in Sediments," *American Geophysical Union Fall Meeting*, San Francisco, California, December.
- Ulrich, S., Elwood Madden, M., Rawn, Claudia J., Szymcek, P., Phelps, T. J., (2008). "Application of Fiber Optic Temperature and Strain Sensing Technology To Gas Hydrates," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.

West, O., Riestenberg, D., and Phelps, T., (2002). "Seafloor Process Simulator for laboratory examination of natural gas hydrate sediments," *Naturally Occurring Gas Hydrates Data Collection Workshop*, Houston, TX, March.

West, O., and Phelps, T., (2002). "Methane and carbon dioxide hydrate investigations using a 70-L high pressure vessel," *TMS 2002 Annual meeting*, Seattle, WA.

Peer-Reviewed Publications

- Colwell F., Boyd, S., Delwiche, M., et al., (in press). "Estimates of biogenic methane production rates in deep marine sediments at Hydrate Ridge, Cascadia Margin," *Applied and Environmental Microbiology*.
- Colwell, F., Nunoura, T., Delwiche, M., Boyd, S., Bolton, R., Reed, D., Takai, K., Lehman, R., Horikoshi, K., Elias, D., and Phelps, T., (2005). "Evidence of minimal methanogenic numbers and activity in sediments collected from the JAPEX/JNOC/GSC, et al. Mallik 5L-38 gas hydrate production research well" in Dallimore, S. and Collett, T., eds., *Scientific Results from the Mallik 2002 Gas Hydrate Production Research Well Program, Mackenzie Delta, Northwest Territories, Bulletin 585*, p. 102.
- Colwell, F., and Smith, R., (2004). "Unifying principles of the deep terrestrial and deep marine biospheres," in Wilcock, W., E. Delong, D. Kelley, J. Baross, and S. Cary, eds., *Subseafloor Biosphere at Mid-Ocean Ridges, Geophysical Monograph Series, Volume 104*, pp. 355-367.
- Colwell, F., Delwiche, M., Blackwelder, D., Wilson, M., Lehman, R., and Uchida, T., (1999). "Microbial communities from core intervals, JAPEX/JNOC/GSC Mallik 2L-38 gas hydrate research well" in Dallimore, S., Uchida, T., and Collett, T., eds., *Scientific Results from JAPEX/JNOC/GSC Mallik 2L-38 Gas Hydrate Research Well, Mackenzie Delta, Northwest Territories, Bulletin 544*, pp. 189-195.
- Colwell, F., Matsumoto, R., and Reed, D., (2004). "A review of the gas hydrates, geology and biology of the Nankai Trough," *Chemical Geology, Volume 205*, pp. 391-404.
- Mikucki, J., Y. Liu, Delwiche, M., Colwell, F., and Boone, D., (2003). "Isolation of a Methanogen from deep marine sediments that contain methane hydrates, and description of *Methanoculleus submarinus* sp. nov.," *Applied and Environmental Microbiology, Volume 69*, pp. 3311-3316.
- Reed, D., Y. Fujita, Delwiche, M., Blackwelder, D., Sheridan, P., Uchida, T., and Colwell, F., (2002). "Microbial communities from methane hydrate-bearing deep marine sediments in a forearc basin," *Applied and Environmental Microbiology, Volume 68*, pp. 3759-3770.

Other Publications

- Colwell, F., Ussler, W., and Dickens, G., (2006). "Methanogenesis in hydrate-bearing sediments: integration of experimental and theoretical approaches," *U. S. DOE-NETL Fire in the Ice Newsletter, Winter*.
- Colwell, F., Delwiche, M., Blackwelder, D., Cherry, R., Mikucki, J., Y. Liu, Boone, D., and Uchida, T., (2002). "Evidence of broad thermal tolerance of methanogens in sediments containing gas hydrates," *Proceedings of the 4th International Conference on Gas Hydrates, Yokohama, Japan*, pp. 19-24.

Inagaki, F., Nunoura, T., Nakagawa, S., A. Teske, M. Lever, A. Lauer, M. Suzuki, Takai, K., Delwiche, M., Colwell, F., K. Neelson, Horikoshi, K., S. D'Hondt, and B. Jørgensen, 2006, Biogeographical distribution and diversity of microbes in methane hydrate-bearing deep marine sediments on the Pacific Ocean Margin. *Proceedings of the National Academy of Sciences*, Volume 103, pp. 2815-2820.

Presentations

- Briggs, B., A. Hangsterfer, E. Brodie, R. Daly, Holland, M., P. Carini, Torres, M., M. Kastner, Long, P., H. Schaef, Delwiche, M., Winters, W., Riedel, M., Colwell, F., (2008). "Distribution of the dominant microbial communities in marine sediments containing high concentrations of gas hydrates," *6th International Conference on Gas Hydrates 2008*, Vancouver, BC, July 6-9.
- Boyd, S., et al., (2004). "Determination of methanogen biomass in hydrate-bearing sediments by quantitative PCR," *104th General Meeting of the American Society for Microbiology*, New Orleans, LA, May 23-27.
- Colwell, F., Hangsterfer, A., Brodie, E., Daly, R., Holland, M., Briggs, B., Carini, P., Torres, M., Kastner, M., Long, P., Schaef, H., Delwiche, M., Winters, W., (2007). "Fine scale control of microbial communities in deep marine sediments that contain hydrates and high concentrations of methane," *American Geophysical Union, Fall Meeting, Moscone Center*, San Francisco, CA, December 10-14.
- Colwell, F., Boyd, S., Delwiche, M., and Reed, D., (2005). "Rates of biological methane production in sediments," *4th International Workshop on Gas Hydrates*, Victoria, BC, .
- Colwell, F., Lorenson, T., Boyd, S., Delwiche, M., Reed, D., and Newby, D., (2005). "Experimentally determined rates of methanogenesis in methane-bearing sediments," *Geological Society of America Annual Meeting*, Salt Lake City, UT, October 16-19.
- Colwell, F., Boyd, S., Delwiche, M., and Reed, D., (2004). "Realistic Rates of Biological Methane Production in Hydrate Bearing Sediments," *The American Association of Petroleum Geologists Hedberg Research Conference*, Vancouver, BC, September 12-16.
- Colwell, F., Delwiche, M., Reed, D., Boyd, S., Nunoura, T., Takai, K., and the ODP Leg 204 Shipboard Scientific Party, (2003). "Microbiology of hydrates: searching for the methane source term," *Goldschmidt Conference*, Kurashiki, Japan, September 7-12.
- Colwell, F., et al., (2003). "Microorganisms of methane hydrates: Down but not out," *Annual Meeting of the American Association for the Advancement of Science*, Denver, CO, February 13-18.
- Colwell, F., Delwiche, M., Reed, D., Boyd, S., Nunoura, T., Inagaki, F., and Takai, K., (2003). "Geomicrobiology and methanogenesis in accretionary complexes," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 8-12.
- Colwell, F., et al., (2003). "Microorganisms of methane hydrates: Down but not out," Kurashiki, Japan, Keynote Address, *Goldschmidt Conference*, September 7-12.
- Colwell, F., Reed, D., Y. Fujita, Delwiche, M., Blackwelder, D., Uchida, T., Fujii, T., and Lu, H., (2001). "Deep-subsurface marine methane hydrate microbial communities: Who's there and what are they doing?," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 10-14.

- Colwell, F., Delwiche, M., Blackwelder, D., Fujita, Y., and Uchida, T., (2000). "Microbial methane production and biomass in the Nankai Trough," *Western Pacific Geophysics Meeting*, Tokyo, Japan, June 27-30.
- Colwell, F., (1999). "Subsurface microbial communities in sediments bearing methane hydrates," *Engineering Foundation Conference - Gas Hydrates and Challenges for the Future*, Salt Lake City, UT, July 18-22.
- Inagaki, F., Nunoura, T., Suzuki, M., Takai, K., Nealson, K., Horikoshi, K., Delwiche, M., Colwell, F., and Jorgensen, B., (2003). "Microbial community structures in methane hydrate bearing deep marine sediments from the Peru Margin (ODP Leg 201) and the Cascadia Margin (ODP Leg 204)," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 8-12.
- Nunoura, T., Takai, K., Nealson, K., Horikoshi, K., Delwiche, M., Colwell, F., and ODP Leg 204 Shipboard Scientific Party, (2003). "The microbial community structure of methane hydrate bearing deep seafloor sediments in Cascadia Margin (ODP Leg204)," *Goldschmidt Conference*, Kurashiki, Japan, September 7-12.

Peer-Reviewed Publications

- Anderson, B., Hancock, S., Wilson, S., Enger, C., Collett, T., Boswell, R., Hunter, R., (2010). "Formation pressure testing at the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Operational summary, history matching, and interpretations," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, pp. 478-492, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2010.02.012.
- Anderson, B. J., Kurhiara, M., Wilson, S. J., Pooladi-Darvish, M., White, M., Moridis, G., r Gaddipati, M., Masuda, Y., Collett, T. S., Hunter, R. B., Narita, H., Rose, K., Boswell, R., (2010). "Regional long-term production modeling from a single well test, Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope." *Marine and Petroleum Geology*, Vol. 28, Iss. 2, pp. 493-501, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2010.01.015.
- Boswell, R., Rose, K., Collett, T. S., Lee, M. W., Winters, W. F., Lewis, K., and Agena, W. F., (2010). "Geologic controls on gas hydrate occurrence in the Mount Elbert prospect, Alaska North Slope, *Marine and Petroleum Geology*, Vol. 28, Iss. 2, pp. 589-607, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2009.12.004.
- Cha, J. and Seol, Y., (2013). "Increasing gas hydrate formation temperature for desalination of high salinity produced water with secondary guests." *ACS Sustainable Chemistry and Engineering*, v. 1 no. 10, pp. 1218–1224 DOI: 10.1021/sc400160u
- Choi, J., Seol, Y., Boswell, R., and R. Junes, 2010. "X-Ray Computed-Tomography Imaging of Gas Migration in Water-Saturated Sediments: From Capillary Invasion to Conduit Opening," *Geophysical Research Letters*, Vol. 38, L17310, doi:10.1029/2011GL048513.
- Collett, T. S., Lewis, R. E., Winters, W. F., Lee, M. W., Rose, R., and Boswell, R., (2009). "Downhole well log and core montages from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, pp. 561-577, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2010.03.016.
- Collett, T. S., Lee, M. W., Agena, W. F., Miller, J. J., Lewis, K. A., Zyrianova, M. V., Boswell, R. M., Inks, T. L., (2010). "Permafrost-associated natural gas hydrate occurrences on the Alaska North Slope," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, pp. 279-294, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2009.12.001.
- Colwell, F. S. and Ussler, W., III., (2010). "'Global scale consequences of biological methane production," in K. Timmis, T. McGenity, J. R. van der Meer, V. de Lorenzo, ed., *Handbook of Hydrocarbons and Lipid Microbiology*.
- Colwell, F., Briggs, B., Schwartz, A., (2010). "Microbial community distribution in sediments from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology*, Volume 28, Issue 2, pp. 404-410, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2009.12.012.
- Holder, G., Mokka, L., and Warzinski, R., (2001). "Formation of Gas Hydrates from Single-Phase Aqueous Solutions," *Chemical Engineering Science*, Volume 56, pp. 6897-6903.

- Hunter, R. B., Collett, T. S., Boswell, R., Anderson, B. J., Digert, S. A., Pospisil, G., Baker, R., Weeks, M., (2010). "BPXA-USDOE-USGS Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Overview of Scientific and Technical Program," *Marine and Petroleum Geology*, doi:10.1016/j.marpetgeo.2010.02.015
- Kneafsey, T. J., Liu, H., Winters, W., Boswell, R., Hunter, R., and Collett, T. S., (2009). "Analysis of core samples from the BPXA-DOE-USGS Mount Elbert gas hydrate stratigraphic test well: Insights into core disturbance and handling," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, pp. 381-393, doi:10.1016/j.marpetgeo.2009.10.009.
- Kneafsey, T. J., Seol, Y., Moridis, G. J., Tomutsa, L., and B. M. Freifeld, (2009). "Laboratory measurements on core-scale sediment and hydrate samples to predict reservoir behavior," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Kneafsey, T. J., Seol, Y., Gupta, A., and Tomutsa, L., (2011). "Permeability of laboratory-formed methane hydrate bearing sand: Measurements and observations using x-ray computed tomography," SPE Paper 139525, *Society of Petroleum Engineer Journal*, 16(1), 2011, pp. 78-94.
- Kono, H., Narasimhan, S., Song, F., and Smith, D., (2002). "Synthesis of Methane Gas Hydrate in Porous Sediments and Its Dissociation by Depressurization," *Powder Technology*, Volume 122, pp. 239-246.
- Lekse, J., Taylor, C., and Ladner, E., (2007). "Effect of bubble size and density on methane conversion to hydrate," in D. Mahajan, Taylor, C., and G. Ali Mansoori, eds., *Journal of Petroleum Science and Engineering – Natural Gas Hydrate/Clathrate* (Elsevier), Volume 56, Issues 1-3, pp. 97-100, March.
- Link, D., Ladner, E., Elsen, H., and Taylor, C., (2003). "Formation and Dissociation Studies for Optimizing the Uptake of Methane by Methane Hydrates," *Fluid Phase Equilibrium*, Volume 211, pp. 1-10.
- Link, D., Taylor, C., and Ladner, E., (2001). "Novel Techniques for the Conversion of Methane Hydrates Studies," *Surface Science and Catalysis*, Volume 136, pp. 543-548.
- Moridis, G. J., Reagan, M. T., Kim, S.-J., Seol, Y., and Zhang, K., (2009). "Evaluation of the Gas Production Potential of Marine Hydrate Deposits in the Ulleung Basin of the Korean East Sea," *Society of Petroleum Engineer Journal*. SPE-110859-PA.
- Myshakin, E., Gaddipati, M., Rose, K., and Anderson, B., (2012). "Numerical simulations of depressurization-induced gas production from gas hydrate reservoirs at the Walker Ridge 313 site, northern Gulf of Mexico," *J. Marine Petrol. Geol.*, v. 34, no. 1, pp. 169-185.
- Rees, E.V. L., Keafsey, T. J., and Seol, Y., (2011). "X-Ray CT observations of methane hydrate distribution from prolonged and repeated formation in natural and synthetic compacted sand samples," *Journal of Geological Research*, article ID 791815, 15 pages, doi:10.1155/2011/791815

- Rose, K., Boswell, R., and Collett, T. S., (2010). "Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Coring operations, core sedimentology, and lithostratigraphy," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, pp. 311-331, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2010.02.001.
- Seol, Y. and Kneafsey, T. J., (2009). "X-ray CT observations of water flow through anisotropic methane hydrate-bearing sand," *Journal of Petroleum Science and Engineering*, pp. 121-132.
- Seol, Y. and Keafsey, T. J., (2010). "Methane hydrate induced permeability modification for multiphase flow in unsaturated porous media," *J. Geophys. Res.*, 116, B08102, doi:10.1029/2010JB008040.
- Seol, Y. and Myshakin, E., (2011). "Experimental and numerical observations of hydrate reformation during depressurization in a core-scale reactor," *Energy & Fuels*, 25(3), 2011, pp. 1099-1110.
- Seshadri, K., Wilder, J., and Smith, D., (2001). "Measurements of Equilibrium Pressures and Temperatures for Propane Hydrate in Silica Gels with Different Pore-Size Distributions," *Journal of Physical Chemistry*, Volume 105, pp. 2627-2631.
- Siriwardane, H. and Smith, D., (2002). "Synthesis and Homogeneity of Methane Hydrate in Unconsolidated Media," *Journal of Testing and Evaluation*, Vol. 30, pp. 1-7.
- Smith, D., Wilder, J., and Seshadri, K., (2002). "Methane Hydrate Equilibria in Silica Gels with Broad Pore-Size Distributions," *American Institute of Chemical Engineers Journal*, Volume 48, pp. 393-400.
- Smith, D., Wilder, J., and Seshadri, K., (2002). "Thermodynamics of Carbon Dioxide Hydrate Formation in Media with Broad Pore-Size Distributions," *Environmental Science and Technology*, Volume 36, pp. 5192-5198.
- Taylor, C., Lekse, J., English, N., (2009). "NETL's methane hydrate research," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Taylor, C., Link, D., and English, N., (2007). "Methane hydrate research at NETL: Research to make methane production from hydrates a reality," in D. Mahajan, Taylor, C., and G. Ali Mansoori, eds., Volume *Journal of Petroleum Science and Engineering – Natural Gas Hydrate/Clathrate* (Elsevier), 56, pp. 186-191, Issues 1-3, March.
- Torres, M. E., Collett, T. S., Rose, K., Sample, J. C., Agena, W., Rosenbaum, E., (2010). "Pore fluid geochemistry from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, pp. 332-342, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2009.10.001.
- Torres, M. E., Embley, R. W., Merle, S. G., Trehu, A. M., Collier, R. W. Suess, E. and Heeschen, K., (2009). "Methane sources feeding cold seeps on the shelf and upper continental slope off central Oregon, USA," *Geochemistry. Geophysics, Geosystems*, volume 10 doi:10.1029/2009GC002518.

- Warzinski, R., Lynn, R., Shaw, D., and Rosenbaum, E., (in review). "Thermal property measurements of gas hydrates using a transient plane source technique," in Collett, T., A. Johnson, C. Knapp and Boswell, R., eds., *Natural Gas Hydrates: Energy Resource and Associated Geologic Hazards, The American Association of Petroleum Geologists Hedberg Special Publication*.
- Wilder, J., and Smith, D., (2002). "Comments on 'Anomalous Preservation of Pure Methane Hydrate at 1 atm'," *Journal of Physical Chemistry, Volume 106*, pp. 226-27.
- Wilder, J., and Smith, D., (2002). "Dependencies of Clathrate Hydrate Dissociation Fugacities on the Inverse Temperature and Inverse Pore Radius," *Industrial Engineering Chemical Research, Volume 41*, pp. 2819-2825.
- Wilder, J., and Smith, D., (2002). "Upper Limits on the Rates of Dissociation of Clathrate Hydrates to Ice and Free Gas," *Journal Physical Chemistry, Volume 106*, pp. 6298-6302.
- Wilder, J., Seshadri, K., and Smith, D., (2001). "Resolving Apparent Contradictions in Equilibrium Measurements for Clathrate Hydrates in Porous Media," *Journal of Physical Chemistry, Volume 105*, pp. 9970-9972.
- Wilson, S. J., Hunter, R. B., Collett, T. S., Hancock, S., Boswell, R., Anderson, B. J., (2010). "Alaska North Slope regional gas hydrate production modeling forecasts," *Marine and Petroleum Geology, Vol. 28, Iss. 2*, pp. 460-477, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2010.03.007.
- Winters, W. J., Walker, M., Kwon, O., Waite, B., Torres, M., Collett, T. S., and Rose, K., (2010). "Physical properties of sediment from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology, Vol. 28, Iss. 2*, pp. 361-380, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2010.01.008.
- Velaga, S., Anderson, B. J., (2009). "Phase equilibrium and cage occupancy calculations of CO₂ hydrates using an ab initio intermolecular potential," *ACS National Meeting, Salt Lake City, UT, March 24*.
- Zhang, M., Anderson, B. J., Warzinski, R. P., Holder, G. D., (2009). "Molecular dynamics simulation of hydrate lattice distortion," *ACS National Meeting, Salt Lake City, UT, March 24*.
- Zhang, W., Wilder, J., and Smith, D., (2002). "Interpretation of Methane Hydrate Equilibrium Data for Porous Media Involving Ice-Hydrate Equilibria," *American Institute of Chemical Engineering Journal, Volume 48*, pp. 2324-2331.

Government Reports

- Seol, Y., (2013). "Natural Gas Hydrate Research," Award Number 2017.07.12, Fiscal Year 2013 Quarterly Progress Report (October – December, 2012). January 2013.
- Seol, Y., (2013). "Natural Gas Hydrate Research," Award Number 2017.07.12, Fiscal Year 2013 Quarterly Progress Report (January – March, 2013). April 2013.
- Seol, Y., (2013). "Natural Gas Hydrate Research, Award Number 2017.07.12, Fiscal Year 2013 Quarterly Progress Report (April – June, 2013). July 2013
- Seol, Y., (2014). "Natural Gas Hydrate Research," Award Number 2013.07.02, Fiscal Year 2014 Quarterly Progress Report (Jan—Mar, 2014). May 2014.

- Seol, Y., (2014). "Natural Gas Hydrate Research," Award Number 2013.07.02, Fiscal Year 2014 Quarterly Progress Report (Apr—June, 2014). August 2014.
- Seol, Y., (2014). "Natural Gas Hydrate Research," Award Number 2013.07.02, Fiscal Year 2014 Quarterly Progress Report (July-September, 2014). November 2014.
- Seol, Y., (2015). "Natural Gas Hydrates Research Portfolio Quarterly Progress Report, FY15-Q1 (October-December, 2014). April 2015.
- Seol, Y., (2015). "Natural Gas Hydrates Research Portfolio Quarterly Progress Report, FY15-Q2 (January-March, 2015). April 2015.
- Seol, Y., (2015). "Natural Gas Hydrates Research Portfolio Quarterly Progress Report, FY15-Q3 (April-June, 2015). July 2015.

Other Publications

- Anderson, B. J., Boswell, R., Gaddipati, M., Wilder, J., Collett, T., Hunter, R., Kurihara, M., Masuda, Y., McGrail, P., Moridis, G., Narita, H., Pooladi-Darvish, M., White, M., Rose, K., Wilson, S., (2008). "Effects of Reservoir Heterogeneity on Productivity of Gas Hydrate Reservoirs," *U. S. DOE-NETL Fire in the Ice Newsletter*, v. 8(4), pp. 5-8.
- Boswell, R., Collett, T., Dallimore, S., Frye, M., (2012). "Geohazards associated with naturally-occurring gas hydrate," *U. S. DOE-NETL Fire in the Ice Newsletter*, v. 12, no. 1, pp. 11-15.
- Coffin, R., Rose, K., Greinert, J., and Wood, W., (2010). "First Trans-Shelf-Slope Climate Study in the U. S. Beaufort Sea Completed. *U. S. DOE-NETL Fire in the Ice Newsletter*, v. 10(1), pp. 1-5.
- Seol, Y. and Boswell, R., (2009). "Methane Hydrate: Fire in the ice," *G.I. T. Laboratory Journal Europe*, September/October.
- Seol, Y., Myshakin, E., and Kneafsey, T., (2010). "Core-Scale Heterogeneity of Hydrate Distribution and Its Impact on Gas Production," *U. S. DOE-NETL Fire in the Ice Newsletter*, v. 10(2), pp. 6-8.
- Seol, Y., Technical POC, (2014). "Revealing Secrets Locked in the Ice." *U. S. DOE-NETL Office of Research and Development Newsletter, Research News*, Issue 1, pp. 3-4, October 2014.
- Seol, Y., Choi, J. H., Dai, S., and Jarvis, K., (2015). "Recent Advances in NETL's Laboratory Studies of Hydrate-Bearing Sediments," *U. S. DOE-NETL Fire in the Ice Newsletter*, v. 15(1), pp. 5-9.
- Wilder, J., D. Smith and Seshadri, K., (2002). "Thermodynamics of the Sequestration of Carbon Dioxide in Methane Hydrates in Porous Media," *American Chemical Society, Fuel Chemistry Division*, v. 47, n.1, pp. 17-19.

Presentations

- Anderson, B. J., (2008). "Predictions of Gas Production from Hydrate Reservoirs: The Results of the International Methane Hydrate Reservoir Simulator Code Comparison Project and Connections to Molecular-Scale Modeling" *Eni-MIT Seminar Series on Energy Production from Methane Hydrates*, MIT, Cambridge, MA, October 2.

- Anderson, Brian J., Wilder, Joseph W., Kurihara, Masanori, White, Mark D., Moridis, George J., Wilson, Scott J., Pooladi-Darvish, Mehran, Masuda, Yoshihiro, Collett, Timothy S., Hunter, Robert B., Narita, Hideo, Rose, Kelly, Boswell, Ray, (2008). "Analysis Of Modular Dynamic Formation Test Results From The Mount Elbert-01 Stratigraphic Test Well, Milne Point Unit, North Slope Alaska," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Anderson, B. J., (2010). "NETL ORD/IAES Numerical Modeling Studies" DOE Hydrate Program Review Meeting, *Georgia Institute of Technology*, Atlanta, Georgia, January 27.
- Anderson, B. J., (2009). "The Role of Molecular Level Modeling in Gas Hydrate Studies," *AIChE Annual Meeting*, Nashville, TN, November, 2009.
- Anderson, B., Garapati, N., and McGuire, P., (2013). "Reservoir modeling and numerical analysis of the Iġnik Sikumi gas hydrate field trial," *75th EAGE Conference & Exhibition Incorporating SPE EUROPEC 2013*, London, England, June 9.
- Boswell, R., Rose, Kelly, Collett, Tim, Lee, Myung, Lewis, Krissy, Winters, Bill, Agena, Warren, (2010). "Geologic Controls on Gas Hydrate Occurrence: Mount Elbert Prospect, Milne Point Unit, Alaska North Slope," *National Gas Hydrates R&D Program Review*, Atlanta, GA, January.
- Boswell, R., (2012). "Gas hydrates: the next frontier energy resource and climate change wildcard?," *AIChE*, March 15, Pittsburgh, PA.
- Boswell, R., (2012). "A synoptic view of gas hydrates. Invited presentation," *Gordon Research Conference*, March 18, San Diego, CA.
- Briggs, B. R., Hieter, J., Pohlman, J., Torres, M., Rose, K., Joseph, C., and Colwell, F., (2009). "Subseafloor macroscopic biofilms involved in anaerobic oxidization of methane," *Fall Meeting AGU*, San Francisco, CA, December.
- Briggs, B. R., Hieter, J., Pohlman, J., Torres, M., Rose, K., Joseph, C., Riedel, M., and Colwell, F., (2010). "Subseafloor macroscopic biofilms involved in anaerobic oxidization of methane (poster)," *Ocean Sciences Meeting*, Portland, OR, February.
- Briggs, B. R., Inagaki, F., Morono, Y., Futagami, T., Winters, W., and Colwell, F., (2010). "Bacterial dominance in subseafloor sediments characterized by gas hydrates," *International Symposium for Microbial Ecology*, Seattle, WA, August.
- Cha, J., Wang, J., Wang, R., Li, J., Yoon, R. H., and Seol, Y., (2011). "Effect of hydrophobic surfaces of the kinetics of hydrate formation." *Proceedings of the 7th International Conference on Gas Hydrates*, Edinburgh, Scotland, United Kingdom, July 17-21.
- Choi, J. H., Seol Y., Boswell, R. and Rosenbaum, E., (2011). "X-ray computed tomography observations of preferential modes of gas migration in saturated sediment samples." *Proceedings of the 7th International Conference on Gas Hydrates*, Edinburgh, Scotland, United Kingdom, July 17-21.
- Coffin, R. B., Hamdan, L. J., Smith, J. P., Plummer, Greinert, R. J., Rose, K., De Batist, M. A., Wood, W., (2009). "Preliminary Results from the Methane In The Arctic Shelf (MITAS) Project on the Alaskan Beaufort Sea Shelf – Shallow Sediment Porewater Geochemical Profiles," *Fall Meeting AGU*, San Francisco, CA, December

- Collett, Timothy S., Riedel, M., Cochran, J. R., Boswell, R., Kumar, P., Sathe, A. V. (2008). "Indian Continental Margin Gas Hydrate Prospects: Results Of The Indian National Gas Hydrate Program (Nghp) Expedition 01," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Connolly, E. C., Johnson, J. E., Torres, M. E., Teichert, B. M., Giosan, L., Rose, K., (2009). "New Insights from Sediment Ages and Carbon Isotopes at a Paleo-Seep/Chemosynthetic Biological Community in the Krishna-Godavari Basin, Offshore India," *Fall Meeting AGU*, San Francisco, CA, December.
- Crandall, D., Seol, Y., Bo. Hu, and Gyovai, K. (2010). "Conversion of CT scans of geological media to heterogeneous computational fluid dynamics models." *3rd International Workshop on X-ray CT for Geomaterials*, New Orleans, Louisiana, March 1-3.
- Dai, S., Seol, Y., and Choi, J. H., (2014). "Impacts of Hydrate Pore Habits on the Physical Properties of Hydrate Bearing Sediments," *AGU Fall Meeting Abstracts, B11B-0011*.
- Disenhof, C., Wooller, M. J., Pohlman, J., Rose, K., (2011). "Lithology of Alaskan Thermokarst Lake Facilitates Methane Flux," *Abstract GC41B-0806, 2011 Fall Meeting, AGU*, San Francisco, CA, 5-9 Dec.
- English, N., Taylor, C., Warzinski, R., and Rosenbaum, E., (2005). "Molecular Dynamics Simulation of Methane Hydrates at NETL," *229th ACS National Meeting*, San Diego, CA, March 13-17.
- Gaddipati, M., Nyayapathi, L., Anderson, B. J., (2008). "Sensitivity Analysis of Methane Hydrate Reservoirs: Effects of Reservoir Parameters on Gas Productivity and Economics." *American Geophysical Union Fall Conference*, San Francisco, CA, December 15-19.
- Gaddipati, M., Myshakin, E. M., Boswell, R. M., and Anderson, B. J., (2011). "Gas Production Modeling from a Complex 3-D Description of Marine Hydrate Deposits." *Proceedings of the 7th International Conference on Gas Hydrates*, Edinburgh, Scotland, United Kingdom, July 17-21.
- Gaddipati, M., Rose, K., Boswell, R. M., and Anderson, B. J., (2011). "Modeling of the Thermal Disturbance in a Gas Hydrate Formation Due to a Hot Wellbore." *Proceedings of the 7th International Conference on Gas Hydrates*, Edinburgh, Scotland, United Kingdom, July 17-21.
- Gaddipati, M. and Anderson, B. J., (2012). "3D Reservoir modeling of depressurization-induced gas production from gas hydrate reservoirs at the Walker Ridge site, Northern Gulf of Mexico," *Paper OTC 23582, Offshore Technology Conference*, Houston, TX, Apr. 30-May 3.
- Garapati, N., and Anderson, B. J., (2009). "Predictions of Mixed Hydrate Phase Equilibria and the Swapping of CH₄ Hydrate with CO₂ and CO₂+N₂ Mixtures," *AIChE Annual Meeting*, Nashville, TN, November.
- Garapati, N., Velaga, S., and Anderson, B. J., (2011). "Development of a Thermodynamic Framework for the Simulation of Mixed Gas Hydrates: Formation, Dissociation, and CO₂-CH₄ Exchange." *Proceedings of the 7th International Conference on Gas Hydrates*, Edinburgh, Scotland, United Kingdom, July 17-21.

- Garapati, N. and Anderson, B. J., (2012). "Implementation of cell potential code into HydrateResSim simulator. CO2 Capture, Sequestration, Conversion and Utilization, FUEL: Division of Fuel Chemistry," *243rd ACS National Meeting*, San Diego, CA.
- Garapati, N. and Anderson, B. J., (2012). "Injection of Carbon Dioxide and Nitrogen in to Methane Hydrate Reservoirs: Binary HydrateResSim Simulations," *AICHE Annual meeting*, Pittsburgh, PA, Oct. 28-Nov. 2.
- Garapati, N., Velaga, S., and Anderson, B. J., (2012). "Gas Hydrates Modeling: Spanning Multiple Scales," *AICHE Annual meeting*, Pittsburgh, PA, Oct. 28- Nov. 2.
- Garapati, N., McGuire, P. C., Liu, Y., and Anderson, B. J., (2012). "Modeling the injection of carbon dioxide and nitrogen into a methane hydrate reservoir and the subsequent production of methane gas on the North Slope of Alaska," *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 3-7.
- Garapati, N., McGuire, P., and Anderson, B., (2013). "Reservoir simulation of unconventional natural gas resources: Development of a multi-component simulation tool based on lattice absorption statistical mechanics," *24th International Conference: Drilling-Oil-Gas AGH 2013*, Krakow, Poland, June 11-13.
- Garapati, N., McGuire, P., and Anderson, B., (2013). "Modeling the injection of carbon dioxide and nitrogen into a methane hydrate reservoir and the subsequent production of methane gas on the North Slope of Alaska," *Unconventional Resources Technology Conference*, Denver, CO, August 12-14.
- Holder, G., Mokka, L., and Warzinski, R., (2001). "Hydrate Formation from Single-Phase Aqueous Solutions," *Spring 2001 National Meeting of American Chemical Society, Division of Fuel Chemistry*, San Diego, CA, April 1-5.
- Hughes, R., F. Civan, Gonzalez, M., and Taylor, C., (2003). "Equilibrium and Non-equilibrium Models Applied to Hydrate Formation and Dissociation Experiments," *Third Topical Conference on Natural Gas Utilization, Spring National Meeting of the American Institute of Chemical Engineers*, New Orleans, LA, March 30-April 3.
- Hutchinson, Deborah R., Shelander, Dianna, Dai, Jianchun, McConnel, Dan, Shedd, William, Frye, Matthew, Ruppel, Carolyn, Boswell, Ray, Jones, Emrys, Collett, Timothy S., Rose, Kelly, Dugan, Brandon, Wood, Warren, Latham, Thomas, (2008). "Site Selection For DOE/JIP Gas Hydrate Drilling In The Northern Gulf Of Mexico," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Johnson, J. E., S. C. Phillips, Miranda, E., Giosan, L., Rose, K., (2009). "Long-term Variability of Carbon and Nitrogen in the Bay of Bengal and Arabian Sea: Results from NGHP Expedition 1," *Fall Meeting AGU*, San Francisco, CA, December.
- Kono, H., Bdhijanto, B., Song, F., Smith, D., and Narasimhan, S., (2002). "Formation Rates of Methane Gas Hydrate within Porous Sediments," *Fourth International Conference on Gas Hydrates*, Yokohama, Japan, May 19-23.
- Link, D., Taylor, C., Elsen, H., and Ladner, E., (2003). "Enhancement in the Storage of Methane in Hydrates," *Third Topical Conference on Natural Gas Utilization, Spring National Meeting of the American Institute of Chemical Engineers*, New Orleans, LA, March 30-April 3.

- Lorenson, T. D., Greinert, J., Huetten, E., Hamdan, L. J., Coffin, R. B., Rose, K., W. T. , and Wood, S., (2010). "Methane Concentrations in Sediment And Bottom Water Of The Alaskan Beaufort Sea," *AGU Ocean Sciences Meeting*.
- Mahabadi, N., Dai, S., Seol, Y., and Jang, J., (2014). "Water Retention Curve and Relative Permeability for Gas Production from Hydrate-Bearing Sediments," *AGU Fall Meeting Abstracts, 2014, B11B-0019*.
- Myshakin, E. M., Gamwo, I. K., Warzinski, R. R. "Experimental Design Applied to Simulation of Gas Productivity Performance at Reservoir and Laboratory Scales Utilizing Factorial ANOVA Methodology," *TOUGH Symposium, 2009, Berkeley, CA*.
- Myshakin, E. M. , Anderson, B. J., Rose, K., and Boswell, R. M., (2010). "Simulation of long-term depressurization-induced gas production from C & D unit reservoirs, Mount Elbert-01, Milne Point Unit, North Slope Alaska, Hydrate Deposit," *National Gas Hydrates R&D Program Review, Atlanta, GA, January 2010*.
- Rose, K., Johnson, J. E., Smith, J. P., Coffin, R. B., Wood, W. T., Hart, P. E., Greinert, J., Lorenson, T. D., (2009). "The Role of Geology and Shallow Lithostratigraphy in the Distribution of Methane Flux through Shallow Sediments Across the Beaufort Shelf of Alaska," *Fall Meeting AGU, San Francisco, CA, December 2009*.
- Rose, K., (2010). "Insights from the geologic evaluation of sediment cores from hydrate & non-hydrate lithofacies, Results from recent field studies and goals for future field, experimental and modeling efforts," *National Gas Hydrates R&D Program Review, Atlanta, GA, January 2010*.
- Rose, K., Coffin, R., Smith, J., Greinert, J., Wood, W., (2010). "Review of the MITAS-2009 Expedition Across the U. S. Beaufort Shelf & Slope of Alaska, An introduction to the first trans-shelf-slope climate study in the U. S. Beaufort Sea: Preliminary findings, and next steps," *National Gas Hydrates R&D Program Review, Atlanta, GA, January 2010*.
- Rose, K., (2010). "Mount Elbert-01 Lithostratigraphic Montage," *National Gas Hydrates R&D Program Review, Atlanta, GA, January 2010*.
- Rose, K., Joel Johnson, Joseph Smith, Richard Coffin, Warren Wood, Jens Greinert, Pat Hart, Tom Lorenson. Geology, Shallow Lithostratigraphy, and the Distribution of Methane through Shallow Sediments of the Beaufort Shelf of Alaska. *National Gas Hydrates R&D Program Review, Atlanta, GA, January 2010*.
- Rose, K., Coffin, R., Smith, J., Greinert, J., Wood, W., (2010). "Review of the MITAS-2009 Expedition Across the U. S. Beaufort Shelf & Slope of Alaska, An introduction to the first trans-shelf-slope climate study in the U. S. Beaufort Sea: Preliminary findings, and next steps," *Methane Hydrates Federal Advisory Committee, Atlanta, GA, January 2010*.
- Rose, K. Johnson, J. E., Reed, A. H., Smith, J. P., (2010). "Sedimentology, Lithostratigraphy and Physical Properties of Recently Acquired Shallow Piston and Vibra Cores from the U. S. Beaufort Shelf and Slope, Arctic Ocean," *AGU Ocean Sciences Meeting, February 2010*.
- Rosenbaum, E., Shaw, D., Lynn, R., Holder, G., and Warzinski, R., (2003). "Thermal Properties and Characterization of Gas Hydrates, New Orleans, LA," *Third Topical Conference on Natural Gas Utilization, Spring National Meeting of the American Institute of Chemical Engineers, March 30-April 3*.

- Rosenbaum, E., and Seol, Y., (2012). "Pore scale characterization of hydrate bearing sediments: Utilizing micro x-ray CT scanner," *Gordon Research Conference on Natural Gas Hydrates*, March 18, Ventura, CA.
- Seol, Y. and Keafsey, T. J., (2008). "Fluid flow through heterogeneous methane-hydrate bearing sand: observations using x-ray CT scanning," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Seol, Y. Timothy J. Kneasey, and Emily V. L. Rees, (2009). "X-ray CT observations of methane hydrate distribution in natural sediment and laboratory formed compacted sand samples." *American Geophysical Union*, San Francisco, California, December 15-18, 2009.
- Seol, Y., Myshakin, E., and Kneafsey, T. J., (2011). "Quantitative Applications of X-ray CT Observations for Core-Scale Hydrate Studies." *Proceedings of the 7th International Conference on Gas Hydrates*, Edinburgh, Scotland, United Kingdom, July 17-21.
- Seol, Y., Choi, J., Boswell, R., Rosenbaum, E., and Juanes, R., (2011). "X-ray computed-tomography imaging of preferential mode of gas migration through water-saturated sediments," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 5-9.
- Seol, Y. and Boswell, R., (2012). "Progress in gas hydrate research and development in the United States," *Fiery Ice, the 8th International Workshop for Methane Hydrate Research and Development*, Sapporo, Japan, May 28 – June 1.
- Seol, Y., Rosenbaum, E., and Boswell, R., (2012). "Methane hydrate accumulation habits in porous media: X-ray CT scans and core scale modeling," *Fiery Ice, the 8th International Workshop for Methane Hydrate Research and Development*, Sapporo, Japan, May 28 – June 1.
- Smith, D., Ji, C., and Ahmadi, G., (2002). "A Model for Natural Gas Production," *Fourth International Conference on Gas Hydrates*, Yokohama, Japan, May 19-23.
- Smith, D., Wilder, J., Seshadri, K., and Zhang, W., (2002). "Equilibrium Pressures and Temperatures for Equilibria Involving sl or sII Hydrate, Liquid Water, and Free Gas in Porous Media," *Fourth International Conference on Gas Hydrates*, Yokohama, Japan, May 19-23.
- Smith, D., Wilder, J., and Seshadri, K., (2001). "Thermodynamics of Sequestration of Carbon Dioxide in Natural Gas Hydrates in Porous Media," *ECCS/IEA Meeting*, San Francisco, CA, September 30-October 5.
- Smith, D., Seshadri, K., and Wilder, J., (2001). "Assessing the Thermodynamic Feasibility of the Conversion of Methane Hydrate in Porous Media," *National Conference on Carbon Sequestration*, Washington, DC, First May 15-17.
- Smith, D., and Seshadri, K., (2000). "Thermodynamics of Conversion of Methane Clathrate Hydrate to Carbon Dioxide Hydrate Within Porous Media," *220th National Meeting of the American Chemical Society*, Washington, DC, August 20-24.
- Taylor, C., (2001). "Photocatalytic Methane Hydrate Conversion," *International Gas Research Conference*, Amsterdam, The Netherlands, November 5-8.

- Taylor, C., (2002). "Methane Conversion via Photocatalytic Reactions," *Second Topical Conference on Natural Gas Utilization, Spring National Meeting of the American Institute of Chemical Engineers*, New Orleans, LA, March 10-14.
- Taylor, C., Link, D., and Elsen, H., (2002). "Methane Hydrate Conversion Using Photocatalysts," *Fourth International Conference on Gas Hydrates*, Yokohama, Japan, May 19-23.
- Taylor, C., (2001). "Photocatalytic Methane Hydrate Conversion," *International Gas Research Conference*, Amsterdam, The Netherlands, November 5-8.
- Velaga, S., Vedam, V., and Anderson, B. J., (2011). "Molecular Dynamics Studies of the Stability of CO₂ and CH₄ Hydrates in the Presence of Undersaturated Fluids." *Proceedings of the 7th International Conference on Gas Hydrates*, Edinburgh, Scotland, United Kingdom, July 17-21.
- Velaga, S. and Anderson, B. J., (2012). "Development and Testing of CO₂-H₂O Potentials for Gas Hydrate and Liquid Phases. CO₂ Capture, Sequestration, Conversion and Utilization, FUEL: Division of Fuel Chemistry," *243rd ACS National Meeting*, San Diego, CA, March, 2012.
- Velaga, S. and Anderson, B. J., (2012). "Understanding the stability of mixed hydrates containing propane, ethane and methane under deep water conditions.," *AIChE Annual Meeting*, Pittsburgh, PA, Oct. 28-Nov. 2.
- Walsh, Matt, Hancock, Steve, Wilson, Scott, Patil, Shirish, Moridis, George, Boswell, Ray, Collett, Timothy S., Koh, Carolyn A., Sloan, E. Dendy, (2008). "Preliminary Report on the Economics of Gas Production from Natural Gas Hydrates," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Wang, J., Schlosser, C., Yoon, R. H., Troya, D., and Seol, Y, (2011). "The role of acid-base interaction in the formation of CO₂ hydrate." *Proceedings of the 7th International Conference on Gas Hydrates*, Edinburgh, Scotland, United Kingdom, July 17-21.
- Warzinski, Robert P., Gamwo, Isaac K., Rosenbaum, Eilis J., Myshakin, Evgeniy M., Jiang, Hao, Jordan, Kenneth D., English, Niall J., Shaw, David W., (2008). "Thermal Properties of Methane Hydrate by Experiment and Modeling and Impacts upon Technology," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Wilder, Joseph W., Moridis, George J., Wilson, Scott J., Kurihara, Masanori, White, Mark D., Masuda, Yoshihiro, Anderson, Brian J., Collett, Timothy S., Hunter, Robert B., Narita, Hideo, Pooladi-Darvish, Mehran, Rose, Kelly, Boswell, Ray, (2008). "An International Effort To Compare Gas Hydrate Reservoir Simulators," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Wood, W. T., Hart, P. E., Greinert, J., M. A. De Batist, Rose, K., Coffin, R. B., (2009). "Constraints on Methane Distribution," *Fall Meeting AGU*, San Francisco, CA, December 2009.
- Yang, Shengxiong, Zhang, Haiqi, Wu, Nengyou, Su, Xin, Schultheiss, Peter, Holland, Melanie, Zhang, Guangxue, Liang, Jinqiang, Lu, Jing'an, Rose, Kelly, (2008). "High Concentration Hydrate In Disseminated Forms Obtained In Shenhu Area, North Slope Of South China Sea," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.

- Zhang, Y., Holder, G., and Warzinski, R., (2003). "Formation of Hydrate from Single-Phase Aqueous Solutions," *Third Topical Conference on Natural Gas Utilization, Spring National Meeting of the American Institute of Chemical Engineers*, New Orleans, LA, March 30-April 3.
- Zhang, Y., Wilder, J., and Smith, D., (2003). "Interpretation of Methane Hydrate Equilibrium Data for Porous Media Involving Hydrate-Ice Equilibria," *Third Topical Conference on Natural Gas Utilization, Spring National Meeting of the American Institute of Chemical Engineers*, New Orleans, LA, March 30-April 3.
- Zhang, W. and Smith, D., (2002). "Conflict and Solution in Constructing Thermodynamic Equations for Different Integration Paths," *Fourth International Conference on Gas Hydrates*, Yokohama, Japan, May 19-23.
- Zhang, W., Wilder, J., and Smith, D., (2002). "Equilibrium Pressures and Temperatures for Equilibria Involving Hydrate, Ice, and Free Gas in Porous Media," *Fourth International Conference on Gas Hydrates*, Yokohama, Japan, May 19-23.

Section V: Publications Resulting from Interagency Agreements

Additional publications by agencies are included under major field projects where appropriate.

Department of Defense, Office of Naval Research, Naval Research Lab

Peer-Reviewed Publications

- Coffin, R. B., Pohlman, J. W., Gardner, J., Downer, R., Wood, W., Hamdan, L., Walker, S., Plummer R., Gettrust, J., and Diaz, J., (2007). "Methane Hydrate Exploration on the Mid Chilean Coast: A Geochemical and Geophysical Survey," *Am. Chem. Soc., Div. Pet. Chem.* doi:10.1016/j.petrol.2006.01.013
- Coffin, R., Grabowski, K., and Chanton, J., (2000). "The Role of Methane Hydrate in Ocean Carbon Chemistry and Biogeochemical Cycling," in Max, M. ed., *Natural Gas Hydrate in Oceanic and Permafrost Environments*, pp. 77-90.
- Coffin, R. B., Smith, J. P., Plummer, R. E., Yoza, B., Larsen, R. K., Millholland, L. C., and Montgomery, M. T., (2013). "Spatial Variation in Shallow Sediment Methane Source and Cycling along the Alaskan Beaufort Sea," *Marine Petroleum and Geology*, v. 45, pp. 186-197.
- Chapman, R., Walia, R., Gettrust, J., Wood, W., Hannay, D., Spencer, G., Hyndman, R., Macdonald, R., and Rosenberger, A., (2002). "High Resolution deep-towed multi-channel seismic survey of deep sea gas hydrates off western Canada," *Geophysics, Volume 67*, pp. 1038-1047.
- Chapman, R., Pohlman, J., Coffin, R., Chanton, J., and Lapham, L., (2004). "Thermogenic gas hydrates in the Northern Cascadia Margin," *EOS*. 85:361.
- Grabowski, K., Knies, D., Tumey, S., Pohlman, J., Mitchell, C., and Coffin, R., (2004). "Carbon Pool Analysis of Methane Hydrate Regions in the Sea Floor by Accelerator Mass Spectrometry," *Nuclear Instruments and Methods in Physics Research Section B, Volume 223-224*, pp. 435-440.
- Hamdan, L. J., Gillevet, P. M., Sikaroodi, M., Pohlman, J. W., Plummer, R. E., Coffin, R. B., (2008). "Microbial diversity of sediments associated with methane gas and hydrate along the mid-Chilean Margin," *FEMS Microbiol Ecol* 65:15-30.
- Hamdan, L. J., Gillevet, P. M., Pohlman, J. W., Sikaroodi, M., Greinert, J., Coffin, R. B., (2011). "Diversity and biogeochemical structuring of bacterial communities across the Porangahau ridge accretionary prism, New Zealand," *FEMS Microbiol. Ecol.*, 77: 518-532.
- Hamdan, L. J., Coffin, R. B., Sikaroodi, M., Greinert, J., Treude, T., and Gillevet, P. M., (2012). "Ocean currents shape the microbiome of Arctic marine sediments," *ISME Journal (2012)*, pp. 1-12.
- Pecher, I. A., Henrys, S. A., Wood, W. T., Crutchley, G., Gorman, A. R., Coffin, R., Kukowski, N., Greinert, J., and Faure K., (2010). "Focused Fluid Expulsion on the Hikurangi Margin, New Zealand – Evidence from Possible Local Upwarping of the Base of Gas Hydrate Stability," *Marine Geology*, 272:99-113.

- Lu, H., Seo, Y.-T., Lee, J.-W., Moudrakovski, I., Ripmeester, J. A., Chapman, N. R., Coffin, R. B., and Pohlman, J. P., (2007). "Complex gas hydrate from the Cascadia margin," *Nature*, 445:303-306.
- Pohlman, J. W., Kaneko, M., Heuer, V., Coffin, R., and Whiticar, M., (2009). "Methane sources and production patterns in the northern Cascadia margin gas hydrate system," *Earth and Planetary Science Letters*, 287:504-512.
- Pohlman, J. W., Bauer, J. E., Canuel, E. A., Grabowski, K. S., Knies, D. L., Mitchell, C. S., Whiticar, M. J., and Coffin, R. B., (2009). "Sources and fluxes of methane in gas hydrate cold-seep systems: Evidence from radiocarbon and stable isotope signatures," *Marine Chemistry* 115:102-109
- Pohlman, J., Canuel, E., Chapman, N., Spence, G., Whiticar, M., and Coffin, R., (2005). "The origin of thermogenic gas hydrates on the northern Cascadia Margin as inferred from isotopic ($^{13}\text{C}/^{12}\text{C}$ and D/H) and molecular composition of hydrate and vent gas," *Organic Geochemistry, Volume 36*, pp. 703-716.
- Pohlman, J., Grabowski, K., Knies, D., DeTurck, T., Treacy, D., Jr., and Coffin, R., (2000). "Sample Distillation/Graphitization Apparatus for Carbon Pool Analysis by Accelerator Mass Spectrometry (AMS)," *Nuclear Instruments and Methods in Physics Research Section B, Volume 172*, pp. 428-433.
- Schwalenberg, K., Wood, W., Pecher, I., Hamdan, L., Henrys, S., Jegen, M., and R. Coffin, (2010). "Preliminary interpretation of CSEM, heatflow, seismic, and geochemical data for gas hydrate distribution across the Porangahau Ridge, New Zealand," *Marine Geology* 272:79-88.
- Tomaru, H., Matsumoto, R., Coffin, R., Pohlman, J., and Spence, G., (2003). "Geochemical Clues for Seafloor and Subsurface Gas Hydrate Linkage in Cascadia, Canada," *Geochimica et Cosmochimica Acta* 67:485-485.
- Tomaru, H., Matsumoto, R., Coffin, R. B., Pohlman, J. W., Spence, G. D., (2007). "Geochemical relation between gas hydrates and water venting in the seismic blanking zone on the northern Cascadia continental margin offshore Vancouver Island, Canada," *Journal of Geochemical Exploration* 95:40-47
- Yousuf, M., Qadri, S., Knies, D., Grabowski, K., Coffin, R., and Pohlman, J., (2004). "Novel Results on Structural Investigations of Natural Minerals of Clathrate Hydrates," *Applied Physics A, Volume 78, n. 6*, pp. 925-939.

Government Reports

- Coffin, R., (2002). "Field Evaluation of Sediment Structure and Content, Relative to Associated Hydrates," *Naval Research Laboratory Technical Report* 6110-03-8647.
- Coffin, R. B. and Wood W., (2009). "Naval Research Laboratory Contribution to Global Methane Hydrate Research," <http://www.netl.doe.gov/technologies/oil-gas/FutureSupply/MethaneHydrates/>
- Coffin, R. B., Boyd, T. J., Rose, P. S., Yosa, B., Millholland, L. C. Downer R., Woods, S., (2013). "Geochemical Cruise Report SO226/2 RV Sonne Chatham Rise Expedition," *US Naval Research Laboratory Technical Memorandum, NRL/MR/6110-13-9472*.

- Coffin, R., and S. Masutani, (2003). "Fiery Ice from the Seas, The Second Workshop of the International Committee on Methane Hydrates," *US Naval Research Laboratory Memorandum Report 6114-03-8696*.
- Coffin, R. B. Hamdan, L. J., Smith, J. P., Plummer, R. E., Millholland, C., Larson, R., Wood, W. (2011). "Beaufort Sea Methane Hydrate Exploration: Energy and Climate Change," *US Naval Research Laboratory Technical Memorandum, NRL/MR/6110—10-9330*
- Coffin, R. B., Hamdan, L. J., Smith, J., Rose, K., Downer, R. C., Edsal, D. Gardner, J. Hagen, R., Wood, W. T., (2008). "Geochemical evaluation of deep sediment hydrate deposits on Alaminos Canyon, Block 818, Texas-Louisiana Shelf," *NRL/MR/6110-11-9294*.
- Coffin, R. B., Kvamme, B., Uchida, T., Masutani, S., and Narita, H., (2008). "6Th International Methane Hydrate Research and Development Workshop," *NRL/MR/6110-09-9143, MR-9143*.
- Coffin, R., Hamdan, L., Pohlman, J., Wood, W., Pecher, I., Henrys, S., Greinert, J., Faure, K., (2007). "Geochemical characterization of concentrated gas hydrate deposits on the Hikurangi Margin, New Zealand," *Preliminary Geochemical Cruise Report, NRL/MR/6110—08-9085*.
- Coffin, R. B., and Chapman, R., (2006). "4th International Workshop on Methane Hydrate Research and Development," *US Naval Research Laboratory Technical Memorandum, NRL/MR/6110—06-9007, Victoria, BC, May 9-11*.
- Coffin, R. B., Gardner, J., Pohlman, J., R. Downer and Wood, W., (2006). "Methane Hydrate Exploration, Atwater Valley, Texas-Louisiana Shelf: Geophysical and Geochemical Profiles," *US Naval Research Laboratory Technical Memorandum, NRL/MR/6110—06-9002*.
- Coffin, R. B., Diaz, J., Gardner, J. and Sellanes, J., (2006). "Gas Hydrate Exploration, Mid Chilean Coast, Geochemical-Geophysical Survey," *US Naval Research Laboratory Technical Memorandum, NRL/MR/6110—06-9006*.
- Gardner, J. and Shipboard Science Party, (2005). "Atwater Valley Deep-Towed Sidescan Sonar Imagery and Bathymetric Survey, R/V Pelican Cruise 14 Feb-18Feb 2005," *Final Cruise Report, DOE Award Number DE-AT26-97FT34344*.
- Lamontagne, R., Rose-Pehrsson, S., Grabowski, K., and Knies, D., (2001). "Response of METS Sensor to Methane Concentrations Found on the Texas-Louisiana Shelf in the Gulf of Mexico," *Naval Research Laboratory Memorandum Report 6110-01-8584*.
- Megnin, C., Wood, W., Lindwall, D., and Gettrust, J., (2003). "A Procedure to Edit Deep-Towed Navigation Data," *Naval Research Laboratory Memorandum Report 7430-03-8294*.
- Pohlman, J. W., Grabowski, K. S., Knies, D. L., Plummer, R. E., Mitchell, C. S., and Coffin, R. B., (2004). *Report on Radiocarbon Analysis of Surface Sediments from the Fore-Arc Basin of Nankai Trough, NRL/MR/6110--04-8775*.
- Rose, P. S., Millholland, L. C., Plummer, R. E. Reed, A., Montgomery, M. T., Boyd, T. J., Coffin, R. B., (2013). "Natural Gas at Seep Site on the UK Continental Shelf, North Sea," *US Naval Research Laboratory Technical Memorandum, NRL/MR/6110-13-9452*.

- Spence, G., Hoehne, J., Coffin, R. B., Hyndman, R., and MacDonald, R., (2003). "VENTFLUX2: Single Channel Seismics, Piston Coring and CTD Casts Associated with Gas Hydrates Offshore Vancouver Island, *Report of Cruise PGC01-003 C. C. G. Vessel John P. Tully 23 July-12 August 2001, Volume 1: Operations. NRL-MR-8648, NRL/MR/6110-03-8648.*
- Spence, G. and Coffin, R. (2002). "VENTFLUX 2: Single Channel Seismics, Piston Coring and CTD Casts Associated with Gas Hydrates Offshore Vancouver Island," *Naval Research Laboratory Technical Report 6110-03-8648.*
- Wood, W., Grabowski, K., Coffin, R., Lindwall, D., Theophanis, S., and Gettrust, J., (2003). "Methane Hydrates DTAGS and Coring Cruise off the Carolina Coast," *Naval Research Laboratory Memorandum Report 7430-03-8296.*

Other Publications

- Coffin, R. and Greinert, J., (2009). "Review: Developing Long Term International Collaboration on Methane Hydrate Research and Monitoring in the Arctic Region," *International workshop at Royal NIOZ, The Netherlands EOS 90:240.*
- Coffin, R. B., Lamontagne, R., Rose-Pehrsson, S., Grabowski, K. S., Knies, D. L., Qadri, S. L. B., Yesinowski, J. P., Pohlman, J. W., Yousuf, M., and Linton, J. A., (2002). "Ocean Floor Methane Gas Hydrate Exploration," *NRL Review, 2002:112-115.*
- Gettrust, J., Spychalski, S., and Wood, W., (2004). "High-resolution MCS in deepwater," *The Leading Edge, Volume 23, pp. 374-377.*
- Pohlman, J., Ruppel, C., Maue, C., Brothers, L., Kessler, J., and Worley, C., (2012). "Real-time mapping of seawater and atmospheric methane concentrations offshore of Alaska's North Slope," *Sound Waves, USGS newsletter.*
- Wood, W., Gettrust, J., and Spychalski, S., (2003). "A New Deep-Towed, Multi-Channel Seismic System," *Sea Technology, Volume 44, n. 9, pp. 44-49.*

Presentations

- Coffin, R., Grabowski, K., Linton, J., Thieu, V., Halpern, Y., Montano, P., and Doctor, R., (2000). "Variation in Methane Hydrate Structure and Composition," *Offshore Technology Conference, May 1-4.*
- Coffin, R., Gettrust, J., and Masutani, S., (2005). "International Methane Hydrate Exploration: Abundant Energy," *National Hydrogen Association Annual Hydrogen Conference, March 29-April 1.*
- Coffin, R. B., Rath, J. F., Masutani, S. M., (2005). "Methane Hydrate Energy: A Basic Research and DoD Perspective," *IMEHE Conference, Orlando, FL, November 9.*
- Coffin, R. B. (2005). "NRL Methane Hydrate Research Overview," *CSIRO, Canberra Australia, November 16.*
- Coffin, R. B. (2006). "Geochemical Perspective of Energy, Environment and Economy: A Carbon Based Evaluation," *Public Outreach, Barrow, AK, April.*
- Coffin, R. B. (2006). "Geochemical Survey of Vertical Methane Profiles in Different Coastal Hydrate Regions," *Sediment Hosted Gas Hydrates meeting, Royal Geologic Society, London, January 25-26.*

- Coffin, R. B., (2007). "Coastal Geochemical & Geophysical Sediment Gas Hydrate Evaluation," *INDOUS Forum*, New Delhi, India, March.
- Coffin, R. B., Hamdan, L. J., Plummer, R. E., Henrys, S., Pecher, I., (2008). "The significance of methane carbon to bulk sedimentary organic and inorganic carbon pools across the Porangahau Ridge, New Zealand," *AGU San Francisco*, December.
- Coffin, R. B. (2008). "Regions of the coastal ocean sediment where phytoplankton are not significant, consider methane," *Carnegie Geophysical Laboratory*, Washington, DC, November 18.
- Coffin, R. B., (2009). "Carbon Sequestration Relative to Deep Sediment Methane Deposits," Bergen, Norway, April 2009.
- Coffin, R. B., (2009). "Arctic Ocean Methane Hydrate Exploration: Energy and Climate Change," *Arctic Workshop, USNA*, June.
- Coffin, R., (2009). "Approaches for Evaluation of Potential Deep Sediment Methane Hydrate Deposits," *West Texas Geological Society*. October.
- Coffin, R. B., Hamdan, L. J., Smith, J. P., Plummer, R., Greinert, J., Rose, K., de Batist, M. A., Wood, W. (2009). "Preliminary Results from the Methane In The Arctic Shelf (MITAS) Project on the Alaskan Beaufort Sea Shelf," *Shallow Sediment Porewater Geochemical Profiles American Geophysical Union, Fall Meeting 2009, abstract #OS23B-01*.
- Coffin, R., (2009). "Methane Hydrate Exploration Related to Deep Sediment Carbon Dioxide Sequestration," *AGU December 2009*, San Francisco, CA.
- Coffin, R., Hamdan, L., Smith, J., Plummer, R., C. Millholland, (2010). "Methane contribution to shallow sediment carbon cycling across the Alaskan Shelf, Beaufort Sea," *AGU*, San Francisco, CA, Dec 7-14.
- Coffin, R., Smith, J., and W. Wood., (2010). "Biogeochemical Evaluation of Vertical Methane Fluxes in the Beaufort Sea Shelf/Slope Sediments. International Polar Year, Oslo, Norway. June 2010.
- Coffin, R. B. NRL Research in the Arctic Ocean, Energy, Climate and Navy Issues. 2010 Climate and Energy Symposium. Johns Hopkins University, March 2010.
- Coffin, R., Hamdan, L., Smith, J., Plummer, R., (2010). "A geochemical overview of shallow sediment methane source and cycling on the Alaskan Shelf of the Beaufort Sea," *7th International Methane Hydrate Research and Development Workshop*. May 2010, Wellington, NZ.
- Coffin, R. B., (2010). "Shallow Sediment Geochemical Surveys of Deep Sediment Methane Hydrate Deposits," *National Institute of Ocean Technology*, Chennai, India, October 4-5.
- Coffin, R. B. (2011). "Shallow sediment geochemical surveys of deep sediment methane hydrate deposits," *NRL*, May, 2011.
- Coffin, R. (2011). "Methane Contribution to Shallow Sediment Carbon Cycling Across the Alaskan Shelf, Beaufort Sea," *Taiwan National University*, August.
- Coffin, R., (2011). "Surface Sediment Geochemical Profiles Applied to Prediction of Deep Sediment. Methane Hydrate Deposits," *AOGS, 2011*, Taipei, Taiwan.

- Coffin, R. B., (2011). "Shallow sediment geochemical surveys of deep sediment methane hydrate deposits," *PETRAD-CCOP-Petrovietnam-VASI workshop on Gas Hydrates*, Halong Bay, Vietnam, March 1-3.
- Coffin, R. B., (2011). "NRL Arctic Initiatives," *Arctic Science and Technology Synchronization III Workshop*, Hanover, NH, May 9-11.
- Coffin, R. B., (2011). "NRL Research in the Arctic Ocean, Energy, Climate and Navy Issues," *11th National Conference on Science, Policy and the Environment*, Washington DC, January 19-21.
- Coffin R. B., (2011). "Shallow Sediment Geochemistry Driven by Deep Sediment Properties. Santiago Chile," *Supported by GEOMAR Germany Research Center*, November 2010.
- Coffin, R., (2011). "Research in the Arctic Ocean, Energy, Climate and Navy Issues. US European Command & US Africa Command," *Arctic Way-Ahead Panel Representative*, June 15.
- Coffin, R. B., (2011). "Naval Research Laboratory Research Focus in the Arctic Ocean," in L. Dean Simmons, *Climate and Energy: Imperative for Future Naval Forces*, 23-24 March 2010.
- Coffin, R., Hamdan, L., Plummer, R. I., Millholland, C., Wood, W., (2011). "Methane contribution to shallow sediment carbon cycling across the Alaskan Shelf, Beaufort Sea," *COST-PERGAMON research review*, Brussels, Belgium, March 8-9.
- Gardner, J., Hagen, R., Hart, P., Czarnecki, M., Nishimura, C., and Hutchinson, D., (2005). "High resolution seafloor environmental characterization of methane seeps in the Mississippi Canyon near Atwater Valley 13/14, Gulf of Mexico," *paper OS43A-0618E, American Geophysical Union Fall Meeting*, December 5-9.
- Gardner, J., Diaz-Naveas, J., Pohlman, J., Coffin, R., Wood, W., and Hagen, R., (2004). "Methane Hydrates and Fluid Flow along the Chilean Margin," *American Geophysical Union Fall meeting*, San Francisco, CA, December 13-17.
- Gettrust, J., Coffin, R., Rath, B., and Wood, W., (2004). "High Resolution Investigations of the Properties of Hydrated Sediments," *Second International Geological Congress*, Florence, Italy, August 20-28.
- Gettrust, J., (2004). "High-Resolution Investigations of the Properties of Hydrated Sediments: ExCel Centre," *Oceanology International*, London, England, March 16-19.
- Gettrust, J., and Wood, W., (2003). "Coordinated Studies of High-Resolution Marine Methane Hydrates," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 8-12.
- Gettrust, J., and Wood, W., (2003). "High-Resolution, Deep-Tow Seismic Systems for Geotechnical/Geohazard Studies in Deep Water," *Offshore Technology Conference*, Houston, TX, November 5.
- Greene, C. A., Wilson, P. S., Coffin, R. B., (2011). "Acoustic determination of methane hydrate dissociation pressures," *Proceeding of the 7th International Conference on Gas Hydrates*, Edinburgh, Scotland, United Kingdom, July 17-21.
- Greinert, J. and Coffin, R. (2009). "Developing Long Term International Collaboration on Methane Hydrate Research and Monitoring in the Arctic Region," *Texel*, Netherlands, Feb 2009.

- Hamdan, L. J., Sikaroodi, M., Coffin, R. B., Plummer, R. E. and Gillevet, P. M., (2008). "Geomicrobial characterization of sediment bacterial communities across the Porangahau Ridge, New Zealand," *American Geophysical Union Fall Meeting*, San Francisco, CA.
- O'Neil, C. E., Coffin, R. B., Larsen, R. K., (2011). "Classification of Beaufort Sea Sediment using a FTIR-Drift Methodology," *American Society for Limnology and Oceanography*, Portland Oregon February 22-26.
- Pack, M. A., Pohlman, J. W., Ruppel, C., and Xu., X., (2012). "Low-level 14C methane oxidation rate measurements modified for remote field settings," *Abstract OS43B-1823 American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 3-7.
- Pecher, I., Henrys, S., Coffin, R., Gorman, A., Kukowski, N., Crutchley, G., Fohrmann, M., Kilner, J., Senger, K., Wood, W., Chriswell, S., and Herzer, R., (2006). "2006 Gas Hydrates Survey on the Hikurangi Margin, New Zealand: First Results from Seismic and Related Data," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 11-15.
- Pecher, I., Toulmin, S., Henrys, S., Kukowski, N., Wood, W., Gorman, A., Greinert, J., Coffin, R., (2008). "Focused Fluid Flow and its Relation to Gas Hydrate Distribution on the Outer Accretionary Wedge, Southern Hikurangi Margin, New Zealand: Evidence from Seismic Data," *AGU*, San Francisco, December 2008.
- Pecher, I. A., Henrys, S. A., Toulmin, S. J., Barnes, P., Lamarche, G., Ellis, S. M., Crutchley, G., Schwalenberg, K., Coffin, R. B., Gorman, A. R., Greinert, J., Bialas, J., (2009). "New Insights into the Gas Hydrate System on the Southern Hikurangi Margin, New Zealand," *American Geophysical Union, Fall Meeting abstract #OS41A-01*.
- Pohlman, J., (2004). "Interstitial Sulfate Gradients as Indicators of Gas Hydrates: How Reliable Are They?," *Second International Geological Congress*, Florence, Italy, August 20-28.
- Pohlman, J., (2003). "Evidence for Anaerobic Methane Oxidation in Gas Hydrate Rich Sediments on the Northern Cascadia Margin Offshore Vancouver Island," *EGS-AGU-EUG Joint Assembly*, Nice, France, April 6-11.
- Pohlman, J., Chapman, R., Spence, G., Whiticar, M., Knies, D., and Coffin, R., (2003). "Thermogenic and Biogenic Gas Hydrates on the Northern Cascadia Margin: A Molecular, Isotopic and Geochemical Comparison," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 8-12.
- Pohlman, J., Canuel, E., Lapham, L., Chanton, J., Chapman, R., and Coffin, R., 2005, The Biogeochemical Cycling of Methane in Sediments Overlying Gas Hydrates in Barkley Canyon: Fatty Acid and Pore Water Geochemical Evidence, Victoria, BC, 4th International Methane Hydrate Research and Development Workshop, May 9-11.
- Pohlman, J. W., Riedel, M., Novosel, I., Bauer, J. E., Canuel, E. A., Paull, C., Coffin, P. B., Grabowski, K. S., Knies, D. L., Hyndman, R. D., Spence, G. D., (2011). "Evidence and biogeochemical implications for glacially-derived sediments in an active margin cold seep," *Proceedings of the 7th International Conference on Gas Hydrates*, Edinburgh, Scotland, United Kingdom, July 17-21.

- Rose, K., Johnson, J. E., Smith, J. P., Coffin, R. B., Wood, W. T., Hart, P. E., Greinert, J., Lorenson, T. D. (2009). "The Role of Geology and Shallow Lithostratigraphy in the Distribution of Methane Flux through Shallow Sediments Across the Beaufort Shelf of Alaska," *American Geophysical Union, Fall Meeting 2009, abstract #OS31A-1179*.
- Schreiner, K., Bianchi, T., Allison, M., and Coffin, R., (2009). "Paleoreconstruction of Terrestrial Carbon Inputs to the Simpson Lagoon and Beaufort Shelf, Alaska," *AGU, San Francisco CA, December 2009*.
- Schwalenberg, K., Haeckel, M., Pecher, I. A., Toulmin, S. J., Hamdan, L. J., Netzeband, G., Wood, W., Poort, J., Jegen, M. D., Coffin, R. B., (2009). "Assessing submarine gas hydrate at active seeps on the Hikurangi Margin, New Zealand, using controlled source electromagnetic data with constraints from seismic, geochemistry, and heatflow data," *American Geophysical Union, Fall Meeting 2009, abstract #OS43C-03*.
- Smith, J., Hamdan, L., Wood, W., R. Coffin, (2008). "Geologic Controls On Porewater Geochemistry In Gas Hydrate Bearing Sediments In The Gulf Of Mexico," *AGU, San Francisco, December 2008*.
- Treude, T., Krause, S., Hamdan, L., Schweers, J. Coffin, R., (2012). "Decoupled anaerobic oxidation of methane and sulfate reduction within the methanogenic zone of Arctic sediments (Beaufort Sea, Alaska)," *European Geological Union, EGU2012-10644*.
- Wood, W., (2004). "High Resolution Deep-Towed Seismic Investigation of Fluid Expulsion Sites in the Gas Hydrate Province off Vancouver Island," *The American Association of Petroleum Geologists Annual Meeting, Dallas, TX, April 18-21*.
- Wood, W., (2002). "High Resolution Seismic Studies of the Distribution of Gas Hydrates, Washington, DC," *Fiery Ice from the Seas, The Second Workshop of the International Committee on Methane Hydrates, October 30*.
- Wood, W., Lindwall, D., Vaughn, C., and Gettrust, J., (2002). "High Resolution Seismic Images of the Blake Ridge Diapir Methane Hydrate Stability Zone," *EOS, Transaction, American Geophysical Union, Volume 83, Fall Meeting Supplement, San Francisco, CA, December 9*.
- Wood, W., Hagan, R., Coffin, R., Kukowski, N., and Pecher, I., (2006). "Geothermal Structure of the Methane Hydrate Stability Zone on the Hikurangi Margin off New Zealand," *American Geophysical Union Fall Meeting, San Francisco, CA, December 11-15*.
- Wood, W., Pecher, I., Henrys, S., Coffin, R., (2008). "The transient nature of heat and fluid flux on the Porangahau Ridge, New Zealand," *AGU, San Francisco, CA December 2008*.

Peer-Reviewed Publications

- Akiba, F., Inoue, Y., Saito-Kato, M., Pohlman, J., (2009). "Data Report: diatom and foraminiferal assemblages in Pleistocene turbidite sediments from the Cascadia margin (IODP Expedition 311) northeast Pacific," In: Riedel, M., Collett, T. S., Malone, M. J. and the Expedition 311 Scientists (Eds.) *Proceedings of the Integrated Ocean Drilling Program, Volume 311*. doi:10.2204/iodp.proc.311.211.2009.
- Anderson, B., Hancock, S., Wilson, S., Enger, C., Collett, T., Boswell, R., and Hunter, R., (2011). "Regional long-term production modeling from a single well test, Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," in Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology*, v. 28, no. 2, pp. 478-492.
- Anderson, B., Kurihara, M., White, M., Moridis, G., Wilson, S., Pooladi-Darvish, M., Gaddipati, M., Masuda, Y., Collett, T., Hunter, R., Narita, H., Rose, K., and Boswell, R., (2011). "Regional long-term production modeling from a single well test, Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," in Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology*, v. 28, no. 2, pp. 493-501.
- Anderson, B., Hancock, S., Wilson, S., Enger, C., Collett, T., Boswell, R., Hunter, R., (2010). "Formation pressure testing at the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Operational summary, history matching, and interpretations," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, pp. 478-492, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2010.02.012.
- Anderson, B. J., Kurhara, M., Wilson, S. J., Pooladi-Darvish, M., White, M., Moridis, G., Gaddipati, M., Masuda, Y., Collett, T. S., Hunter, R. B., Narita, H., Rose, K., Boswell, R., (2010). "Regional long-term production modeling from a single well test, Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, pp. 493-501, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2010.01.015.
- Bahk, J.-J., Kim, G. Y., Chun, J.-H., Kim, J.-H., Lee, J. Y., Ryu, B.-J., Lee, J. H., Son, B. K., and Collett, T. S., (2013). "Characterization of gas hydrate reservoirs by integration of core and log data in the Ulleung Basin, East Sea," *Journal of Marine and Petroleum Geology*, v. 47, pp. 30-42.
- Barth, G. A., Scholl, D. W., and Childs, J. R., (2009). "Bering sea velocity amplitude anomalies: Exploring the distribution of natural gas and gas hydrate indicators," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*, pp. 324– 349.

- Boswell, R., Collett, T. S., Hunter, R. B., and Anderson, B. J., Editors, (2010). "Scientific Results of 2007 USDOE-BP-USGS "Mount Elbert" Gas Hydrate Stratigraphic Test Well, Milne Point, Alaska North Slope," *Journal of Marine and Petroleum Geology Special Thematic Volume*.
- Boswell, R., Rose, K., Collett, T. S., Lee, M. W., Winters, W. F., Lewis, K., and Agena, W. F., (2010). "Geologic controls on gas hydrate occurrence in the Mount Elbert prospect, Alaska North Slope," *Marine and Petroleum Geology*, Vol. 28, Iss. 2, pp. 589-607, ISSN 0264-8172, doi: 10.1016/j.marpetgeo.2009.12.004.
- Boswell, R., and Collett, T. S., (2011). "Current perspectives on gas hydrate resources," *Energy and Environmental Science*, v. 4, pp. 1206-1215.
- Boswell, R., Collett, T., Frye, M., Shedd, W., McConnell, D., Shelander, D., (2012). "Subsurface gas hydrates in the northern Gulf of Mexico," *J. Marine Pet. Geol.*, v. 34, no. 1, pp. 4-30. [10.1016/j.marpetgeo.2011.10.003](https://doi.org/10.1016/j.marpetgeo.2011.10.003).
- Boswell, R., Shelander, D., Lee, M. W., Latham, T., Collett, T. S., Guerin, G., Moridis, G., Reagan, M., and Goldberg, D., (2009). "Occurrence of gas hydrate in Oligocene Frio sand: Alaminos Canyon Block 818: Northern Gulf of Mexico," *Journal of Marine and Petroleum Geology*, v. 26, pp. 1499-1512.
- Boswell, R. M., Rose, K. K., Collett, T. S., Lee, M. W., Winters, W. J., Lewis, K. A., Agena, W. F., (2011). "Geologic controls on gas hydrate occurrence in the Mount Elbert prospect, Alaska North Slope," *Marine and Petroleum Geology*, 28, pp. 589-607, doi: 10.1016/j.marpetgeo.2009.12.004
- Boswell, R. M., Yamamoto, K., Lee, S.-R., Collett, T. S., Kumar, P., Dallimore, S. R., (in press). "Chapter X: Methane Hydrates," *Future of Energy*, 45 p.
- Boswell, R., Bünz, S., Collett, T. S., Frye, M., Fujii, T., McConnell, D., Meinery, J., Pecher, I., Reichel, T., Ryu, B.-J., Shelander, D., and Shin, K.-S., (2016). "Introduction to special section: Exploration and characterization of gas hydrates," *Interpretation Journal Volume 4, Issue 1*, 21 p.
- Brewer, P. G., Peltzer, E. T., Walz, P. M., Coward, E. K., Laura A. Stern, L. A., Kirby, S. H., Pinkston, J., (2014). "Deep sea field test of the CH₄ hydrate to CO₂ hydrate spontaneous conversion hypothesis," *Energy & Fuels*, doi: 10.1021/ef501430h.
- Briggs, B. B., Pohlman, J. W., Torres, M., Riedel, M., Brodie, E. L., Colwell, F. S., (2011). "Macroscopic Biofilms in Fracture-Dominated Sediment that Anaerobically Oxidize Methane," *Applied and Environmental Microbiology*, 77: 6780-6787. DOI:10.1128/AEM.00288-11.
- Brothers, L., Hart, P., and C. Ruppel, (2012). "Minimum distribution of subsea ice-bearing permafrost on the US Beaufort Sea continental shelf," *Geophys. Res. Lett.*, 39, L15501, doi: 10.1029/2012GL052222.
- Brothers, L. L., Van Dover, C. L., German, C. R., Kaiser, C. L., Yoerger, D. R., Ruppel, C. D., Lobecker, E., Skarke, A. R., Wagner, K. S., (2013). "Evidence for extensive methane venting on the southeastern U. S. Atlantic margin," *Geology* <http://dx.doi.org/10.1130/G34217.1>.

- Brothers, D. S., Ruppel, C., Kluesner, J. W., ten Brink, U. S., Chaytor, J. D., Hill, J. C., Andrews, B. D., and Flores, C., (2014). "Seabed fluid expulsion along upper slope and outer shelf of the U. S. Atlantic continental margin," *Geophys. Res. Lett.*, doi: 10.1002/2013GL058048.
- Chakoumakos, B. C., Rawn, C. J., Rondinone, A. H., Stern, L. A., Circone, S., Kirby, S. H., Ishii, Y., Jones, C. Y., Toby, B. H., and Dender, D. C., (2003). "Temperature dependence of polyhedral cage volumes in clathrate hydrates," *Can. Journ. Phys.*, 81 (1-2), pp. 183-189.
- Chand, S., Minshull, T., Priest, J., Best, A., Clayton, C., and Waite, W., (2006). "An effective medium inversion algorithm for gas hydrate quantification and its application to laboratory and borehole measurements of gas hydrate-bearing sediments," *Geophysical Journal International*, 166, doi: 10.1111/j.1365-246X.2006.03038.x, pp. 543-552.
- Chen, P-C., Huang, W-L., and Stern, L. A., (2010). "Methane hydrate synthesis from ice: Influence of pressurization and additives on optimizing formation rates and hydrate yield," *Energy & Fuels*, 24, 2340-2403, DOI:10.1021/ef901403r.
- Chou, I-M., (2012). "Optical cells with fused silica windows for the study of geological fluids," *Applications of Raman Spectroscopy to Earth Sciences and Cultural Heritage Chapter 6, EMU Notes in Mineralogy*, pp. 227-246.
- Chou, I-M., Sharma, A., Burress, R. C., Hemley, R. J., Goncharov, A. F., Stern, L. A., and Kirby, S. H., (2001). "Diamond anvil cell observations of a new methane hydrate phase in the 100 MPa pressure range," *J. Phys. Chem. A*, v. 105 (19), pp. 4664-4668.
- Chou, I-M., Sharma, A., Burress, R. C., Shu, J., Mao, H-k., Hemley, R. J., Goncharov, A. F., Stern, L. A., and Kirby, S. H., (2001). "Transformations in Methane Hydrates," *Proceedings of the Nat'l Academy of Science*, vol. 97 (25), pp. 13484-13487.
- Circone, S., Kirby, S. H., and Stern, L. A. (2005). "Direct measurement of methane hydrate composition along the hydrate equilibrium boundary," *J. Physical Chemistry B*, vol. 109, no. 19, pp. 9468-9475.
- Circone, S., Stern, L., and Kirby, S., (2004). "The role of water in hydrate dissociation," *Journal of Physical Chemistry B*, Volume 108, pp. 5747-5755.
- Circone, S., Stern, L., and Kirby, S., (2004). "Effect of Elevated Methane Pressure on Methane Hydrate Dissociation Behavior," *American Mineralogist*, Volume 89, pp. 1192-1201.
- Circone, S., Stern, L., Kirby, S., Durham, W., Chakoumakos, B., Rawn, C., Rondinone, A., and Ishii, Y., (2003). "CO₂ hydrate: synthesis, composition, dissociation Behavior, and a Comparison to Structure I CH₄ hydrate," *Journal of Physical Chemistry B*, Volume 107, n. 23, pp. 5529-5539.
- Circone, S., Kirby, S., and Stern, L., (2006). "Thermodynamic calculations of the system CH₄-H₂O and methane hydrate phase equilibria," *Journal of Physical Chemistry B*, Volume 110, pp. 8232-8239.
- Circone, S., Kirby, S., Pinkston, J., and Stern, L., (2001). "Measurement of gas yields and flow rates using a custom flow meter," *Review of Scientific Instruments*, Volume 72, n. 6. pp. 2709-2716.
- Circone, S., Stern, L. A., and Kirby, S. H., (2005). "Thermal regulation of methane hydrate dissociation – Implications for gas production models," *Energy & Fuels*, vol. 19, pp. 2357-2363, doi: 10.1021/ef0500437.

- Clennell, M. B., Henry, P., Hovland, M., Booth, J. S., Winters, W. J., and Thomas, M., (2000,). "Formation of natural gas hydrates in marine sediments," in Holder, G. D. and Bishnoi, P. R. (Eds.), *Gas Hydrates Challenges for the Future, Annals of the New York Academy of Sciences*, v. 912, pp. 887-896.
- Clennell, M. B., Hovland, M., Booth, J. S., Henry, P. and Winters, W. J., (1999). "Formation of natural gas hydrates in marine sediments, part 1--conceptual model of gas hydrate growth conditioned by host sediment properties," *Journal of Geophysical Research*, v. 104, no. B10, pp. 22985-23003.
- Collett, T., (2000). "Permafrost-associated gas hydrate," in Max, M. D., ed., *Natural Gas Hydrate Oceanic and Permafrost Environments*, pp. 43-60.
- Collett, T., Lee, M., Goldberg, D., Rack, F., and Williams, T., (2006). "Ocean Drilling Program Leg 204 nuclear magnetic resonance logging while-drilling," in Trehu, A. M., Bohrmann, G., Torres, M. E., and Colwell, F. S. (eds.), *Proceedings of the Ocean Drilling Program Scientific Results*, v. 204, 25 p.
- Collett, T., Lewis, R., Dallimore, S., Lee, M., Mroz, T., and Uchida, T., (1999). "Detailed evaluation of gas hydrate reservoir properties using JAPEX/JNOC/GSC Mallik 2L-38 gas hydrate research well downhole well log displays," in Dallimore, S., Uchida, T., and Collett, T., eds., *Scientific Results from JAPEX/JNOC/GSC Mallik 2L-38 Gas Hydrate Research Well, Mackenzie Delta, Northwest Territories, Geological Survey of Canada Bulletin 544*, pp. 295-311.
- Collett, T., Riedel, M., Cochran, J., Boswell, R., Presley, J., Kumar, P., Sathe, A., Sethi, A., Lall, M., Siball, V., and the NGHP Expedition 01 Scientific Party, (2008). "Indian National Gas Hydrate Program Expedition 01 Initial Report," *U. S. Geological Survey and Published by the Directorate General of Hydrocarbons, Ministry of Petroleum & Natural Gas (India)*.
- Collett, T.S, (2005). "Results at Mallik highlight progress in gas hydrate energy resource research and development," *Petrophysics*, v. 46, no. 3, p. 237-243.
- Collett, T. S., (2001). "A review of well-log analysis techniques used to assess gas-hydrate-bearing reservoirs: In *Natural Gas Hydrates: Occurrence, Distribution, and Detection*," *American Geophysical Union, Geophysical Monograph 124*, pp. 189-210.
- Collett, T. S., (2002). "Energy resource potential of natural gas hydrates," *American Association of Petroleum Geologists Bulletin*, v. 86, no. 11, pp. 1971-1992.
- Collett, T. S., (2009). "Gas hydrate petroleum systems in marine and Arctic permafrost environments," *Proceedings of the 29th Annual Gulf Coast Section Foundation, Bob F. Perkins Research Conference, December 6-8, 2009, Houston, TX*, 12 p.
- Collett, T. S., Agena, W. F., Lee, M. W., Zyrianova, M. V., Bird, K. J., Charpentier, R. R., Cook, T., Houseknecht, D. W., Klett, T. R., Pollastro, R. M., and Schenk, C. J., (2008). "Assessment of gas hydrate resources on the North Slope, Alaska, 2008," *U. S. Geological Survey Fact Sheet 2008-3073*, 4 p.
- Collett, T. S., and Dallimore, S. R., (1999,). "Hydrocarbon gases associated with permafrost in the Mackenzie Delta, Northwest Territories, Canada," *Journal of Applied Geochemistry*, v. 14, pp. 607-620.

- Collett, T. S., and Dallimore, S. R., (2002). "Integrated well log and reflection seismic analysis of gas hydrate accumulations on Richards Island in the Mackenzie Delta, N.W. T., Canada," *Recorder*, v. 27, pp. 28-41.
- Collett, T. S., and Ladd, John, (2000). "Detection of gas hydrate with downhole logs and assessment of gas hydrate concentrations (saturations) and gas volumes on the Blake Ridge with electrical resistivity log data," in Paull, C. K., Matsumoto, R., Wallace, P. J., and Dillon, W. P., eds., *Proceedings of the Ocean Drilling Program, Scientific Results*, v. 164, pp. 179-191.
- Collett, T. S. and Lee, M., (2005). "Electrical resistivity well-log analysis of gas hydrate saturations in the JAPEX/JNOC/GSC et al. Mallik 5L-38 well," *Scientific Results from the Mallik 2002 Gas Hydrate Production Research Well Program, Mackenzie Delta, Northwest Territories*, S. R. Dallimore and Collett, T. S., eds, *Geological Survey of Canada, Bulletin 585*, two CD-Rom set.
- Collett, T. S. and Lee, M. W., (2012). "Well log characterization of natural gas hydrates," *Journal of Petrophysics*, v. 53, no. 5, pp. 348-367.
- Collett, T. S., and Wendlandt, R. F., (2000). "Formation evaluation of gas-hydrate-bearing marine sediments on the Blake Ridge with downhole geochemical log measurements," in Paull, C. K., Matsumoto, R., Wallace, P. J., and Dillon, W. P., eds., *Proceedings of the Ocean Drilling Program, Scientific Results*, v. 164, pp. 199-215.
- Collett, T. S., Boswell, R., Frye, M., Shedd, W., Godfriaux, P., Dufrene, R., McConnell, D., Mrozewski, S., Guerin, G., and Cook, A., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Logging-While-Drilling Operations and Challenges, OTC 20452," *Proceedings 2010 Offshore Technology Conference*, Houston, Texas May 3-6, 2010.
- Collett, T. S. and Boswell, R. M., (2012). "Resource and hazard implications of gas hydrates in the Northern Gulf of Mexico: Results of the 2009 Joint Industry Project Leg II Drilling Expedition," *J. Mar. and Petrol. Geol.*, v. 34, no.1, pp.1-3.
- Collett, T. S., Boswell, R., Lee, M. W., Anderson, B. J., Rose, K., and Lewis, K.A, (2012). "Evaluation of long-term gas-hydrate-production testing locations on the Alaska North Slope," *SPE Res. Eval. & Eng.*, v. 15, no. 2, pp. 243-264, SPE-155504-PA.
- Collett, T. S., Lewis, R. E., and Dallimore, S. R., (2005). "JAPEX/JNOC/GSC et al. Mallik 5L-38 gas hydrate production research well downhole well-log and core montages, in Scientific Results from the Mallik 2002 Gas Hydrate Production Research Well Program, Mackenzie Delta, Northwest Territories," in S. R. Dallimore and Collett, T. S., eds, *Geological Survey of Canada, Bulletin 585*, two CD-Rom set.
- Collett, T. S., Johnson, A., Knapp, C., and Boswell, R., (2009). "Natural gas hydrates: A review," *Natural Gas Hydrates—Energy Resource Potential and Associated Geologic Hazards*, pp. 146–219.
- Collett, T. S., Lewis, R. E., Winters, W. J., Lee, M. W., Rose, K. K., Boswell, R. M., (2011). "Downhole well log and core montages from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," *Marine and Petroleum Geology*, 28, 561-577, doi: 10.1016/j.marpetgeo.2010.03.016

- Collett, T., Lee, M., Agena, W., Miller, J., Lewis, K., Zyrianova, M., Boswell, R., and Inks, T., (2011). "Permafrost-associated natural gas hydrate occurrences on the Alaska North Slope," in Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology*, v. 28, no. 2, pp. 279-294.
- Collett, T., Lee, M., Zyrianova, M., Mrozewski, S., Guerin, G., Cook, A., Goldberg, D., (in press). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II logging-while-drilling data acquisition and analysis," *J. Marine Pet. Geol.*
- Collett, T., Riedel, M., Cochran, J., Boswell, R., Presley, J., Kumar, P., Sathe, A., Sethi, A., and Lall, M., (2015). "Indian National Gas Hydrate Program Expedition 01 Report," *USGS Scientific Investigations Report 2012-5054*, 1,442 p.
- Cook, A., Anderson, B., Rasmus, J., Sun, K., Li, Q., Collett, T., Goldberg, D., (in press). "Electrical anisotropy of gas hydrate-bearing sand reservoirs in the Gulf of Mexico," *J. Marine Pet. Geol.*
- Cortes, D. D., Martin, A. I., Yun, T. S., Francisca, F. M., Santamarina, J. C., and Ruppel, C., (2009). "Thermal conductivity of hydrate-bearing sediments," *J. Geophys. Res.*, 114,, B11103, doi:10.1029/2008JB006235.
- Dillon, W., Nealon, J., Taylor, M., Lee, M., Drury, M., and Anton, C., (2001). "Seafloor collapse and methane venting associated with gas hydrate on the Blake Ridge, causes and implications to sea-floor stability and methane release," in Paull, C., and Dillon, W., eds., *Natural Gas Hydrates: Occurrence, Distribution, and Detection, Washington D. C., American Geophysical Union*, pp. 211-233.
- Du Frane, W. L., Stern, L. A., Weitemeyer, K. A., Constable, S., Pinkston, J., Roberts, J., (2011). "Electrical properties of polycrystalline methane hydrate," *Geophysical Research Letters*, 38, doi:10.1029/2011GL047243.
- Durham, W. B., Kirby, S. H., Stern, L. A., and Zhang, W., (2003). "The strength and rheology of methane clathrate hydrate," *J. Geophys. Res.*, vol. 108 (B4), pp. 2182-2193.
- Durham, W. B., Stern, L. A., and Kirby, S. H., (2001). "The rheology of ice I at low stress and elevated confining pressure," *J. Geophys. Res. (Solid Earth)*, vol. 106 (B6), pp. 11,031-11,042.
- Durham, W. B., Stern, L. A., and Kirby, S. H., (2003). "Ductile flow of methane hydrate," *Can. Journ. Phys*, 81 (1-2), pp. 373-380.
- Dvorkin, J., Helgerud, M., Waite, W., Kirby, S., and A. Nur, (2000). "Introduction to Physical Properties and Elasticity Models," in Max, M. D., ed., *Natural Gas Hydrate in Oceanic and Permafrost Environments*, pp. 245-260.
- Ellis, M., R. Evans, Hutchinson, D., Hart, P., Gardner, J., Hagen, R., (2008). "Electromagnetic surveying of seafloor mounds in the Gulf of Mexico," *Mar. Petr. Geology*, vol. 25, 960-968 (doi:10.1016/j.marpetgeo.2007.12.006).
- Flemings, P., X. Liu, and Winters, W., (2003). "Critical Pressure and Multiphase Flow in Blake Ridge Gas Hydrates," *Geology, Volume 31, n. 12*, pp. 1057-1060.

- Gaglioti, B. V., Mann, D. H., Jones, B. M., Pohlman, J. W., Kunz, M. L., and Wooller, M. J., (2014). "Radiocarbon age-offsets in an arctic lake reveal the long-term response of permafrost carbon to climate change," *J. Geophys. Res. Biogeosci.*, v. 119, pp. 1630–1651.
- Hamdan, L. J., Gillevet, P. M., Sikaroodi, M., Pohlman, J. W., Plummer, R. E., Coffin, R. B., (2008). "Geomicrobial characterization of gas hydrate-bearing sediment along the mid-Chilean margin," *FEMS Microbiol Ecol.* 65:15-30.
- Hamdan, L. J., Gillevet, P. M., Pohlman, J. W., Sikaroodi, M., Greinert, J., Coffin, R. B., (2011). "Diversity and biogeochemical structuring of bacterial communities across the Porangahau ridge accretionary prism, New Zealand," *FEMS Microbiol Ecol.* DOI:10.1111/j.1574-6941.2011.01133.x
- Hart, P., D. R. Hutchinson, Gardner, J., R. S. Carney, and D. Fornari, (2008). "A photographic and acoustic transect across two deep-water seafloor mounds," *Mar. Petr. Geology*, vol. 25, pp. 969-976 (doi:10.1016/j.marpetgeo.2008.01.020).
- He, R., *et al.*, (2012). "Shifts in Identity and Activity of Methanotrophs in Arctic Lake Sediments in Response to Temperature Changes," *Applied and Environmental Microbiology*, 78(13), p. 4715. doi: 10.1128/AEM.00853-12
- He, R., Wooller, M. J., Pohlman, J. W., Catranis, C., Quensen, J., Tiedje, J. M., Leight, M. B., (2012). "Identification of functionally active aerobic methanotrophs in sediments from an arctic lake using stable isotope probing," *Environmental Microbiology*, v. 14, no. 6, pp. 1403-1419, doi: 10.1111/j.1462-2920.2012.02725.
- Helgerud, M., Waite, W., Kirby, S., and A. Nur, (2003). "Measured Temperature and Pressure Dependence of Vp and Vs in Compacted, Polycrystalline Ice 1h," *Canadian Journal of Physics, Volume 81*, pp. 81-87.
- He, R., Wooller, M. J., Pohlman, J. W., Tiedje, J. M. and Leigh, M. B., (2015). Methane-derived carbon flow through microbial communities in arctic lake sediments. *Environmental Microbiology*. doi: 10.1111/1462-2920.12773
- Helgerud, M., Waite, W., Kirby, S., and A. Nur, (2003). "Measured Temperature and Pressure Dependence of Vp and Vs in Compacted, Polycrystalline sI Methane and sII Methane-ethane Hydrate," *Canadian Journal of Physics, Volume 81*, pp. 47-53.
- Helgerud, M. B., Waite, W. F., Kirby, S. H., Nur, A., (2009). "Elastic wave speeds and moduli in polycrystalline ice 1h, sI methane hydrate, and sII methane-ethane hydrate," *Journal of Geophysical Research*, 114, B02212, doi:02210.01029/02008JB006132, 11p.
- Heuer, V., Pohlman, J. W., Torres, M., Elvert, M., Hinrichs, K. "The stable carbon isotope biogeochemistry of acetate and other dissolved carbon species in deep subseafloor sediments at the northern Cascadia margin," *Geochimica et Cosmochimica Acta.* 73: 3323-3336.
- Hornbach, M., L. Lavier, and Ruppel, C., (2007). "Triggering mechanism and tsunamogenic potential of the Cape Fear Slide complex, U. S. Atlantic coastal margin," *Geochem. Geophys. Geosyst.* 8, Q12008, (doi:10.1029/2007GC001722).

- Hunt, A. G., Stern, L. A., Pohlman, J. W., Ruppel, C., Moscati, R., Landis, G., (2013). "Mass fractionation of noble gases in synthetic methane hydrate: Implications for the detection of naturally occurring methane hydrate dissociation," *Chemical Geology*, v. 339, pp. 242-250. doi: 10.1016/j.chemgeo.2012.09.033
- Hunter, R., Collett, T., Boswell, R., Anderson, B., Digert, S., Pospisil, G., Baker, R., and Weeks, M., (2010). "Mount Elbert gas hydrate stratigraphic test well, Alaska North Slope: overview of scientific and technical program," in Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology*, v. 28, no. 2, pp. 295-310.
- Hutchinson, D., Ruppel, C., H. Roberts, R. Carney, and M. Smith, (2011). "Gas hydrates in the Gulf of Mexico," in N. A. Buster and C. W. Holmes, eds., *Gulf of Mexico Origin, Waters, and Biota, Volume 3: Geology*, pp. 247-277.
- Hutchinson, D., Hart, P., Collett, T., K. Edwards, D. Twichell, and Snyder, F., (2008). "Geologic framework of the 2005 Keathley Canyon gas hydrate research well, northern Gulf of Mexico," *Marine and Petroleum Geology*, vol. 25 (doi:10.1016/j.marpetgeo.2008.01.012).
- Hutchinson, D. R., Hart, P. E., Ruppel, C. D., Snyder, F., Dugan, B., (2009). "Seismic and thermal characterization of a bottom simulating reflection in the Northern Gulf of Mexico," in Collett, T., Johnson, A, Knapp, C., and Boswell, R., eds., *Natural Gas Hydrates – Energy Resource Potential and Associated Geologic Hazards: American Association of Petroleum Geologists Memoir 89*, chap. 5, pp. 266-286.
- Hutchinson, D. R., P. E. Hart, Collett, T. S., K. M. Edwards, D. C. Twichell, and Snyder, F., (2008). "Geologic framework of the Keathley Canyon Gas Hydrate Research Well, Northern Gulf of Mexico," *Mar. Petr. Geology*, vol. 25, pp. 906-918 (doi:10.1016/j.marpetgeo.2008.01.012).
- Inks, T. L., Lee, M. W., Agena, W. F., Taylor, D. J., Collett, T. S., Hunter, R. B., and Zyrianova, M. V., (2009). "Seismic prospecting for gas hydrate and associated free-gas prospects in the Milne Point area of northern Alaska," in Collett, T., Johnson, A., Knapp, C., Boswell, R., eds, *Natural Gas Hydrates -- Energy Resource Potential and Associated Geologic Hazards: American Association of Petroleum Geologists Memoir 89*, 555-583.
- Isaksen, I. S. A., Gauss, M., Myhre, G., Walter Anthony, K. M., and Ruppel, C., (2011). "Strong atmospheric chemistry feedback to climate warming from Arctic methane emissions," *Global Biogeochem. Cycles*, 25, GB2002, doi:10.1029/2010GB003845.
- Jaiswal, N., Dandekar, A., Patil, S., Hunter, R., and Collett, T., (2009). "Relative permeability measurements of gas-water-hydrate systems," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*, 723-733.
- Joseph, C., Campbell, K. A., Torres, M. E., Martin, R. A., Pohlman, J. W., Riedel, M., and Rose, K., (2013). "Methane-derived authigenic carbonates from modern and paleoseeps on the Cascadia margin: Mechanisms of formation and diagenetic signals," *Palaeogeography, Palaeoclimatology, Palaeoecology*, v. 390, pp. 52-67.

- Kaneko, M., Shingai, H., Pohlman, J. W., Naraoka, H., (2010). "Chemical and isotopic signature of bulk organic matter and hydrocarbon biomarkers within mid-slope accretionary sediments of the northern Cascadia margin gas hydrate system," *Marine Geology*, 275: 166-177.
- Kim, J-H., Torres, M. E., Haley, B. A., Kastner, M., Pohlman, J. W., Riedel, M., Lee, Young-Joo, (2012). "The effect of diagenesis and fluid migration on rare earth element distribution in pore fluids of the northern Cascadia margin," *Chemical Geology*. 291:152-165. DOI:10.1016/j.chemgeo.2011.10.010.
- Kneafsey, T. J., Lu, H., Winters, W. J., Boswell, R. M., Hunter, R. B., Collett, T. S., (2011). "Analysis of core samples from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Implications into core disturbance and handling," *Marine and Petroleum Geology*, 28, 381-393, doi: 10.1016/j.marpetgeo.2009.10.009
- Kurihara, M., Sato, A., Funatsu, K., Ouchi, H., Masuda, Y., Narita, H., Collett, T., (2011). "Analysis of formation pressure test results in the Mount Elbert methane hydrate reservoir through numerical simulation," in Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology*, v. 28, no. 2, pp. 502-516.
- Lee, J. Y., J. C. Santamarina, and Ruppel, C., (2010). "Parametric study of the physical properties of hydrate-bearing sand, silt, and clay sediments: 1. Electromagnetic properties," *J. Geophys. Res.*, 115, B11104, doi:10.1029/2009JB006669.
- Lee, J. Y., F. M. Francisca, J. C. Santamarina, and Ruppel, C., (2010). "Parametric study of the physical properties of hydrate-bearing sand, silt, and clay sediments: 2. Small-strain mechanical properties," *J. Geophys. Res.*, 115, B11105, doi:10.1029/2009JB006670.
- Lee, J. Y., J. C. Santamarina, and Ruppel, C., (2010). "Volume change associated with formation and dissociation of hydrate in sediment," *Geochem. Geophys. Geosyst.*, 11,, Q03007, doi:10.1029/2009GC002667.
- Lee, J. Y., J. C. Santamarina, and Ruppel, C., (2008). "Mechanical and electromagnetic properties of northern Gulf of Mexico sediments with and without THF hydrates," *Mar. Petr. Geology*, vol. 25 (doi:10.1016/j.marpetgeo.2008.01.019).
- Lee, J. Y., Yun, T., J. C. Santamarina, and Ruppel, C., (2007). "Observations related to tetrahydrofuran and methane hydrates for laboratory studies of hydrate-bearing sediments," *Geochem. Geophys. Geosyst.*, 8, doi:10.1029/2006GC001531.
- Lee, M. W., (2000). "Gas hydrate amount estimated from acoustic logs at the Blake Ridge, Sites 994, 995, and 997," in Paul and others (eds.), *Proceedings of the Ocean Drilling Program Scientific Results*, v.164, pp. 193-198.
- Lee, M. W., (2002). "Biot-Gassmann theory for velocities of gas-hydrate-bearing sediments," *Geophysics*, v. 67, no. 6, pp. 1711-1719.
- Lee, M. W., (2002). "Modified Biot-Gassmann theory for calculating elastic velocities of unconsolidated and consolidated sediments," *Marine Geophysical Researches*, v. 23, no. 5-6, pp. 403-412.
- Lee, M. W., (2004). "Elastic velocities of partially gas-saturated unconsolidated sediments," *Marine and Petroleum Geology*, v. 21, no. 6, pp. 641-650.

- Lee, M. W., (2006). "A simple method of predicting S-wave velocity," *Geophysics*, v. 71, pp. F161-F164.
- Lee, M. W., (2006). "Explicit use of the Biot coefficient in predicting shear-wave velocity," *Geophysical Prospecting*, v. 54, pp. 177-185.
- Lee, M., Avena, W., Collett, T., and Inks, T., (2011). "Pre- and post-drill comparison of the Mount Elbert gas hydrate prospect, Alaska North Slope," in Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology*, v. 28, no. 2, pp. 578-588.
- Lee, M. W. and Collett, T. S., (2001). "Comparison of elastic velocity models for gas-hydrate-bearing sediments," in Paull, C. K. and Dillon, W. P., editors, *Natural Gas Hydrate: Occurrence, Distribution, and Detection: Am. Geophys. Union, Geophys. Monogr. 124*, pp. 179-187.
- Lee, M. W. and Collett, T. S., (2001). "Elastic properties of gas-hydrate-bearing sediments," *Geophysics*, v. 66, no. 3, pp. 763-771.
- Lee, M. W., and Collett, T. S., (2005). "Assessments of gas hydrate concentrations estimated from sonic logs in the JAPEx/JNOC/GSC et al. Mallik 5L-38 gas hydrate production research well," in S. R. Dallimore and Collett, T. S., (eds.), *Scientific Results from the Mallik 2002 Gas Hydrate Production Research Well Program, Mackenzie Delta, Northwest Territories, Canada: Geological Survey of Canada, Bulletin 585*, 10 p.
- Lee, M. W., and Collett, T. S., (2006). "Gas hydrate and free gas saturations estimated from velocity logs on Hydrate Ridge, offshore Oregon, U. S. A.," in Trehu, A. M., Bohrmann, G., Torres, M. E., and Colwell, F. S. (eds.), *Proceedings of the Ocean Drilling Program Scientific Results*, v. 204, 25 p.
- Lee, M., Collett, T., (2008). "Integrated analysis of well logs and seismic data to estimate gas hydrate concentrations at Keathley Canyon, northern Gulf of Mexico," *Mar. Petr. Geology*, vol. 25, 924-931. (doi:10.1016/j.marpetgeo.2007.09.002).
- Lee, M. W., and Collett, T. S., (2009). "Gas hydrate saturations estimated from fractured reservoir at Site NGHP-01-10, Krishna-Godavari Basin, India," *Journal of Geophysical Research*, v. 114, 16 p. B07102, doi:10.1029/2008JB006237
- Lee, M. W., and Collett, T. S., (2009). "Unique problems associated with seismic analysis of partially gas-saturated unconsolidated sediments," *Marine and Petroleum Geology*, v. 26, pp. 775-781.
- Lee, M. W., and Collett, T. S., (2009). "Gas hydrate saturations estimated from fractured reservoir at Site NGHP-01-10, Krishna-Godavari Basin, India," *Journal of Geophysical Research*, 114, B07102, 13 pp. doi:10.1029/2008JB006237
- Lee, M., and Collett, T., (2011). "In Situ gas hydrate hydrate saturation estimated from various well logs at the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," in Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology*, v. 28, no. 2, pp. 439-449.

- Lee, M. W., Collett, T. S., (2013). "Characteristics and interpretation of fracture-filled gas hydrate-An example from the Ulleung Basin, East Sea of Korea," *Journal of Marine and Petroleum Geology*, v. 47, pp. 168-181.
- Lee, M. W., Collett, T. S., (2013). "Scale-dependent gas hydrate saturation estimates in sand reservoirs in the Ulleung Basin, East Sea of Korea," *Journal of Marine and Petroleum Geology*, v. 47, pp. 195-203.
- Lee, M. W., Collett, T. S., and Avena, W. F., (2009). "Integration of vertical seismic, surface seismic, and well log data at the Mallik 2L-38 Gas Hydrate Research Well, Mackenzie Delta," in Collett, T., Johnson, A., Knapp, C., Boswell, R., eds, *Natural Gas Hydrates -- Energy Resource Potential and Associated Geologic Hazards: American Association of Petroleum Geologists Memoir 89*, 525-540.
- Lee, M. W., Collett, T. S., and Inks, T. L., (2009). "Seismic attribute analysis for gas-hydrate and free-gas prospects on the North Slope of Alaska," in Collett, T., Johnson, A., Knapp, C., Boswell, R., eds, *Natural Gas Hydrates -- Energy Resource Potential and Associated Geologic Hazards: American Association of Petroleum Geologists Memoir 89*, 541-554.
- Lee, M., Collett, T., (2012). "Pore- and fracture-filling gas hydrate reservoirs in the Gulf of Mexico Gas Hydrate Joint Industry Project Leg II Green Canyon 955 H well," *J. Marine Pet. Geol.*, 34(1), pp. 62-71, DOI: 10.1016/j.marpetgeo.2011.08.002
- Lee, M., Collett, T., Lewis, K., (2012). "Anisotropic models to account for large borehole washouts to estimate gas hydrate saturations in the Gulf of Mexico Gas Hydrate Joint Industry Project Leg II Alaminos Canyon 21 B well," *J. Marine Pet. Geol.*, 34(1), pp. 85-95, DOI: 10.1016/j.marpetgeo.2011.06.010
- Lee, M. W. and Dillon, W. P., (2001). "Amplitude blanking related to the pore-filling of gas hydrate," *Sediments: Marine Geophysical Researches*, v. 22, no. 2, pp. 101-109.
- Lee, M., Waite, W., (2007). "Amplitude loss of seismic waveform due to source coupling to the medium," *Geophysical Research Letters*, 34, L05303, doi: 10.1029/2006GL029015.
- Lee, M. W., and Waite, W. F., (2008). "Estimating pore-space gas hydrate saturations from well-log acoustic data," *Geochemistry, Geophysics, Geosystems*, v. 9, Q07008, doi:10.1029/2008GC0002.
- Lee, M. W., Waite, W. F., (2011). "Anomalous waveforms observed in laboratory-formed gas hydrate-bearing and ice-bearing sediments," *Journal of the Acoustical Society of America*, 129(4), 1707-1720, doi: 10.1121/1.3552877.
- Lorenson, T. D., Collett, T. S., Hunter W. B., (2011). "Gas geochemistry of the Mount Elbert Gas Hydrate Test Well, Milne Pt. Alaska: Implications for gas hydrate exploration in the Arctic," *Marine and Petroleum Geology*, 28, 343-360, doi:10.1016/j.marpetgeo.2010.02.007.
- Lorenson, T. D., Collett, T. S., and Whiticar, M. J., (2009). "Hydrocarbon gas composition and origin of gas hydrate from the Alaska North Slope, USA," in Collett, T., Johnson, A., Knapp, C., Boswell, R., eds, *Natural Gas Hydrates -- Energy Resource Potential and Associated Geologic Hazards: American Association of Petroleum Geologists Memoir 89*, 584-597.

- Lorenson, T. D., Claypool, G. E., and Dougherty, J., (2008). "Natural gas geochemistry of sediments drilled on the 2005 Gulf of Mexico JIP cruise," *Mar. Pet. Geol.*, vol. 25.
- Lu, H., Lorenson, T. D., Moudrakovski, I. R., Ripmeester, J. A., Collett, T. S., Hunter, W. B., Ratcliffe, C., (2011). "The characteristics of gas hydrates recovered from Mt. Elbert, Milne Point, Alaska," *Marine and Petroleum Geology*, 28, 411-418.
- Lu, W. J., Guo, H. R., Chou, I. M., Burruss, R. C., and Li, L. L., (2013). "Determination of diffusion coefficient of carbon dioxide in water between 268 and 473 K in a high-pressure capillary optical cell with *In Situ* Raman spectroscopic measurements," *Geochimica et Cosmochimica Acta*, v. 115, pp. 183-204.
- Magen, c., Lapham, L., Pohlman, J. W., Marshall, K., Bosman, S., Casso, M., and Chanton, J., (2014). "A simple headspace equilibration method for measuring dissolved methane," *Limnology and Oceanography: Methods*, v. 12, pp. 637-650.
- Mahajan, Devinder, Servio, Phillip, Jones, Keith W., Feng, Huan, and Winters, William J., (2004). "Methane hydrate studies: delineating properties of host sediments to establish reproducible decomposition kinetics," in Taylor, C. E. and Kwan, J. T. (Eds.) *Advances in the Study of Gas Hydrates*, New York, NY, Kluwer Academic/Plenum Publishers, pp. 239-250.
- Malinverno, A., Pohlman, J. W., (2011). "Modeling sulfate reduction in methane hydrate-bearing continental margin sediments: Does a sulfate-methane transition require anaerobic oxidation of methane?," *Geochemistry, Geophysics, Geosystems*. 12: DOI:10.1029/2011GC003501
- Moridis, G. J., Collett, T. S., Pooladi-Darvish, M., Hancock, S., Santamarina, C., Boswell, R., Kneafsey, T., Rutqvist, J., Kowalsky, M. B., Reagan, M. T., Sloan, E. D., Sum, A. K., and Koh, C. A., (2011). "Challenges, uncertainties, and issues facing gas production from gas-hydrate deposits," *Society of Petroleum Engineers Reservoir Evaluation and Engineering*, v. 2, pp. 76-112.
- Moridis, G., Silpngarmert, S., Reagan, M. T., Collett, T., and Zhang, K., (2011). "Gas production from a cold, stratigraphically-bounded gas hydrate deposit at the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Implications of uncertainties," in Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology*, v. 28, no. 2, pp. 517-534.
- Paull, C., Ussler, W., Lorenson, T., Winters, W., and J. Dougherty, (2005). "Geochemical constraints on the distribution of gas hydrates in the Gulf of Mexico," *Geo-marine Letters*, Volume 25, pp. 273-280.
- Paull, C. W., Ussler, W. III, Holbrook, W. S., Hill, T. M., Haflidason, H., Winters, W., Lorenson, T., Aiello, I., Johnson, J., and Lundsten, E., (2010). "The Tail of the Storegga Slide: insights from the geochemistry and sedimentology of the Norwegian Basin deposits," *Sedimentology*, 57, 1409-1429, doi: 10.1111/j.1365-3091.2010.01150.x
- Pecher, I., Holbrook, W., Sen, M., Lizarralde, D., Wood, W., Hutchinson, D., Dillon, W., Hoskins, H., and Stephen, R., (2003). "Seismic anisotropy in gas-hydrate and gas-bearing sediments on the Blake Ridge, from a walkaway vertical seismic profile," *Geophysical Research Letters*, Volume 30, p. 1733.

- Pohlman, J. W., Bauer, J. E., Canuel, E. A., Grabowski, K. S., Knies, D. L., Mitchell, C. S., Whiticar, M. J., Coffin, R. B., (2009). "Methane sources in gas hydrate-bearing cold-seeps: Evidence from radiocarbon and stable isotopes," *Marine Chemistry*. 115: 102-109.
- Pohlman, J. W., Bauer, J. E., Waite, W. F., Osburn, C. L., Chapman, N. R., (2011). "Methane hydrate-bearing seeps as a source of aged dissolved organic carbon to the oceans," *Nature Geoscience*. 4: 37-41. DOI:10.1038/NGEO1016.
- Pohlman, J. W., Kaneko, M., Heuer, V., Coffin, R., Whiticar, M., (2009). "Methane sources and production in the northern Cascadia margin gas hydrate system," *Earth and Planetary Science Letters*. 287: 504-512.
- Pohlman, J. W., Riedel, M., Bauer, J. E., Canuel, E. A., Paull, C. K., Lapham, L., Grabowski, K., Coffin, R. B., Spence, G. D., (2013). "Increased efficiency of anaerobic methane oxidation in low-organic content seep sediments," *Geochimica et Cosmochimica Acta*. doi: 10.1016/j.gca.2013.01.022.
- Pohlman, J. W., Ruppel, C., Hutchinson, D., Downer, R. Z., Coffin, R. B., (2008). "Assessing sulfate reduction and methane cycling in a high salinity pore water system in the Northern Gulf of Mexico," *Mar. Petr. Geology*, vol. 25, 942-951. (doi:10.1016/j.marpetgeo.2008.01.016).
- Qian, J., Wang, X., Collett, T.S., Guo, Y., Kang, D., and Jin, J., 2018. Downhole log evidence for the coexistence of structure II gas hydrate and free gas below the bottom simulating reflector in the South China Sea: *Journal of Marine and Petroleum Geology*, v. 98, pp. 662-674.
- Rawn, C. J., Rondinone, A. J., Chakoumakos, B. C., Circone, S., Stern, L. A., Kirby, S. H., and Ishii, Y., Y., (2003). "Neutron powder diffraction studies as a function of temperature of structure II hydrate formed from propane," *Can. Journ. Phys*, 81 (1-2), pp. 431-438.
- Rehder, G., Kirby, S., Durham, W., P. Brewer, Stern, L., E. Peltzer, and Pinkston, J., (2004). "Dissolution Rates of Pure Methane Hydrate and Carbon Dioxide Hydrate in Undersaturated Seawater at 1000 M Depth," *Geochemistry et Cosmochimica Acta*, Volume 68, pp. 285-292.
- Riedel, M., Collett, T. S., Kim, H. S., Kim, J.-H., Ryu, B.-J., Kim, G. Y., (2013). "Large-scale depositional characteristics of the Ulleung Basin and its impact on electrical resistivity and Archie-parameters for gas hydrate saturation estimates," *Journal of Marine and Petroleum Geology*, v. 47, pp. 222-235.
- Riedel, M., Collett, T., and Malone, M. J., (2009). "Gas hydrate drilling transect across northern Cascadia margin – IODP Expedition 311," *Geological Society, London, Special Publications 2009*, v. 319, pp. 11-19.
- Riedel, M., Collett, T. S., and Shankar, U., (2011). "Documenting channel features associated with gas hydrates in the Krishna–Godavari Basin, offshore India," *Marine Geology*, v. 279, pp. 1-11.

- Rose, K., Boswell, R., and Collett, T., (2011). "Mount Elbert gas hydrate stratigraphic test well, Alaska North Slope: coring operations, core sedimentology, and lithostratigraphy," in Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology*, v. 28, no. 2, pp. 311-331.
- Ruppel, C., Boswell, R., and Jones, E., (2008). "Scientific results from Gulf of Mexico gas hydrates joint industry project Leg 1 drilling: Introduction and overview," *Mar. Petr. Geology*, vol. 25, 819-829 (doi:10.1016/j.marpetgeo.2008.02.007)
- Ruppel, C. D., (2011). "Methane Hydrates and Contemporary Climate Change," *Nature Education Knowledge* 3(10):29.
- Ruppel, C., (2014). "Permafrost-associated gas hydrate: Is it really ~1% of the global system?," *Journal of Chemical and Engineering Data, Special Issue in honor of E. Dendy Sloan*, doi: 10.1021/je500770m.
- Rutqvist, J., Moridis, G. J., Grover, T., and Collett, T. S., (2009). "Geomechanical responses of permafrost-associated hydrate deposits to depressurization-induced gas production," *Journal of Petroleum Science and Engineering*, v. 67, pp. 1-12.
- Ryu, B.-J., Collett, T. S., Riedel, M., Kim, G.-Y., Chun, J.-H., Bahk, J.-J., Lee, J.-Y., Kim, J.-H., Yoo, D.-G., (2013). "Scientific results of the Second Gas Hydrate Drilling Expedition in the Ulleung Basin (UBGH2)," *Journal of Marine and Petroleum Geology*, v. 47, pp. 1-20.
- Santamarina, J. C. and Ruppel, C., (2010). "The impact of hydrate saturation on the mechanical, electrical, and thermal properties of hydrate-bearing sand, silts, and clay (Chapter 26)," In Riedel, Willoughby, Chopra (eds), *Geophysical Characterization of Gas Hydrates, Society of Exploration Geophysicists Geophysical Developments*, vol. 14, 373-384.
- Scandella, B. P., Varadharajan, C., Hemond, H. F., Ruppel, C., and Juanes, R., (2011). "A conduit dilation model of methane venting from lake sediments," *Geophys. Res. Lett.*, 38, L06408, doi:10.1029/2011GL046768.
- Scholl, D. W., G. A. Barth, and J. R. Childs, (2009). "Why hydrate-linked velocity-amplitude anomaly structures are common in the Bering Sea basin: a hypothesis," *Natural Gas Hydrates—Energy Resource Potential and Associated Geologic Hazards*, 89, 308-323.
- Shedd, W., Boswell, R., Frye, M., Godfriaux, P., and Kramer, K., (2012). "Occurrence and nature of "bottom simulating reflectors" in the northern Gulf of Mexico," *J. Mar. Pet. Geol.*, v. 34, pp. 31-40.
- Stern, L. A., Kirby, S. H., and Durham, W. B., (1998). "Polycrystalline methane hydrate: synthesis from superheated ice, and low-temperature mechanical properties," *Energy & Fuels*, 12 (2) 201-211.
- Stern, L., Circone, S., Kirby, S., and Durham, W., (2001). "Preservation of methane hydrate at 1 atm," *Energy & Fuels, Volume 15, n. 2*, pp. 499-501.
- Stern, L., Circone, S., Kirby, S., and Durham, W., (2002). "Reply to "Comments on anomalous preservation of pure methane hydrate at 1 atm"," *Journal of Physical Chemistry, Volume 106*, pp. 228-230.

- Stern, L., Kirby, S., and Durham, W., (2001). "Comment to the Moudrakovski Letter, Hydrate layers on ice particles and superheated ice, a 1H NMR microimaging study," *Journal Physical Chemistry A, Volume 105, n. 7*, pp. 1223-1224.
- Stern, L., Kirby, S., and Durham, W., (2005). "Scanning electron microscope imaging of grain structure and phase distribution within gas-hydrate-bearing intervals from JAPEx/JNOC/GSC et al., Mallik 5L-38: what can we learn from comparisons with laboratory synthesized samples?," *Geological Survey of Canada Bulletin 585*.
- Stern, L., Kirby, S., Circone, S., and Durham, W., (2004). "Scanning Electron Microscopy (SEM) Investigations of Laboratory-Grown Gas Hydrates from Melting Ice, and Comparison to Natural Hydrates," *American Mineralogist, Volume 89*, pp. 1162-1175.
- Stern, L. A., Lorenson, T. D., Pinkston, J. C., (2011). "Gas hydrate characterization and grain-scale imaging of recovered cores from the BPXA-DOE-USGS Mount Elbert gas hydrate stratigraphic test well, Milne Point, Alaska," *Marine and Petroleum Geology, 28*, 394-403, doi:10.1016/j.marpetgeo.2009.08.003.
- Stern, L. A. and Lorenson, T. D., (2014). "Grain-scale imaging and compositional characterization of select India NGHP Expedition-01 gas-hydrate-bearing cores, and comparison to other natural gas hydrates," *Journal of Marine and Petroleum Geology, v. 58, part A*, pp. 206-222.
- Sun, Y., Goldberg, D., Collett, T., and Hunter, R., (2011). "High-resolution well-log derived dielectric properties of gas-hydrate-bearing sediments, Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," in Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology, v. 28, no. 2*, pp. 450-459.
- Taylor, M., Dillon, W., and Pecher, I., (2000). "Trapping and migration of methane associated with the gas hydrate stability zone at the Blake Ridge Diapir: new insights from seismic data:," *Marine Geology, Volume 164, n. 1-2*, pp. 79-89.
- Tomaru, H., Matsumoto, R., Coffin, R. B., Pohlman, J. W., Spence, G. D., (2007). "Geochemical relation between gas hydrates and water venting in the seismic blanking zone on the northern Cascadia continental margin offshore Vancouver Island, Canada," *J. Geochem Explor. 95:40-47*.
- Torres, M. E., Trehu, A. M., Cespedes, N., Kastner, M., Wortmann, U. G., Kim, J.-H., Long, P., Malinverno, A., Pohlman, J. W., Riedel, M., Collett, T., (2008). "Methane hydrate formation in turbidite sediment of northern Cascadia, IODP Expedition 311," *Earth and Planetary Science Letters. 271: 170-180*.
- Torres, M., Collett, T., Rose, K., Sample, J., Agena, W., and Rosenbaum, E., (2011). "Pore fluid geochemistry from the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope," in Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology, v. 28, no. 2*, pp. 332-342.
- Trehu, A., Ruppel, C., Holland, M., Dickens, G., Torres, M., Collett, T., Goldberg, D., Riedel, M., and Schultheiss, P., (2006). "Gas Hydrates in marine sediments - lessons from ocean drilling," *Oceanography, v. 19, n. 4.*, pp. 124-142.

- Wagner, K. S., McEntee, M. H., Brothers, L. L., German, C. R., Kaiser, C. L., Yoerger, D. R., Van Dover, C. L., (2013). "Cold-seep habitat mapping, High-resolution spatial characterization of the Blake Ridge Diapir seep field," *Deep Sea Research II: Topical Studies in Oceanography*, v. 92, pp. 183-188.
<http://dx.doi.org/10.1016/j.dsr2.2013.02.008>.
- Waite, W., B. deMartin, Kirby, S., Pinkston, J., and Ruppel, C., (2002). "Thermal Conductivity Measurements in Porous Mixtures of Methane Hydrate and Quartz Sand," *Geophysical Research Letters*, vol. 29, no. 24, 2229, doi:10.1029/2002GL015988, pp. 82(1)-82(4).
- Waite, W., L. Gilbert, Winters, W., and Mason, D., (2006). "Estimating thermal diffusivity and specific heat from needle probe thermal conductivity data," *Review of Scientific Instruments*, 77, 044904, doi:10.1063/1.2194481.
- Waite, W., Helgerud, M., A. Nur, Pinkston, J., Stern, L., Kirby, S., and Durham, W., (2000). "Laboratory measurements of compressional and shear wave speed through methane hydrate," in Holder, G., and R. Bishnoi, eds., *Gas Hydrates: Challenges for the Future*, *Annals of the New York Academy of Sciences*, Volume 912, pp. 1003-1011.
- Waite, W. F., Kneafsey, T. J., Winters, W. J. and Mason, D. H., (2008). "Physical property changes in hydrate-bearing sediment due to depressurization and subsequent repressurization," *Journal of Geophysical Research*, 113, 12 pages, B07102, doi:10.1029/2007JB005351.
- Waite, W., Ruppel, C., and Kirby, S., (2006). "Comment on "Thermal and visual time-series at a seafloor gas hydrate deposit on the Gulf of Mexico slope," by MacDonald, I., L. Bender, M. Vardaro, B. Bernard, and J. Brooks [Earth Planet. Sci. Lett. 233 (2005) 49 59]," *Earth and Planetary Science Letters*, 245, 481- 482.
- Waite, W. F., Santamarina, J. C., Cortes, D. D., Dugan, B., Espinoza, D. N., Germaine, J., Jang, J., Jung, J. W., Kneafsey, T. J., Shin, H., Soga, K., Winters, W. J., and Yun, T. S., (2009). "Physical properties of hydrate-bearing sediments," *Reviews of Geophysics*, 47, RG4003, doi:10.1029/2008RG000279, 38p.
- Waite, W. F., and Spangenberg, E., (2013). "Gas hydrate formation rates from dissolved-phase methane in porous laboratory specimens," *Geophysical Research Letters*, v. 40, 6 pp. doi:10.1002/grl.50809
- Waite, W., Stern, L., Kirby, S., Winters, W., Mason, D., (2007). "Simultaneous determination of thermal conductivity, thermal diffusivity and specific heat in sl methane hydrate," *Geophysical Journal International*, 169, doi: 10.1111/j.1365-246X.2007.03382.x, pp. 767-774.
- Waite, W., Winters, W., and Mason, D., (2004). "Methane Hydrate Formation in Partially Water-Saturated Ottawa Sand," *American Mineralogist*, Volume 89, pp. 1202-1207.
- Walsh, M. R., Hancock, S. H., Wilson, S. J., Patil, S. L., Moridis, G. J., Boswell, R., Collett, T. S., Koh, C. A., and Sloan, E. D., (2009). "Preliminary report on the commercial viability of gas production from natural gas hydrates," *Journal of Energy Economics*, v. 31, Issue 5, pp. 815-823.
- Wang, X., Hutchinson, D. R., Wu, S., Yang, S., Guo, Y., (2011). "Elevated hydrate saturation within silt and silty clay sediments in the Shenhu area, South China Sea," *Journal of Geophysical Research*, 116, B05102, doi:10.1029/2010JB007944

- Wang, X., Collett, T., Shi, H., Yang, S., Wang, Z., Chen, D., Li, Y., and Yan, C., (2016). "Characterization of gas hydrate distribution using conventional three-dimensional seismic data in the Pearl River Mouth Basin, South China Sea," *Interpretation Journal Volume 4, Issue 1*, 12 p.
- Wilson, A. and Ruppel, C., (2007). "Salt tectonics and shallow subseafloor fluid convection: Models of coupled fluid-heat-salt transport," *Geofluids* 7(4), 377-38. (doi: 10.1111/j.1468-8123.2007.00191.x).
- Wilson, S., Hunter, R., Collett, T., Hancock, S., Boswell, R., and Anderson, B., (2011). "Alaska North Slope regional gas hydrate production modeling forecasts," in Boswell, R., Collett, T., Anderson, B., Hunter, R., eds., *Scientific Results of the Mount Elbert Gas Hydrate Stratigraphic Test Well, Alaska North Slope: Journal of Marine and Petroleum Geology*, v. 28, no. 2, pp. 460-477.
- Winters, W., (2000). "Effects of drying methods and temperatures on water content and porosity of sediment from the Blake Ridge," in Paull, C., R. Matsumoto, P. Wallace, and Dillon, W., eds., *Proceedings Ocean Drilling Program Scientific Results, College Station, Texas, Volume 164*, pp. 431-434.
- Winters, W., (2000). "Stress history and geotechnical properties of sediment from the Cape Fear Diapir, Blake Ridge Diapir, and Blake Ridge," in Paull, C., R. Matsumoto, P. Wallace, and Dillon, W., eds., *Proceedings Ocean Drilling Program Scientific Results, College Station, Texas, Volume 164*, pp. 421-429.
- Winters, W., Pecher, I., Waite, W., and Mason, D., (2004). "Physical Properties and Rock Physics Models of Sediment Containing Natural and Laboratory-Formed Methane Gas Hydrate," *American Mineralogist, Volume 89*, pp. 1221-1227.
- Winters, W., Dallimore, S., Collett, T., B. Medioli, R. Matsumoto, J. Katsube, and P. Brennan-Alpert, (2005). "Relationships of Sediment Physical Properties from the JAPEX/JNOC/GSC Mallik 5L-38 Gas Hydrate Production Research Well," in Dallimore, S. and Collett, T., eds., *Scientific Results from Mallik 2002 Gas Hydrate Production Research Well Program, Mackenzie Delta, Northwest Territories, Geological Survey of Canada Bulletin 585*.
- Winters, W., Dillon, W., Pecher, I., and Mason, D., (2000). "GHASTLI-determining physical properties of sediment containing natural and laboratory-formed gas hydrate," in Max, M., ed., *Natural Gas Hydrate in Oceanic and Permafrost Environments, Dordrecht, Netherlands, Kluwer Academic Publishers*, pp. 311-322.
- Winters, W., Waite, W., and Mason, D., (2004). Strength and Acoustic Properties of Ottawa Sand Containing Laboratory-Formed Methane Gas Hydrate in Taylor, C., and J. Kwan, eds., *Recent Advances in the Study of Gas Hydrates, American Institute of Chemical Engineers and Kluwer Academic/Plenum Publishers*, pp. 213-226.
- Winters, W., Waite, W., and Mason, D., (2009). "Effects of methane hydrate on the physical properties of sediment," in Collett, T., A. Johnson, C. Knapp and Boswell, R., eds., *Natural Gas Hydrates: Energy Resource and Associated Geologic Hazards, The American Association of Petroleum Geologists Hedberg Special Publication, 80*, 714-722.

- Winters, W., Waite, W., Mason, D., Gilbert, L. and Pecher, I., (2007). "Methane gas hydrate effect on sediment acoustic and strength properties," *Journal of Petroleum Science and Engineering – Natural Gas Hydrate/Clathrate (Elsevier)*, Volume 56, Issues 1-3, pp. 127-135, March.
- Winters, W. J., Dugan, B., and Collett, T., "Physical properties of sediments from Keathley Canyon and Atwater Valley, JIP Gulf of Mexico Gas Hydrate Drilling Program," *Mar. Petr. Geology*, vol. 25, 896-905, (doi:10.1016/j.marpetgeo.2008.01.018).
- Winters, W. J., Dallimore, S. R., Collett, T. S., Jenner, K. A., Katsube, J. T., Cranston, R. E., Wright, J. F., Nixon, F. M., and Uchida, T., (2000). "Relation between gas hydrate and physical properties at the Mallik 2L-38 research well in the Mackenzie Delta," in Holder, G. D. and Bishnoi, P. R. (Eds.), *Gas Hydrates Challenges for the Future, Annals of the New York Academy of Sciences*, v. 912, pp. 94-100.
- Winters, W. J., Walker, M. M., Hunter, R. B., Collett, T. S., Boswell, R. M., Rose, K. K., Waite, W. F., Torres, M. E., Patil, S. L., Dandekar, A. Y., (2011). "Physical properties of sediment from the BPXA-DOE-USGS Mount Elbert Gas-Hydrate Stratigraphic Test Well," *Marine and Petroleum Geology*, 28, 361-380, doi: 10.1016/j.marpetgeo.2010.01.008
- Winters, W. J., Wilcox-Cline, R. W., Long, P., Dewri, S. K., Kumar, P., Stern, L., and Kerr, L., (2014). "Comparison of physical and geotechnical properties of sediment from offshore India and other hydrate reservoirs," *Journal of Marine and Petroleum Geology*, v. 58, part A, pp. 139-167.
- Wooller, M. J., Pohlman, J. W., Gaglioti, B., Langdon, P., Jones, M., Walter Anthony, K. M., Elvert, M., Becker, K., Hinrichs, K-U., (2012). "Intermittent methane release from a wetland in arctic Alaska during the last ~12,000 years related to environmental change," *Journal of Paleolimnology*. doi:10.1007/s10933-012-9591-8.
- Wood, W. T., P. E. Hart, D. R. Hutchinson, Dutta, N., Snyder, F., Coffin, R. B., and J. F. Gettrust, (2008). "Gas and gas hydrate distribution around seafloor seeps in Mississippi Canyon, Northern Gulf of Mexico, using multi-resolution seismic imagery," *Mar. Petr. Geology*, vol. 25, 952-959 (doi:10.1016/j.marpetgeo.2008.01.015).
- Yoshinaga, M. Y., Holler, T., Goldhammer, T., Wegener, G., Pohlman, J. W., Brunner, B., Kuypers, M. M., Hinrichs, K.-U., and Elvert, M., (2014). "Carbon isotope equilibration during sulphate-limited anaerobic oxidation of methane," *Nature Geoscience*, doi: 10.1038/NGEO2069.

Government Reports

- Bout-Roumazielles, V. and Trentesaux, A., (2007). "Sedimentologic Analysis of Cores Recovered from the RV Marion Dufresne Cruise in the Gulf of Mexico, 2-18 July 2002," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002, U. S. Geological Survey Open-File Report 2004-1358*.
- Brunner, C. A. "Qualitative Planktonic Foraminiferal Biostratigraphy of a Latest Quaternary Core, MD02-2570, from the Northern Gulf of Mexico," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002, U. S. Geological Survey Open-File Report 2004-1358*.

- Chen, Y., Matsumoto, R., Ussler, W. III. "Methane-Derived Authigenic Carbonates from the IMAGES VIII/PAGE 127 Gas Hydrate and Paleoclimate Cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002, U. S. Geological Survey Open-File Report 2004-1358*.
- Collett, T. S., Bahk, J.-J., Goldberg, D., Husebø, J., Koh, C., Malone, M., Shipp, C., Torres, M., (1999). "Historical Methane Hydrate Project Review," *Consortium for Ocean Leadership, Washington DC*, 125 p.
- Collett, T., (2004). "Alaska North Slope gas hydrate energy resources," *U. S. Geological Survey Open-File Report 2004-1454*.
- Collett, T. S., (2014). "Alaska Natural Gas Hydrate Production Testing, Test Site Selection, Characterization, and Testing Operations," *Research Progress Report* (Period ending 12/31/2014).
- Collett, T. S., (2015). "Alaska Natural Gas Hydrate Production Testing, Test Site Selection, Characterization, and Testing Operations," *Research Performance Progress Report* (Period ending 9/30/2015).
- Collett, T. S., (2016). "Alaska Natural Gas Hydrate Production Testing, Test Site Selection, Characterization, and Testing Operations," *Research Performance Progress Report* (Period ending 3/30/2016).
- Collett, T. S., (2017). "Alaska Natural Gas Hydrate Production Testing, Test Site Selection, Characterization, and Testing Operations," *Research Performance Progress Report* (Period ending 9/30/2017).
- Collett, T. S., (2018). "Alaska Natural Gas Hydrate Production Testing, Test Site Selection, Characterization, and Testing Operations," *Research Performance Progress Report* (Period ending 9/30/2018).
- Cooper, A., McGee, T., Hart, P., and Pecher, I., (1999). "Seismic investigation of gas hydrates in the Mississippi Canyon region, northern Gulf of Mexico -- Cruise M1-98-GM," *U. S. Geological Survey Open-File Report 98-506*.
- Cooper, A., D. Twitchell, and Hart, P., (1999). "A seismic-reflection investigation of gas hydrates and sea-floor features of the upper continental slope of the Garden Banks and Green Canyon regions, northern Gulf of Mexico," *Report for Cruise G1-99-GM (99002), U. S. Geological Survey Open-File Report 99-570*.
- Flocks, J. and Swarzenski, P., Cruise. "Report: Sediment Collection from Orca and Pigmy Basins, Gulf of Mexico, and Analyses for Texture and Trace-Metal Concentrations, July 2002, 127 PAGE Campaign," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002, U. S. Geological Survey Open-File Report 2004-1358*.

- Haines, S. S., Hart, P. E., Ruppel, C. D., O'Brien, T., Baldwin, W., White, J., Moore, E., Dal Ferro, P., and Lemmond, P., (2014). "Cruise report for P1-13-LA, U. S. Geological Survey Gas Hydrates Research Cruise, R/V Pelican April 18 to May 3, 2013, Deepwater Gulf of Mexico," *U. S. Geological Survey Open-File Report 2014-1080*, 33 p.
- Hallam, S. J., DeLong, E. F., William Ussler, W. III, and Paull, C. K. "Methanogenic and Methanotrophic Archaeal Diversity in Northern Gulf of Mexico Sediments," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002, U. S. Geological Survey Open-File Report 2004-1358*.
- Hart, P., A. Cooper, D. Twichell, Lee, M., and W. Agena, (2002). "High-Resolution Multichannel Seismic-Reflection Data Acquired in the Northern Gulf of Mexico, 1998-99," *U. S. Geological Survey Open-File Report 02-386*.
- Hutchinson, D., and Hart, P., (2003). "Cruise Report for G1-03-GM USGS Gas Hydrates cruise, R/V Gyre, 1-14 May, 2003, Northern Gulf of Mexico," *U. S. Geological Survey Open-File Report 03-474*.
- Hutchinson, D., (2005). "Final Technical Report to the Department of Energy, National Energy Technology Lab Interagency Agreement," *Task DE-AT26-97FT34343, September 8, 1997-April 30, (2005)*.
- Labails C., Géli, L., Sultan, N., Novosel, I., Winters, W., (2007). "Thermal measurements from the Gulf of Mexico continental slope: results from the PAGE cruise," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002, U. S. Geological Survey Open-File Report 2004-1358*.
- Lee, M. W., (2002). "Joint inversion of acoustic and resistivity data for the estimation of gas hydrate concentration," *U. S. Geological Survey Bulletin 2190*, 11 p.
- Lee, M. W., (2005). "Well log analysis to assist the interpretation of 3-D seismic data at the Milne Point, North Slope of Alaska," *U. S. Geological Survey Scientific Investigations Report 2005-5048*, 18p.
- Lee, M. W., (2006). "An effective method for inversion of elastic impedance for shallow sediments and its application to gas-hydrate-bearing sediments," *U. S. Geological Survey Scientific Investigations Report 2006-5297*, 11 p.
- Lee, M. W., (2006). "Is amplitude loss of sonic waveforms due to inelastic attenuation or source coupling to the medium?," *U. S. Geological Survey Scientific Investigations Report 2006-5120*, 13 p.
- Lee, M. W., (2007). "Amplitude variation of bottom simulating reflection with respect to frequency-Transitional base or attenuation?," *U. S. Geological Survey Scientific Investigations Report 2007-5091*, 12 p.
- Lee, M. W., (2007). "Velocities and attenuations of gas hydrate-bearing sediments," *U. S. Geological Survey Scientific Investigations Report 2007-5264*, 11 p.
- Lee, M. W., (2008). "Models for gas hydrate-bearing sediments inferred from hydraulic permeability and elastic velocities," *U. S. Geological Survey Scientific Investigations Report 2008-5219*, 15p.

- Lee, M. W., (2009). "Anisotropic velocities of gas hydrate-bearing sediments in fractured reservoirs," *U. S. Geological Survey Scientific Investigations Report 2009-5141*, 20 pp.
- Lee, M. W., (2013). "Shear wave velocities of unconsolidated shallow sediments in the Gulf of Mexico," *U. S. Geological Survey Scientific Investigations Report 2013-5141*, 11 p.
- Lee, M. W. and Collett, T. S., (2001). "Gas hydrate estimation error associated with uncertainties of measurements and parameters," *U. S. Geological Survey Bulletin 2182*, 8 p.
- Lee, M., and Collett, T., (2005). "Controls on the Physical Properties of Gas-Hydrate-Bearing Sediments Because of the Interaction between Gas Hydrate and Porous Media," *U. S. Geological Survey Scientific Investigations Report 2005-5143*.
- Lee, M. W., and Collett, T. S., (2006). "A method of shaly sand correction for estimating gas-hydrate saturations using downhole electrical resistivity log data," *U. S. Geological Survey Scientific Investigation Report 2006-5121*, 10 p.
- Lee, M. W., Collett, T. S., and Agena, W. F., (2008). "Assessing gas hydrate prospects on North Slope of Alaska-Theoretical considerations," *U. S. Geological Survey Investigations Report 2008-5175*, 28 p.
- Lee, M. W., and Waite, W. F., (2010). "High-frequency normal mode propagation in aluminum cylinders," *U. S. Geological Survey Scientific Investigations Report 2010-5013*, 25 pp.
- Lewis, K. A., and Collett, T. S., (2013). "Brookian sequence well log correlation sections and occurrence of gas hydrates, north-central North Slope, Alaska," *U. S. Geological Survey Scientific Investigations Report 2013-5050*, 23 p.
- Lorenson, T. D., Cooper, A. K., Hart, P. E., and Winters, W. J., (2007). "Geologic Setting and Context of Cores Taken During the IMAGES VIII /PAGE 127 Cruise of the RV Marion Dufresne in the Northern Gulf of Mexico," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002*, *U. S. Geological Survey Open-File Report 2004-1358*.
- Lorenson, T. D., Dougherty, J. A., and Flocks, J. G. "Hydrocarbon Gases from Giant Piston Cores in the Northern Gulf of Mexico: Results from the IMAGES VIII/PAGE 127 Cruise of the RV Marion Dufresne, July, 2002," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002*, *U. S. Geological Survey Open-File Report 2004-1358*.
- Lorenson, T. D., and Collett T. S., (2011). "Gas hydrate prospecting using well cuttings and mud-gas geochemistry from 35 wells, North Slope, Alaska," *U. S. Geological Survey Scientific Investigations Report 2011-5195*, 27 p., CD ROM.
- Novosel, I., Winters, W. J., Boldina, O. M., Labails, C., Géli, L., (2007). "Thermal Conductivity of Sediment Recovered from the IMAGES VIII/PAGE 127 Gas Hydrate and Paleoclimate Cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002*, *U. S. Geological Survey Open-File Report 2004-1358*.

- Pohlman, J., Ruppel, C., C. Maue, L. Brothers, J. Kessler, and C. Worley, (2012). "Real-time mapping of seawater and atmospheric methane concentrations offshore of Alaska's North Slope, Sound Waves," *USGS national newsletter*, May/June 2012. <http://soundwaves.usgs.gov/2012/06/research2.html>
- Ruppel, C., (2010). Report for USGS-DOE Interagency Agreement: DE-AI26-05NT42496, April-June 2010.
- Ruppel, C., (2010). Report for USGS-DOE Interagency Agreement: DE- FE0002911, July-September 2010.
- Ruppel, C., (2011). Report for USGS-DOE Interagency Agreement: DE-FE0002911, October-December 2010.
- Ruppel, C., (2011). Report for USGS-DOE Interagency Agreement: DE-FE0002911, January – March 2011.
- Ruppel, C., (2011). Report for USGS-DOE Interagency Agreement: DE-FE0002911, April-June 2011.
- Ruppel, C., (2012). Report for USGS-DOE Interagency Agreement: DE-FE0002911, July - September, 2011.
- Ruppel, C., Pohlman, J., and C. Worley, (2009). "Studying the link between Arctic methane seeps and degassing methane hydrates, Sound Waves," *USGS national newsletter*, October edition.
- Ruppel, C., Hart, P., and C. Worley, (2010). "Degradation of subsea permafrost and associated gas hydrates offshore of Alaska in response to climate change, Sound Waves," *USGS national newsletter*, October/November edition.
- Ruppel, C., (2011). "Scientific ocean drilling and gas hydrates studies," *Scientific Ocean Drilling—Accomplishments and Challenges, National Research Council Report*, 106-110.
- Ruppel, C., Robertson, J., and Pierce, B., (2013). "Groundbreaking gas hydrate research," *Sound Waves, USGS national newsletter*, March/April 2013. <http://soundwaves.usgs.gov/2013/04/research.html>
- Ruppel, C. and Noserale, D., (2012). "Gas hydrates and climate warming—why a methane catastrophe is unlikely," *Sound Waves, USGS national newsletter*, May/June 2012. <http://soundwaves.usgs.gov/2012/06/>
- Ryerson, T., Camilli, R., Kessler, J., Kujawinski, E. B., Reddy, C. M., *et al.*, (2012). "Chemical composition measurements quantify Deepwater Horizon hydrocarbon emissions and distribution in the marine environment," *Proceedings of the National Academy of Sciences*, USA. doi/10.1073/pnas.1110564109
- Stern, L. A. and Kirby, S. H., Grain and Pore Structure Imaging of Gas Hydrate From Core MD02-2569 (Mississippi Canyon, Gulf of Mexico). "A First Look by SEM," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002, U. S. Geological Survey Open-File Report 2004-1358*.

- Twichell, D., V. Cross, V. Paskevich, Hutchinson, D., Winters, W., and Hart, P., (2005). "GIS of selected geophysical and core data in the northern Gulf of Mexico continental slope collected by the U. S. Geological Survey," *U. S. Geological Survey Open-File Report 2005-1071, DVD-ROM*.
- U. S. Geological Survey Alaska Gas Hydrate Assessment Team, (2013). "National Assessment of Oil and Gas Project—Geologic assessment of undiscovered gas hydrate resources on the North Slope, Alaska," *U. S. Geological Survey Digital Data Series 69-CC*, 100 p., <http://pubs.er.usgs.gov/publication/dds/69/cc/>
- Ussler, W. III and Paull, C. K. "Pore Water Gradients in Giant Piston Cores from the Northern Gulf of Mexico," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002, U. S. Geological Survey Open-File Report 2004-1358*.
- Waite, W. F., (2007). "Thermal properties of methane gas hydrate," *USGS Fact Sheet 2007-3041* (July, 2007).
- Winters, W., Lorenson, T., and Paull, C., eds., (2007). "Initial report of the IMAGES VIII/PAGE 127 Gas Hydrate and Paleoclimate Cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July, (2002)," *U. S. Geological Survey Open File Report 2004-1358*.
- Winters, W. J., Lorenson, T. D., and Paull, C. K., (2007). "IMAGES VIII/PAGE 127 Gas Hydrate and Paleoclimate Cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002: Introduction," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002, U. S. Geological Survey Open-File Report 2004-1358*.
- Winters, W. J., Lorenson, T. D., Paull, C. K., and Balut, Y., (2007). "Coring and gas hydrate related operations during the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002, U. S. Geological Survey Open-File Report 2004-1358*.
- Winters, W. J., Novosel, I., Boldina, O., Waite, W. F., Kelsey, S. A., and Hallett, B. W., (2007). "Physical Properties of Sediment Obtained During the IMAGES VIII/PAGE 127 Gas Hydrate and Paleoclimate Cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002," in Winters, W. J., Lorenson, T. D., and Paull, C. K., eds., *Initial report of the IMAGES VIII/PAGE 127 gas hydrate and paleoclimate cruise on the RV Marion Dufresne in the Gulf of Mexico, 2-18 July 2002, U. S. Geological Survey Open-File Report 2004-1358*.
- Winters, W. J., Dallimore, S. R., Collett, T. S., Katsube, T. J., Jenner, K. A., Cranston, R. E., Wright, J. F., Nixon, F. M., and Uchida, T., (1999). "Physical properties of sediments from the JAPEX/JNOC/GSC Mallik 2L-38 gas hydrate research well," in Dallimore, S. R., Uchida, T., and Collett, T. S., eds., *Scientific Results from JAPEX/JNOC/GSC Mallik 2L-38 Gas Hydrate Research Well, Mackenzie Delta, Northwest Territories, Geological Survey of Canada Bulletin 544*, pp. 95-100.

Winters, W. J., Pecher, I. A., Booth, J. S., Mason, D. H., Relle, M. K., and Dillon, W. P., (1999). "Properties of samples containing natural gas hydrate from the JAPEX/JNOC/GSC Mallik 2L-38 gas hydrate research well, determined using Gas Hydrate And Sediment Test Laboratory Instrument (GHASTLI)," in Dallimore, S. R., Uchida, T., and Collett, T. S., eds., *Scientific Results from JAPEX/JNOC/GSC Mallik 2L-38 Gas Hydrate Research Well, Mackenzie Delta, Northwest Territories, Geological Survey of Canada Bulletin 544*, p. 241-250.

Winters, W. J., Collett, T. S., Cranston, R. E., Dallimore, S. R., and Jenner, K. A., (1999). "Physical properties of sediment from Mallik 2L-38 gas hydrate research well," in Dallimore, S. R., Laframboise, R. R., Fotiou, M. J., and Medioli, B. E., compilers, *JAPEX/JNOC/GSC Mallik 2L-38 Gas Hydrate Research Well, Mackenzie Delta, Northwest Territories, Canada: Interactive Data Viewer, Geological Survey of Canada Open File D3726*, CD-ROM.

Other Publications

2008-007-PGC On-board Science Team (includes Pohlman, J. W.). 2008, Investigation Gas Hydrate as a Factor in Accretionary Margin Frontal Ridge Slope Failures and Cold Seep Biogeochemistry. *Fire in the Ice DOE-NETL Newsletter*, Fall Issue, pp. 9-12.

Bailey, A., (2007). "North Slope gas hydrate well hits target – BP-operated Mount Elbert well confirms presence of gas hydrate accumulation and enables coring and testing of gas hydrate zone," *Petroleum News*, February 25.

Barth, G. A., Scholl, D. W., and Childs, J. R., (2006). "Possible deep-water gas hydrate accumulations in the Bering Sea," *Fire in the Ice, fall issue*, pp. 10-11.

Bahk, J. J., Kim, D. H., Chun, J. H., Son, B. K., Kim, J. H., Ryu, B. J., Torres, M., Schultheiss, P., Collett, T., Riedel, M., Lee, S. R., and the UBGH2 Scientists, (2011). "Gas hydrate occurrences and their relation to hosting sediment properties: results from UBGH2, East Sea," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), July 17-21, 2011, Edinburgh, Scotland, United Kingdom*, 8 p.

Balczewski, J. T., Boswell, R., Collett, T. S., and Baker, R., (2011). International collaboration on deepwater natural gas hydrate continues – Gulf of Mexico Gas Hydrate JIP: past, present, and future: *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), July 17-21, 2011, Edinburgh, Scotland, United Kingdom*, 6 p.

Birchwood, R., Dai, J., Shelander, D., Boswell, R., Collett, T., Cook, A., Dallimore, S., Fuji, K., Imasato, Y., Fukuhara, M., Kusaka, K., Murray, D., and Saeki, T., (2010). "Developments in gas hydrate," *Oilfield Review*, Published by Schlumberger, Spring, 2010, pp. 18-33.

Boswell, R., Collett, T., B. Anderson, and Ruppel, C., (2010). "Relative gas volumes for free gas and gas hydrate accumulations," *DOE NETL newsletter, Fire in the Ice, Summer 2010 edition*, pp. 9-11.

Boswell, R., Collett, T. S., McConnell, D., Frye, M., Shedd, B., Mrozewski, S., Guerin, G., Cook, A., Godfriaux, P., Dufrene, R., Roy, R., and Jones, E., (2009). "Joint industry project leg II discovers rich gas hydrate accumulations in sand reservoirs in the Gulf of Mexico," *Fire in the Ice, DOE/NETL Newsletter*, Summer, 2009, pp. 1-35.

- Boswell, R., Collett, T. S., Frye, M., Shedd, W., Mrozewski, S., Guerin, G., and Cook, A., (2009). "The 2009 Gulf of Mexico Gas Hydrate Joint Industry Project - Leg II: Technical Summary," *Proceedings of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project - Leg II*, 30 p. (<http://www.netl.doe.gov/technologies/oil-gas/FutureSupply/MethaneHydrates/JIPLegII-IR/>)
- Boswell, R., Collett, T. S., McConnell, D., Frye, M., Shedd, B., Godfriaux, P., Dufrene, R., Mrozewski, S., Guerin, G., Cook, A., Shelander, D., Jianchun, D., and Jones, E., (2009). "Initial results of Gulf of Mexico Gas Hydrate Joint Industry Project Leg II logging-while-drilling operations," *Proceedings of the 29th Annual Gulf Coast Section Foundation, Bob F. Perkins Research Conference, December 6-8, 2009, Houston, TX*, 21 p. (on CD-ROM).
- Boswell, R., Moridis, G., Reagan, M., and Collett, T., (2011). "Gas hydrate accumulation types and their application to numerical simulation," *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), July 17-21, 2011, Edinburgh, Scotland, United Kingdom*, 12 p.
- Boswell, R., Collett, T. S., McConnell, D., Frye, M., Shedd, B., Godfriaux, P., Dufrene, R., Mrozewski, S., Guerin, G., Cook, A., Shelander, D., Jianchun, D., and Jones, E., (2010). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Overview of Leg II LWD Results, OTC 20560," *Proceedings 2010 Offshore Technology Conference, Houston, Texas, May 3-6, 2010*, 12 p.
- Boswell, R., Collett, T. S., McConnell, D., Frye, M., Shedd, B., Mrozewski, S., Guerin, G., Cook, A., Godfriaux, P., Dufrene, R., Roy, R., and Jones, E., (2009). "Joint industry project leg II discovers rich gas hydrate accumulations in sand reservoirs in the Gulf of Mexico," *Fire in the Ice, DOE/NETL Newsletter, Summer, 2009*, pp. 1-5.
- Brothers, L. L., Kelley, J. T., Belknap, D. F., Koons, P. O., Barnhardt, W. A., (2011). "Pockmarks: Self-scouring seep features?" *Proc. of the 7th International Conference on Gas Hydrates (ICGH 2011), Edinburgh, Scotland, United Kingdom, July 17-21, (2011)*. Paper 326.
- Brothers, L. L., Van Dover, C. L., German, C. R., Kaiser, C. L., Yoerger, D. R., (2013). "Re-examination of seep activity at the Blake Ridge Diapir, Fire in the Ice, The National Methane Hydrates R&D Program," *Methane Hydrate R&D Program Newsletter, v. 13, no. 1, pp. 6-8*.
- Chakoumakos, B. C., Rawn, C. J., Rondinone, A. J., Marshall, S. L., Stern, L. A., Circone, S., Kirby, S. H., Jones, C.Y, Toby, B. H., and Ishii, Y., Y., (2002). "The use of rigid body constraints in Rietveld refinements of neutron diffraction data of clathrate hydrates," *Proceedings of the 4th International Conference on Gas Hydrates, Yokohama Japan, (2002)*. pp.655-658.
- Chaytor, J., Demopoulos, A., and Ruppel, C., (2013). "Exploring undersea terrain off the northern US Atlantic coast via telepresence-enabled research cruise," *Sound Waves, USGS newsletter, Nov/Dec 2013*.
- Collett, T. S., Lewis, R. E., and Uchida, T., (2000). "Growing interest in gas hydrates," *Oilfield Review, v. 12, no. 2, p.42-57*.
- Collett, T. S., Scott, A. R., and Allison, E., (2000). "Hydrates getting more attention," *American Association of Petroleum Geologists Explorer, v. 21, no. 2, pp. 37-38*.

- Collett, T. S., (2001). "Natural-gas hydrates: resource of the twenty-first century?," In M. W. Downey, J. C. Treet, and W. A. Morgan eds., *Petroleum Provinces of the Twenty-First Century: American Association of Petroleum Geologists Memoir 74*, pp. 85-108.
- Collett, T. S., and Dallimore, S. R., (2002). "Detailed Analysis of Gas Hydrate Induced Drilling and Production Hazards," *Proceedings of the Fourth International Conference on Gas Hydrates*, Yokohama, Japan, May 19-23, (2002). pp. 47-52.
- Collett, T. S., (2003). "Gas hydrate energy resource potential," *Proceedings of the Fifth International Petroleum Conference and Exhibition (Petrotech-2003)*, New Delhi, India, January 9-12, 2003, 11 p.
- Collett, T. S., (2004). "Gas hydrates," *Encyclopedia of Energy*, v. 2, Published by Elsevier Inc., pp. 815-820.
- Collett, T. S., (2004). "Gas hydrates as a future energy resource," *Geotimes*, November 2004, v. 49, no. 11, pp. 24-27.
- Collett, T. S., (2004). "Arctic gas hydrate resources," *Proceedings of the conference on arctic Geologic, Resources, and Environmental Challenges*, Tromso, Norway, May 24-26, 2004, 4 p. [Available on the www at <http://www.geologi.no/>]
- Collett, T. S., (2005). "Gas hydrate energy resource assessment and production," *Proceedings of PETROTECH 2005, January 15-19, 2005, New Delhi, India*, 10 p (on CD-ROM).
- Collett, T. S., (2005). Gulf of Mexico Gas Hydrate JIP Drilling Program downhole logging program, 65 p. <http://www.netl.doe.gov/technologies/oil-gas/publications/Hydrates/reports/GOMJIPCruise05.pdf>
- Collett, T. S., and Mount Elbert Scientific Team, (2007). "Alaska North Slope successfully cores, logs, tests gas hydrate bearing reservoirs," *DOE-NETL Fire In the Ice Methane Hydrate Newsletter*, Winter, 2007, pp. 1-4.
- Collett, T. S., (2005). "Geologic and engineering controls on the economic production of gas hydrates," *Proceedings of the Korean International Symposium on Gas Hydrate Technology*, November 10-11, 2005, Seoul, Korea, pp. 93-97.
- Collett, T. S., Riedel, M., Malone, M. J., and the Expedition 311 Project Team, (2005). "Cascadia margin hydrates," *IODP Scientific Prospectus*, v. 311. doi:10.2204/iodp.sp.311.2005
- Collett, T. S., Swenson, R. F., and Pierce, B., (2005). "Alaska gas hydrate planning workshop proceedings: Anchorage, Alaska, August 17-18, 2005," *Alaska Division of Geological & Geophysical Surveys Miscellaneous Publication 135*, 39 p.
- Collett, T., Riedel, M., Cochran, J., Boswell, R., Presley, J., Kumar, P., Sathe, A., Sethi, A., Lall, M., Sibal, V., and the NGHP Expedition 01 Scientists, (2007). "Indian National Gas Hydrate Program 2007-Expedition 01 Initial Reports, Mumbai, India to Chennai, India, Sites NGHP-01-01 through NGHP-01-21, 28 April 2006 – 19 August 2006," *Directorate General of Hydrocarbons, Ministry of Petroleum and Natural Gas (India)*, Prepared by The United States Geological Survey (1 DVD).
- Collett, T. S., (2007). IODP Expedition 311 – Cascadia Margin Gas Hydrates: Proceedings of PETROTECH 2007, January 15-20, 2007, New Delhi, India, 6 p (on CD-ROM).

- Collett, T. S., (2007). Arctic gas hydrate energy assessment studies: Proceedings of The Arctic Energy Summit, October 15-18, 2007, Anchorage, Alaska, USA, 12 p.
- Collett, T. S., (2008). Geologic Controls on the Occurrence of Permafrost-Associated Natural Gas Hydrates: Proceedings of the 9th International Conference on Permafrost, June 29 – July 3, (2008). Fairbanks, Alaska, Published by the University of Alaska, USA, 6 p (CD-ROM).
- Collett, T. S., (2008). Geologic and engineering controls on the production of permafrost-associated gas hydrate accumulations: Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008), July 6-10, (2008). Vancouver, BC, 12 p.
- Collett, T. S., (2008). Geology of marine gas hydrates and their global distribution: Proceedings of the 2008 Offshore Technology Conference, May 5-8, (2008). Houston, TX, USA, Paper Number OTC 19241, 10 p.
- Collett, T. S., Riedel, M., Boswell, R., Cochran, J. R., Kumar, P., Sethi, A. K., Sathe, A. V., and NGHP Expedition-01 Scientific Party, 2006, International Team Completes Landmark Gas Hydrate Expedition in the Offshore of India, "Fire in the Ice," NETL newsletter, Fall 2006.
- Collett, T. S., (2008). Geologic Controls on the Occurrence of Permafrost-Associated Natural Gas Hydrates: Proceedings of the 9th International Conference on Permafrost, June 29 – July 3, (2008). Fairbanks, Alaska, Published by the University of Alaska, USA, 6 p (on CD-ROM).
- Collett, T. S., (2007). Geologic controls on the energy resource potential of natural gas hydrates: Proceedings of the International Conference on Gas Hydrate, October 3-4, 2007, Taipei, Taiwan, 10 p., <http://140.112.68.2/ghc/index.files/page0002.htm>.
- Collett, T. S., Boswell, R., Frye, M., Shedd, W., Godfriaux, P., Dufrene, R., McConnell, D., Mrozewski, S., Jones, E., and Roy, R., (2009). Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Operational Summary: Proceedings of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project - Leg II, 30 p.
- Collett, T. S., Riedel, M., J. R., Cochran, Boswell, R., Kumar, P., Sathe, A. V., and the NGHP Expedition 01 Scientific Party, (2008). Indian continental margin gas hydrate prospects: results of the Indian National Gas Hydrate Program (NGHP) Expedition 01: Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008), July 6-10, (2008). Vancouver, BC, 10 p.
- Collett, Timothy S., (2008). "Geologic And Engineering Controls On The Production Of Permafrost-Associated Gas Hydrate Accumulations. Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008), Vancouver, BC, July 6-10,
- Collett, T. S., (2009). Gas hydrate petroleum systems in marine and Arctic permafrost environments: Proceedings of the 29th Annual Gulf Coast Section Foundation, Bob F. Perkins Research Conference, December 6-8, 2009, Houston, TX, 12 p. (on CD-ROM).
- Collett, T. S., (2009). Gas hydrate petroleum systems in marine and Arctic permafrost environments: Proceedings of the 29th Annual Gulf Coast Section Foundation, Bob F. Perkins Research Conference, December 6-8, 2009, Houston, TX, 12 p. (on CD-ROM).

- Collett, T. S., Boswell, R., Frye, M., Shedd, W., Godfriaux, P., Dufrene, R., McConnell, D., Mrozewski, S., Jones, E., and Roy, R., (2009). Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Operational Summary: Proceedings of the 2009 Gulf of Mexico Gas Hydrate Joint Industry Project - Leg II, 30 p.
- Collett, T. S., and Boswell, R. M., (2010). Results of the Gulf of Mexico Gas Hydrate Joint Industry Project Leg II Drilling Expedition: Impact on Global Energy Development, Proceedings of Petrotech-2010, October 31 through November 3, 2010, New Delhi, India, 8 p.
- Collett, T. S., Boswell, R., Frye, M., Shedd, W., Godfriaux, P., Dufrene, R., McConnell, D., Mrozewski, S., Guerin, G., and Cook, A., (2010). Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Logging-While-Drilling Operations and Challenges, OTC 20452, Proceedings 2010 Offshore Technology Conference, Houston, Texas May 3-6, 2010, 12 p
- Collett, T. S., and Boswell, R. M., (2011). Results of the Gulf of Mexico Gas Hydrate Joint Industry Project Leg II Drilling Expedition: impact on global energy development, Proceedings of the 241th American Chemical Society National Meeting, March 27-30, 2011, Anaheim, California, 4 p.
- Collett, T. S., Boswell, R. M., Lee, M. W., Anderson, B. J., Rose, K., and Lewis, K., (2011). Evaluation of Long-Term Gas Hydrate Production Testing Locations on the Alaska North Slope, OTC 22149, Proceedings 2011 Arctic Technology Conference, Houston, TX, February 7-9, 2011, 29 p.
- Collett, T. S., and Lee, M. W., (2011). Well log characterization of natural gas hydrates, Proceedings of the Society of Petrophysicists and Well Log Analysts (SPWLA) 52nd Annual Logging Symposium, Colorado Springs, Colorado, May 14-18, 2011, 16 p.
- Collett, T., and Lee, M., (2011). Downhole well log characterization of gas hydrates in nature – a review: Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), July 17-21, 2011, Edinburgh, Scotland, United Kingdom, 16 p.
- Collett, T. S., (2011). The 2006 Indian National Gas Hydrate Program Expedition 01: operations and scientific results: Proceedings of the International Workshop on Scientific Drilling in the Indian Ocean, October 17-18, 2011, Goa, India, 21 p.
- Cook, A., Rasmus, J., Li, Q., Sun, K., Anderson, B., Collett, T., and Goldberg, D., (2011). Analyzing electrical anisotropy in gas hydrate reservoirs using logging-while-drilling directional resistivity data from the Gulf of Mexico Gas hydrate Joint Industry Project: Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), July 17-21, 2011, Edinburgh, Scotland, United Kingdom, 13 p.
- Du Frane, W. L., Stern, L. A., Weitemeyer, K. A., Constable, S., Pinkston, J., Roberts, J., (2011). Electrical resistivity of laboratory-synthesized methane hydrate. Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), Edinburgh, UK., July 2011, 10 pp., Paper 476.
- Du Frane, W. L., Stern, L. A., Weitemeyer, K. A., Constable, S., Roberts, J., (2011). Electrical resistivity of methane hydrate + sediment mixtures. In, *Fire in the Ice*, The National Energy Technology Laboratory Methane Hydrate Newsletter, 11 (2), 10-13.

- Durham, W. B., Stern, L. A., Kirby, S. H., and Circone, S., (2005). Rheological comparisons and structural imaging of sI and sII end-member gas hydrates and hydrate/sediment aggregates. Proceedings of the 5th International Conference on Gas Hydrates, Trondheim, Norway, June 2005, vol. 2, pp. 607-614 (paper #2030).
- Friefeld, B. M., Kneafsey, T. J., Tomutsa, L., Stern, L. A., and Kirby, S. H., (2002). Use of computed x-ray tomographic data for analyzing the thermodynamics of a dissociating porous sand/hydrate mixture. Proceedings of the 4th International Conference on Gas Hydrates, Yokohama Japan, (2002). pp.750-755.
- Frye, M. C., Shedd, W. W., Godfriaux, P. D., Dufrene, R., Collett, T. S., Lee, M. W., Boswell, R., Jones, E., McConnell, D. R., Mrozewski, S., Guerin, G., and Cook, A., (2010). Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: results from the Alaminos Canyon 21 Site, OTC 20552, Proceedings 2010 Offshore Technology Conference, Houston, Texas May 3-6, 2010, 21 p.
- Haines, S. S., Lee, M. W., and Collett, T. S., (2011). Multicomponent seismic methods for characterizing gas hydrate occurrences and systems in deep-water Gulf of Mexico: Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), July 17-21, 2011, Edinburgh, Scotland, United Kingdom, 10 p.
- Haines, S., Hart, P., and Ruppel, C., (2013). New seismic data acquired over known gas hydrate occurrences in the deepwater Gulf of Mexico. *Fire in the Ice Newsletter*, v. 13, no. 2, pp. 3-6.
- Hart, P. E., Haines, S., and Ruppel, C., (2013). Seismic-imaging research cruise investigates deepwater gas hydrate deposits in the Gulf of Mexico. *Sound Waves, USGS National Newsletter*, July/August 2013. <http://soundwaves.usgs.gov>
- Hart, P. E., Pohlman, J., Lorenson, T. D., Edwards, B. D., (2011). Beaufort Sea deep-water gas hydrate: Piston core recovery from a seafloor mound in a region of widespread BSR occurrence. *In* Proceeding of the 7th International Conference on Gas Hydrates (ICGH 2011), Edinburgh Scotland, United Kingdom, July 17-21, 2011, 16 p.
- Hein, J. R., Normark, W. R., McIntyre, B. R., Lorenson, T. D., Polwell II, C. L., (2006). Methanogenic calcite, ¹³C-depleted bivalve shells, and gas hydrate from a mud volcano offshore southern California: *Geology*, v. 34, pp. 108-112.
- Helgerud, M. B., Circone, S., Stern, L. A., Kirby, S. H., and Lorenson, T. D., (2002). Measured temperature and pressure dependence of compressional and shear wave speeds in compacted, polycrystalline sII methane-ethane hydrate. Proceedings of the 4th International Conference on Gas Hydrates, Yokohama Japan, (2002). pp. 716-721.
- Hunt, A. G., Pohlman, J. W., Stern, L., Ruppel, C., Moscati, R. J., Landis, G. P., Pinkston, J., (2011). "Observations of mass fractionation of noble gases in synthetic methane hydrate. 7th International Conference on Gas Hydrates. July 17-21, Edinburgh, Scotland.
- Hunt, A. G., Ruppel, C., Stern, L., and Pohlman, J., (2013). Using noble gas signatures to fingerprint gas streams derived from dissociating methane hydrate. *Fire in the Ice*, v. 13, no. 2, pp. 23-26 (October, 2013).

- Hutchinson, D. R., and Collett, T. S., (2007). Integration of Modeling and USGS hydrate laboratory research: workshop report, in Mahajan, D. and Somasundaran, P., eds., Science and Technology Issues in Methane Hydrate R&D, Workshop Summary and Recommendations: http://www.netl.doe.gov/technologies/oil-gas/publications/Hydrates/reports/MH_Kauai_Workshop_Report.pdf, pp. 90-92.
- Hutchinson, D. R., Boswell, Ray, Collett, Tim, Dai, J., Dugan, B., Frye, M., Jones, E., McConnell, Dan, Rose, K., Ruppel, C., Shedd, W., Shelander, D., and Wood, W., (2009). Gulf of Mexico gas hydrate Joint Industry Project Leg II: Green Canyon 781 site selection: Department of Energy, 2009 Gulf of Mexico JIP – Leg II Reports, 28 pp.
- Hutchinson, D. R., Boswell, Ray, Collett, Tim, Dai, J., Dugan, B., Frye, M., Jones, E., McConnell, Dan, Rose, K., Ruppel, C., Shedd, W., Shelander, D., and Wood, W., (2009). Gulf of Mexico gas hydrate Joint Industry Project Leg II: Walker Ridge 313 site selection: Department of Energy, 2009 Gulf of Mexico JIP – Leg II Reports, 35 pp.
- Hutchinson, D. R., Boswell, Ray, Collett, Tim, Dai, J., Dugan, B., Frye, M., Jones, E., McConnell, Dan, Rose, K., Ruppel, C., Shedd, W., Shelander, D., and Wood, W., (2009). Gulf of Mexico gas hydrate Joint Industry Project Leg II: Green Canyon 955 site selection: Department of Energy, 2009 Gulf of Mexico JIP – Leg II Reports, 51 pp.
- Hutchinson, D. R., Shelander, D., Dai, J., McConnell, D., Shedd, W., Frye, M., Ruppel, C., Boswell, R., Jones, E., Collett, T., Rose, K., Dugan, B., Wood, W., and Latham, T., (2008). Site Selection for DOE/JIP Gas Hydrate Drilling in the Northern Gulf of Mexico: Sixth International Conference on Gas Hydrates, Vancouver, BC., 7-10 July, (2008).
- Kim, G. L., Yoo, D. G., Ryu, B. J., Collett, T. S., Riedel, M., Kwak, J. Y., and the UBGH2 Scientists, 2011, Evidence of gas hydrate from UBGH2 log data in the Ulleung Basin, East Sea: Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), July 17-21, 2011, Edinburgh, Scotland, United Kingdom, 4 p.
- Lee, M. W., and Collett, T. S., (2011). Three types of gas hydrate reservoirs in the Gulf of Mexico identified in LWD data: Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), July 17-21, 2011, Edinburgh, Scotland, United Kingdom, 12 p.
- Lorenson, T. D., Collett T. S., Wong, F. L., (2011). A Petroleum system model for gas hydrate deposits in northern Alaska. *In* Proceeding of the 7th International Conference on Gas Hydrates (ICGH 2011), Edinburgh Scotland, United Kingdom, July 17-21, 2011, 18 p.
- McConnell, D. R., Collett, T. S., Boswell, R., Frye, M. C., Shedd, W. W., Dufrene, R., Godfriaux, P., Mrozewski, S., Guerin, G., Cook, A., and Jones, E., (2010). Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: initial results from the Green Canyon 955 Site, OTC 20801, OTC 20552, Proceedings 2010 Offshore Technology Conference, Houston, Texas May 3-6, 2010, 14 p.
- Mount Elbert Science Team, 2007, Alaska North Slope well successfully cores, logs, and tests gas-hydrate-bearing reservoirs, U. S. DOE-NETL Fire in the Ice Newsletter, Winter, 2007, available online.
- Moridis, G. J., Reagan, M. T., Boswell, R., Collett, T. S., and Zhang, K., (2010). Preliminary evaluation of the production potential of recently discovered hydrate deposits in the Gulf of Mexico, OTC 21049, Proceedings 2010 Offshore Technology Conference, Houston, Texas May 3-6, 2010, 27 p.

- Mrozewski, S., Cook, A., Guerin, G., Goldberg, D., Collett, T. S., Boswell, R., and Jones, E., (2010). Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: LWD logging program design, data acquisition and evaluation, OTC 21023, Proceedings 2010 Offshore Technology Conference, Houston, Texas May 3-6, 2010, 27 p.
- Paull, C., Dallimore, S., Hughes-Clarke, J., Blasco, S., Lundsten, E., Ussler, W., Graves, D., Sherman, A., Conway, K., Melling, H., Vagle, S., and Collett, T., (2011). Tracking the decomposition of submarine permafrost and gas hydrate under the shelf and slope of the Beaufort Sea: Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), July 17-21, 2011, Edinburgh, Scotland, United Kingdom, 12 p.
- Pohlman, J. W., Riedel, M., Novosel, I., Bauer, J. E., Canuel, E. A., Paull, C., Coffin, R. B., Grabowski, K. S., Knies, D. L., Hyndman, R. D., and Spence, G. D., (2011). Evidence and biogeochemical implications for glacially-derived sediments in an active margin cold seep. *Proceedings of the 7th International Conference on Gas Hydrates*.
- Pohlman, J. W., Riedel, M., Waite, W., Rose, K., Lapham, L., (2008). Application of Rhizone Samplers to Obtain High-Resolution Pore Fluid Records during Geochemical Investigations of Gas Hydrate Systems. *Fire in the Ice DOE-NETL Newsletter*, Fall Issue, pp 17-18.
- Rawn, C. J., Rondinone, A. J., Chakoumakos, B. C., Marshall, S. L., Stern, L. A., Kirby, S. H., Jones, C. Y., Toby, B. H., and Ishii, Y., Y., (2002). Neutron powder diffraction studies as a function of temperature of structure II hydrate formed from a methane + ethane gas mixture. Proceedings of the 4th International Conference on Gas Hydrates, Yokohama Japan, (2002). pp. 595-598.
- Ruppel, C., (2009). Methane hydrates and global climate change: a status report, American Chemical Society Division of Fuel Chemistry, Extended abstract, 54(1), 2 pp., Salt Lake City, UT.
- Ruppel, C., (2011). USGS Gas hydrates project convenes DOE workshop on climate-gas hydrates interactions, *Fire in the Ice*, DOE NETL newsletter, May edition, vol. 11(1), 18-20.
- Ruppel, C., (2011). Methane hydrates and the future of natural gas, Supplementary Paper 2.4, "The Future of Natural Gas," MIT Energy Initiative assessment study. http://mitei.mit.edu/system/files/Supplementary_Paper_SP_2_4_Hydrates.pdf
- Ruppel, C., (2012). Scientific drilling for climate-related objectives on Arctic Ocean margins (workshop report), *EOS Trans. AGU*, 93(22), 213.
- Ruppel, C., (2013). Catching climate change in progress: Drilling on circum-Arctic shelves and upper continental slopes, USSSP Workshop Report, 44 pp. http://usssp-iodp.org/wp-content/uploads/Workshop_Report_CADW.pdf
- Ruppel, C., Brothers, L., Hart, P., Maue, C., Pohlman, J., Kessler, J., Sparrow, K. J., Worley, C., (2012). "Methane dynamics associated with long-term climate change on the Beaufort Sea Inner Shelf." *Fire in the Ice*, DOE/National Energy Technology Lab Gas Hydrates Newsletter.
- Ruppel, C., Collett, T., Boswell, R., Lorenson, T., Buckzowski, B., Waite, W., (2011). A new global gas hydrate drilling map based on reservoir type, *Fire in the Ice*, US Department of Energy, Office of Fossil Energy, National Energy Technology Laboratory, 11, 1, 15-19.

- Ruppel, C. and Noserale, D., (2012). Gas hydrates and climate warming--Why a methane catastrophe is unlikely. *Sound Waves*, USGS newsletter, FY2012(140), pp. 1-3.
- Ruppel, C. and Pohlman, J. W., (2008). Climate change and carbon cycle: Perspectives and opportunities, *Fire in Ice*, DOE/National Energy Technology Lab Gas Hydrates Newsletter, pp. 5-8, January 2008.
- Ruppel, C. and Collett, T., (2013). Geological studies of methane hydrates reveal reserves with potential. *Energy Focus*, Fall edition, pp. 202-204.
- Ruppel, C. and Hamilton, H., (2014). Natural methane seepage is widespread on the US Atlantic margin. *Sound Waves*, October/November 2014.
- Santamarina, J. C., Dai, S., Jang, J., Terzariol, M., Papadopoulos, Winters, W. J., Mason, D., Waite, W., Bergeron, E., 2012, Pressure core characterization tools to enhance gas hydrate field programs, *Fire in the Ice Newsletter*, v. 12, no. 2, pp.7-9.
- Santamarina, J. C. and Ruppel, C., 2010, The impact of hydrate saturation on the mechanical, electrical, and thermal properties of hydrate-bearing sand, silts, and clay, *Proceedings of the 6th International Conference on Gas Hydrates (ICGH)*, Vancouver, 6-10 July, 12 pp.
- Sapporo Scientific Team, (2013). Pressure core analysis tools used to characterize hydrate-bearing sediments from the Nankai Trough. *Fire in the Ice Newsletter*, v. 13, no. 2, pp. 19-22 (October, 2013).
- Scholz, N., Riedel, M., Spence, G. D., Hyndman, R. D., James, T., Naegeli, K., Dugan, B., Pohlman, J. W., Hamilton, T., (2011). "Do dissociating gas hydrates play a role in triggering submarine slope failures? A case study from the northern Cascadia margin. *7th International Conference on Gas Hydrates*. July 17-21, Edinburgh, Scotland
- Shedd, W. W., and Hutchinson, D. R., (2006). Gas hydrate potential of the mid-Atlantic outer continental shelf: *Fire in the Ice Newsletter* Fall, 2006, pp. 8-9.
- Shedd, W., Hutchinson, D. R., Boswell, Ray, Collett, Tim, Dai, J., Dugan, B., Frye, M., Jones, E., McConnell, Dan, Rose, K., Ruppel, C., Shelander, D., and Wood, W., (2009). Gulf of Mexico gas hydrate Joint Industry Project Leg II: East Breaks 992 and Alaminos Canyon 21 site selection: Department of Energy, 2009 Gulf of Mexico JIP – Leg II Reports,
- Shedd, W., Frye, M., Godfriaux, P., Dufrene, R., McConnell, D., Boswell, R., Collett, T., Mrozewski, S., Guerin, G., Cook, A., Shelander, D., and Dai, J., (2010). Gulf of Mexico Gas Hydrates Joint Industry Project Leg II: results from the Walker Ridge 313 Site, OTC 20806, *Proceedings 2010 Offshore Technology Conference*, Houston, Texas May 3-6, 2010, 15 p.
- Shedd, B., P. Godfriaux, M. Frye, Boswell, R., and D. Hutchinson, (2009). "Occurrence and variety in seismic expression of the base of gas hydrate stability in the Gulf of Mexico, " *U. S. DOE-NETL Fire in the Ice Newsletter*, Winter 2009
- Shelander, D., Dai, J., Bunge, G., Boswell, R., Collett, T. S., Balczewski, J., and Jones, E., (2011). predictions of gas hydrates using pre-stack seismic data, deepwater Gulf of Mexico: *Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011)*, July 17-21, 2011, Edinburgh, Scotland, United Kingdom, 10 p.

- Solem, R. C., Kastner, M., Stern, L. A., Kirby, S. H., Vollmer, M., and Paytan, A., (2002). Synthesis of a CH₄-CFC hydrate, and an exchange experiment between a CH₄-CFC gas and pure methane hydrate. Proceedings of the 4th International Conference on Gas Hydrates, Yokohama Japan, (2002). pp. 565-570.
- Stern, L. A., 2000, Book Review of Clathrate Hydrates of Natural Gases, 2nd Edition by Sloan, E. D., Jr., for Chemical Industries Reference Books and Textbooks Series. Energy & Fuels, 14 (5), 1123-1124.
- Stern, L., Circone, S., Kirby, S., and Durham, W., (2002). New insights into the phenomenon of anomalous or “self” preservation of gas hydrate, Yokohama, Japan, Proceedings, Fourth International Conference on Gas Hydrates, May 19-23, pp. 673-677.
- Stern, L. A., and Kirby, S. H., (2008). Natural gas hydrates up close: a comparison of grain characteristics of samples from marine and permafrost environments as revealed by cryogenic SEM. Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008), Vancouver, July 2008.
- Stern, L., Kirby, S., Durham, W., Circone, S., and Waite, W., 2000, Laboratory synthesis of pure methane hydrate suitable for measurement of physical properties and decomposition behavior in Max, M., ed., Natural Gas Hydrate: In Oceanic and Permafrost Environments, Kluwer Publishers, Dordrecht, Netherlands.
- Stern, L. A., Kirby, S. H., and Circone, S., (2002). Interagency group “zooms in” on methane hydrate pore structures. In Fire in the Ice, The National Energy Technology Laboratory Methane Hydrate Newsletter, Summer 2002.
- Tait, K., Zhao, Y., Downs, R., Kirby, S., and Stern, L. 2005. Investigations into the stability, morphology, and the crystal structure of structure I and structure II methane-ethane clathrate hydrates. Proceedings of the 5th International Conference on Gas Hydrates, Trondheim, Norway, June 2005, vol. 2, pp. 541-544 (paper #2021).
- Tomutsa, L. Freifeld, B., Kneafsey, T., and Stern, L. A., (2002). X-ray computed tomography observation of methane-hydrate dissociation. Proceedings of the SPE Gas Technology Symposium, Calgary, (2002). paper # SPE 75533.
- Torres, M. E., Kim, J. H., Choi, J. Y., Ryu, B. J., Bahk, J. J., Riedel, M., Collett, T. S., Hong, W. L., and Kastner, M., (2011). Occurrence of high salinity fluids associated with massive near-seafloor gas hydrate deposits: Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), July 17-21, 2011, Edinburgh, Scotland, United Kingdom, 10 p.
- Waite, W. F., J. P. Osegovic, W. J. Winters, M. D. Max, D. H. Mason, (2008). Seeding hydrate formation in water-saturated sand with dissolved-phase methane obtained from hydrate dissolution: A progress report, 6th International Conference on Gas Hydrates, July 6-10.
- Waite, W. F., Santamarina, J. C., Rydzy, M., Chong, S. H., Grozic, J.L. H., Hester, K., Howard, J., Kneafsey, T. J., Lee, J. Y., Nakagawa, S., Priest, J., Rees, E., Koh, C., Sloan, E. D., Sultaniya, A, (2011). Inter-laboratory comparison of wave velocity measurements in a sand under hydrate-bearing and other set conditions, in Proceedings of the 7th International Conference on Gas Hydrates, Edinburgh, Scotland, United Kingdom, July 17-21, 2011, Paper 195, 11p.

- Waite, W. F., Bratton, P. M., Mason, D. H., (2011). Laboratory formation of non-cementing, methane hydrate-bearing sands, in Proceedings of the 7th International Conference on Gas Hydrates, Edinburgh, Scotland, United Kingdom, July 17-21, 2011, Paper 196, 7p.
- Waite, W. F., Osegovic, J. P., Winters, W. J., Max, M. D., Mason, D. H., (2008). "Seeding Hydrate Formation In Water-Saturated Sand With Dissolved-Phase Methane Obtained From Hydrate Dissolution: A Progress Report. Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008), Vancouver, BC, July 6-10, 2008.
- Waite, W. F., Santamarina, J. C., Rydzy, M., Chong, S. H., Grozic, J.L. H., Hester, K., Howard, J., Kneafsey, T. J., Lee, J. Y., Nakagawa, S., Priest, J., Rees, E., Koh, C., Sloan, E. D., Sultaniya, A, (2012). Overview of the Inter-laboratory comparison of wave velocity measurements in a sand with gas hydrate and other pore-filling material: DOE-NETL Newsletter, Fire in the Ice, 12(1), p.16-21.
- Wang, X., S. Wu, S. Yang, Y. Guo, and Hutchinson, D., (2011). Gas hydrate occurrence, saturations and geophysical signatures associated with fluid flow in silt-dominated reservoirs, in the Northern of the South China Sea, Proceedings of the 7th International Conference on Gas Hydrates, 7 pp.
- Winters, W. J., Waite, W. F., Mason, D. H., and Kumar, P., (2008). Physical properties of repressurized samples recovered during the 2006 National Gas Hydrate Program expedition offshore India: Proceedings of the Sixth International Conference on Gas Hydrates, Vancouver, BC, July 6-10, (2008).
- Winters, W. J., (2011). Physical and geotechnical properties of gas-hydrate-bearing sediment from offshore India and the northern Cascadia margin compared to other hydrate reservoirs, Proceedings of the 7th International Conference on Gas Hydrates (ICGH 2011), Edinburgh, Scotland, United Kingdom, July 17-21, (2011).
- Wooller, M., Ruppel, C., Pohlman, J. W., M. B. Leigh, M. Heintz, and K. Walter Anthony, 2009, Permafrost gas hydrates and climate change: Lake-based seep studies on the Alaskan North Slope, DOE NETL newsletter, Fire in the Ice, September edition, pp. 7-9.

Presentations

- Barth, G. A., Scholl, D. W., and J. R. Childs, 2003, Concentrated accumulations of natural gas and hydrate in the Aleutian Basin of the Bering Sea: Studies based on interval time anomalies, GSA Abs. w Programs, paper 258-1
- Barth, G. A., Scholl, D. W., and J. R. Childs, 2007, Evidence for focused accumulations of methane hydrate with possible resource implications for the deep water Bering Sea Basins, AGU Spring Mtg, NS54A-06.
- Barth, G. A., Scholl, D. W., and J. R. Childs, (2008). Focused accumulations of methane hydrate above deeply-buried basement highs in the deep-water Bering Sea Basins, AAPG Ann. Mtg..
- Birchwood, R., Noeth, S., Hooyman, P., Winters, W., and Jones, E., (2005). Wellbore stability model for marine sediments containing gas hydrates: Proceedings, American Association of Drilling Engineers National Conference and Exhibition, Houston, TX, April 5-7, 2005, Paper No. AADE-05-NTCE-13.

- Boswell, Ray, Hunter, Robert, Collett, Timothy, Digert, Scott, Hancock, Steve, Weeks, Micaela, Mount Ebert Science Team., (2008). "Investigation Of Gas Hydrate-Bearing Sandstone Reservoirs At The "Mount Elbert" Stratigraphic Test Well, Milne Point, Alaska. Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008), Vancouver, BC, July 6-10, (2008).
- Boswell, R. M., [invited] Collett, T. S., Frye, M., McConnell, D., Shedd, W., Shelander, D., Dai, J., Mrozewski, S., Guerin, G., Cook, A., Dufrene, R., Godfriaux, R., Roy, R., and Jones, E., (2009). Initial results of Gulf of Mexico Gas Hydrate Joint Industry Program Leg II logging-while-drilling operations: Fall Meeting of the American Geophysical Union, December 14-18, 2009, San Francisco, California, Proceedings, Abstract OS24A-02.
- Boswell, R. [invited], Balczewski, J., and Collett, T. S., (2010). United States National Strategy in Gas Hydrate Research and Development, Gulf of Mexico Gas Hydrate Joint Industry Project - International Deepwater Natural Gas Hydrate Research Collaboration: Proceedings of the International Symposium on Methane Hydrate Resources: From Mallik to the Nankai Trough, November 15-17, 2010, Tokyo, Japan, 2 p.
- Brannon, E., Kroeger, K., Ganju, N., Pohlman, J. W., Green, A., (2013). Investigating time variations in DOC concentrations for salt marsh carbon budgets: Testing continuous CDOM measurements as a proxy for DOC. *Aquatic Sciences Meeting*. Feb 17-22, New Orleans LA.
- Briggs, B. R., Hieter, J., Pohlman, J., Torres, M., Riedel, M., Rose, K., Colwell, F., (2009). "Subseafloor Macroscopic Biofilms Involved in Anaerobic Oxidization of Methane. American Geophysical Union, Dec 14-18, San Francisco, CA.
- Briggs, B. R., Inagaki, F., Morono, Y., Futagami, T., Winters, W., and Colwell, F., (2010). Bacterial dominance in subseafloor sediments characterized by gas hydrates, International Society for Microbial Ecology-13, Seattle, WA, August 22-27, (2010).
- Brothers, L. L., (2011). Estuarine pockmark field—dynamics and evolution, UNH/Center for Coastal and Ocean Mapping, March 11.
- Brothers, L. L., (2011). The thawing arctic: Alaskan nearshore permafrost/gas hydrates, WHOI Summer Student Fellow seminar series, June 13.
- Brothers, L. L., Hart, P. E., Ruppel, C., (2011). Subsea permafrost mapped across the US Beaufort Sea using multichannel seismic data. Presented at AGU Fall Meeting, Abstract GC511-06, Dec. 5-9, San Francisco, CA.
- Brothers, L. L., Hart, P. E., Ruppel, C., (2011). U. S. Beaufort Shelf Subsea Permafrost/Gas Hydrates(?) Distribution from Legacy Seismic Data, March 15, 2011, Boston, USGS-DOE Climate-Hydrates Workshop.
- Brothers, L. L., Hart, P. E., Ruppel, C., (2011). U. S. Beaufort Shelf Subsea Permafrost/Gas Hydrates(?) Distribution from Legacy Seismic Data, April 18, 2011, Washington D. C., Marine Geosciences Leadership Symposium, Consortium for Ocean Leadership.
- Brothers, L. L., Hart, P. E., and Ruppel, C., (2013). Subsea permafrost on the US Beaufort Sea Margin. Presented at Permafrost & Gas Hydrates Workshop, Jan. 14-15, Helsinki Finland.
- Brothers, L. L. et al., 2012, Mapping subsea permafrost in the US Beaufort Sea, City College of New York, USGS outreach, February.

- Brothers, L. L., Van Dover, C. L., German, C. R., Kaiser, C. L., Yoerger, D. R., Ruppel, C. D., Lobecker, E., Skarke, A. D., (2012). Evidence of extensive gas venting at the Blake Ridge and Cape Fear diapirs. Presented at American Geophysical Union Fall Meeting, Dec. 3-7, San Francisco, CA.
- Bui, T. H., Pohlman, J. W., Lapham, Riedel, M., Wing, B. A., (2010). Sulfur isotopic inferences of the controls on porewater sulfate profiles in the northern Cascadia margin gas hydrate system. *AGU Fall Meeting*, December 13-17, San Francisco, CA.
- Chou, I-M., W. Lu, and R. C. Burruss, (2010). Application of high pressure optical cell (HPOC) and fused silica capsules (FSC) to the studies of gas hydrates, Deep Carbon Cycle International Conference, Beijing, 21-25 April.
- Chuvilin, E., E. Kozlova, O. Boldina, and Winters, W., (2004). "Stability of methane gas hydrate formed in marine sediment from the northern Gulf of Mexico, St. Petersburg, Russia, Minerals of the Ocean – Integrated Strategies, April 25-30.
- Clennell, M. B., Booth, J. S., and Winters, W. J., (1999). Gas hydrates in marine sediments facts, models and conjecture: EOS Supplement, 1999 Spring Meeting, Boston, Trans. American Geophysical Union, v. 80, no. 17, p. S332.
- Clennell, M. B., Henry, P., Hovland, M., Booth, J. S., Winters, W. J., and Thomas, M., (1999). Formation of natural gas hydrates in marine sediments, gas hydrate growth and stability conditioned by host sediment properties: Third International Conference on Gas Hydrates, Program and Abstracts, Salt Lake City, Utah, July 18-22, (1999).
- Coffin, R. B., Hamdan, L. Wood, W., Pohlman, J. W., Smith, J., Pecher, I., (2007). Estimates of vertical methane fluxes in Poranghau Ridge sediment on the Hikurangi Margin, New Zealand. American Geophysical Union, Dec 10-14, San Francisco, CA.
- Collett, T., (2004). "Arctic gas hydrate resources, Tromso, Norway, Proceedings of the Conference on Arctic Geologic, Resources, and Environmental Challenges, May 24-26.
- Collett, T., (2008). "Geology of Marine Gas Hydrates and Their Global Distribution," 2008 Offshore Technology Conference held in Houston, TX, May 5-8.
- Collett, T., (2008). Geologic Controls on the Occurrence of Gas Hydrates in the Indian Continental Margin: Results of the Indian National Gas Hydrate Program (NGHP) Expedition 01, 2008 American Association of Petroleum Geologists Annual Meeting, San Antonio, Texas, April 20-23.
- Collett, T., Riedel, M., Boswell, R., J. Cochran, P. Kumar, A. Sathe, M. Lall, V. Sibal, and the NGHP Expedition 01 Scientific Party, (2008). Offshore India Gas Hydrate Prospects – Results of the Indian National Gas Hydrate Program (NGHP) Expedition 01, presented at the National Gas Hydrate Program (NGHP) Gas Hydrate Conference, New Delhi, India, Feb. 6-8.
- Collett, T., Uchida, T., Dallimore, S., T. Mroz, and Lee, M., (1998). Downhole well log evaluation of gas hydrates in the Mallik 2L-38 well, Mackenzie Delta, N.W. T., Chiba City, Japan, International Symposium on Methane Hydrates, JNOC-TRC, October 20-22.
- Collett, T. S., (2007). Geologic controls on the occurrence of permafrost-associated natural gas hydrates, 9th International Conference on Permafrost, Fairbanks, Alaska, June 29-July 3.

- Collett, T. S., (2008). Assessment of gas hydrate energy resources: December 2, (2008). MIT (Cambridge, MA). Presentation in the MIT/USGS ENI Methane Hydrate Seminar Series.
- Collett, T. S., Agena, W. F., Lee, M. W., Zyrianova, M. V., Bird, K. J., Charpentier, R. R., Cook, T., Houseknecht, D. W., Klett, T. R., Pollastro, R. M., and Schenk, C. J., (2008). Assessment of gas hydrate resources on the North Slope, Alaska, 2008: Series of Power Point Presentations prepared for Department of Interior and Congressional briefings presented in Washington DC, November 17-21, (2008). (hard copy and on CD-ROM).
- Collett, T. S., Agena, W. F., Lee, M. W., Zyrianova, M. V., Bird, K. J., Charpentier, R. R., Cook, T., Houseknecht, D. W., Klett, T. R., Pollastro, R. M., and Schenk, C. J., (2008). Assessment of gas hydrate resources on the North Slope, Alaska: Fall Meeting of the American Geophysical Union, December 15-19, (2008). San Francisco, California, Proceedings, Abstract OS43F-08.
- Collett, T. S., Dallimore, S. R., and Paull, C., (2008). Fate of methane released on the Arctic Shelf from thawing permafrost and decomposing gas hydrate: Proceedings of the IODP Arctic Ocean History Workshop, from speculation to reality, November 3-5, (2008). Bremerhaven, Germany, 2 p., (abstract, presentation).
- Collett, T. S., et al., (2008). U. S. Geological Survey gas hydrate energy resource studies: Proceedings of the NRC Committee reviewing the activities authorized under the Methane Hydrate research Development Act (renewal) of 2005, 38 p. (presentation only)
- Collett, T. S., Ruppel, C., Dallimore, S., and Paull, C., (2011). Degrading permafrost and gas hydrates on the Beaufort Sea Shelf with a special focus on research downhole logging and coring technologies: Proceedings of the Deep Sea and Sub-Seafloor Frontier Workshop, May 30-31, 2011, Tomso, Norway, 2 p.
- Collett, T. S., (2011). Gas hydrates energy resources - gas hydrate petroleum systems: Proceedings of the 7th International Conference on Asian Marine Geology, October 11-14, 2011, CSIR-National Institute of Oceanography, Goa, India, 2 p.
- Collett, T. S., and Dallimore, S., (2011). State-of-the-art scientific drilling operations and technology: Proceedings of the International Workshop on Catching Climate Change in Progress: Drilling on Circum-Arctic Shelves and Upper Continental Slopes, December 10-11, 2011, San Francisco, California, 1 p.
- Collett, T. S., (2011). The 2006 Indian National gas Hydrate Program Expedition 01: Operations and scientific results. Proceedings of the International Workshop on Scientific Drilling in the Indian Ocean, Oct. 17-18, 2011, Goa, India.
- Collett, T. S., (2011). 2016, Gas Hydrate Field Production Testing: Lessons Learned and Future Plans, presented at the Gordon Research Conference on Natural Gas Hydrate Systems in Galveston, TX, February 28 – March 4, (2016).
- Colwell, F., Hangsterfer, A., Brodie, E., Daly, R., Holland, M., Briggs, B., Carini, P., Torres, M., Kastner, M., Long, P., Schaefer, H., Delwiche, M., Winters, B., and the NGHP Expedition-01 Scientific Party, (2008). Fine scale control of microbial communities in deep marine sediments that contain hydrates and high concentrations of methane: Results from NGHP Expedition 01: International Conference on Gas Hydrates, Noida, India, Feb. 6-8, (2008). pp. 44-45.

- Cooper, A., and Hart, P., (2002). Seismic studies of the gas-hydrate stability zone, northern Gulf of Mexico, Yokohama, Japan, 4th International Conference on Gas Hydrates, May 19-23.
- Delwiche, K., Scandella, B., Juanes, R., Ruppel, C. D., and Hemond, H., (2013). Deploying methane bubble traps at varying lake depths to validate bubble dissolution models. Presented at American Geophysical Union Fall Meeting, Dec. 9-13, San Francisco, CA.
- Dillon, W., and M. Max, (2001). Gas hydrate in sea-floor sediments: impact on future resources and drilling safety, Houston, TX, Offshore Technology Conference, April 30-May 3.
- Disenhof, C., Wooller, M., Pohlman, J. W., Rose, K., (2011). "Lithology of alaskan thermokarst lake facilitates methane flux. *American Geophysical Union*. Dec. 5-9, San Francisco, CA.
- Du Frane, W. L., Stern, L. A., Constable, S., Roberts, J. J., Weitemeyer, K. A., (2011). Electrical properties of methane hydrate + sediment mixtures. AGU Fall Meeting, OS12A-03, Dec. 5-9, San Francisco, CA.
- Dugan, B., J. Germaine, Winters, W., and P. Flemings, (2003). Near-seafloor overpressure in the Deep water Gulf of Mexico interpreted from laboratory experiments, San Francisco, CA, American Geophysical Union Fall Meeting, December 8-12.
- Dugan, B., J. Germaine, Winters, W., and P. Flemings, (2004). Laboratory constraints and models of pressure, hydrate, and stability in shallow Mississippi Canyon sediments (MC 855), deepwater Gulf of Mexico, Dallas, TX, The American Association of Petroleum Geologists Annual Meeting, April 18-21.
- Durant, A. J., Lund-Myhre, C., Mienert, J., Myhre, G., Stohl, A., Isaksen, I., Pisso, I., Greinert, J., Nibet, E., Paris, J., Pyle, J. A., Belan, B. D., Ruppel, C. D., Schlager, H., and Spahni, R., (2013). Methane emissions from the Arctic Ocean to the Atmosphere: Present and future climate effects (MOCA). Presented at American Geophysical Union Fall Meeting, Dec. 9-13, San Francisco, CA.
- Edwards, B. D., Saint-Ange, F., Pohlman, J., Higgins, J., Mosher, D. C., Lorenson, T. D., and Hart, P. E., (2011). Sedimentology of cores recovered from the Canada Basin of the Arctic Ocean. Abstract PP33A-1915 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 5-9 Dec.
- Elliott, K., Van Dover, C. L., German, C. R., Kaiser, C. L., Brothers, L., Yoerger, D. R., Kinsey, J. C., Coleman, D. F., Martinez, C., Pinner, W., and Kennedy, B. R., (2012). Integrating telepresence technologies with AUV operations for exploration of cold seep communities in the vicinity of Blake Ridge and Cape Fear Diapirs in the Western Atlantic. Abstract OS51D-1914. Presented at American Geophysical Union Fall Meeting, Dec. 5-9, San Francisco, CA.
- Ellis, M., R. Evans, Hutchinson, D., and Hart, P., (2005). An electromagnetic survey of the JIP drill sites in Atwater Valley, paper OS31D-07, American Geophysical Union Fall Meeting, December 5-9.
- Elvert, M., Hinrichs, K-U, Wooller, M., Gaglioti, B., Becker, K., Pohlman, J. W., (2011). "Carbon and hydrogen isotope biomarker records of methane release and hydroclimatic variability from a thermokarst lake in the Alaskan Arctic. *International Meeting on Organic Geochemistry*. Sept. 18-23, Interlaken, Switzerland.

- Gilbert, L., Waite, W., Winters, W., and Mason, D., (2004). Characterization of Gulf of Mexico sediment in hydrate and non-hydrate bearing cores using specific surface area, San Francisco, CA, American Geophysical Union Fall Meeting, December 13-17.
- Gilhooly, W. P., Ruppel, C., G. R. Dickens, P. Berg, and S. A. Macko, (2010). Flux rates and sulfur isotopic composition of pore fluids from three mud volcanoes in the northern Gulf of Mexico, AGU Fall Meeting, Abstract OS52B-03.
- Godfriaux, R., Shedd, W., Frye, M., Collett, T. S., Lee, M. W., Boswell, R. M., Cook, A., Mrozewski, S., Guerin, G., McConnell, D., Dufrene, R., and Jones, E., (2009). Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Results from the Alaminos Canyon 21 Site: Fall Meeting of the American Geophysical Union, December 14-18, 2009, San Francisco, California, Proceedings, Abstract OS31A-1202.
- Haacke, R., Riedel, M., J. Pohlman, Rose, K., Lapham, L., T. S. Hamilton, R. Enkin, Spence, G. D., and Hyndman, R. D., (2008). A recent investigation of gas hydrate as a factor in northern Cascadia accretionary margin frontal ridge slope failures and cold seep biogeochemistry. American Geophysical Union, Dec 15-19, San Francisco, CA.
- Haines, S. S., (2013). Hot off the presses: Latest results from 2013 OBS and high-res 2D seismic acquisition at two gas hydrate study sites in the Gulf of Mexico, April-May 2013, July 11, 2013, Boise State University, invited talk.
- Haines, S. S., Hart, P. E., Ruppel, C., Collett, T. S., Shedd, W., Lee, M., and Miller, J., (2012). Multicomponent 3-D and high-resolution 2-D seismic characterization of gas hydrate study sites in the Gulf of Mexico. Abstract OS43B-1808, presented at American Geophysical Union Fall Meeting, Dec. 3-7, San Francisco, CA.
- Haines, S., Hart, P., Shedd, W., Frye, M., Agena, W., Miller, J., and Ruppel, C., (2013). Seismic investigation of gas hydrates in the Gulf of Mexico: Results from 2013 high-resolution 2D and multicomponent seismic surveys. Presented at American Geophysical Union Fall Meeting, Dec. 9-13, San Francisco, CA.
- Hart, P., Lorenson, T., A. Grantz, B. Herman, (2006). Gas hydrate and associated free gas across the Alaskan Beaufort Sea outer continental margin (abs.), Edinburgh, Scotland, 5th International Workshop on Methane Hydrate Research and Development, October 9-12.
- Hart, P. and Ruppel, C., (2012). Gas hydrates on the Beaufort outer continental slope, IODP workshop on Beaufort Sea drilling, February 12-15, Kananaskis, Alberta.
- Hart, P. and Ruppel, C., (2012). Proposed *R/V Sikuliaq* survey to constrain methane dynamics on the Beaufort upper continental slope, Sikuliaq workshop, February 18-19, Salt Lake City, UT.
- He, R., Wooller, M. J., Pohlman, J. W., Quensen, J., Tiedje, J. M., Leigh, M. B., (2011). "Diversity of aerobic methanotrophs and their response to temperature changes in arctic lake sediments. *American Geophysical Union*. Dec. 5-9, San Francisco, CA.
- He, R., Leigh, M. B., Pohlman, J. W., and Wooller, M. J., (2011). Active methanotrophs and their response to temperature changes in arctic lake sediments. Abstract B13F-0641 presented at American Geophysical Union Fall Meeting, Dec 5-9, San Francisco, CA.

- Heintz, M. B., Pohlman, J. W., Wooller, M., Ruppel, C., Elvert, M., and Valentine, D. L., (2010). Ice Cover Enhances Methane Consumption in Alaskan Thermokarst Lakes, AGU Fall Meeting, Abstract GC51J-03.
- Helgerud, M., Circione, S., Stern, L., Kirby, S., and Lorenson, T., (2002). Measured temperature and pressure dependence of compressional and shear wave speeds in compacted, polycrystalline sII methane-ethane hydrate, Yokohama, Japan, 4th International Conference on Gas Hydrates, May 19-23
- Helgerud, M., Waite, W., Stern, L., and Kirby, S., (2005). Effects of fracture and crack healing in sI methane and sII methane-ethane hydrate, paper OS43A-0605, American Geophysical Union Fall Meeting, December 5-9.
- Helgerud, M., Waite, W., Kirby, S., and A. Nur, (2002). Measured Temperature and Pressure Dependence of Compressional and Shear Wave Speeds in Polycrystalline sI Methane Hydrate and Polycrystalline Ice Ih, Yokohama, Japan, 4th Fourth International Conference on Gas Hydrates, May 19-23.
- Heuer, V., Pohlman, J., Elvert, M., Hinrichs, K., (2007). Biogeochemistry of acetate in the deep marine biosphere – new insights from stable carbon isotopic investigations. GV International Conference, October 1-5, Bremen Germany.
- Heuer, V., Pohlman, J. W., Elvert, M., Hinrichs, K., (2007). Molecular-isotopic studies of subsurface carbon turnover in hydrate-bearing sediments at the Cascadia Margin (IODP Expedition 311). IODP-ICDP-Kolloquium, March 19-21, Potsdam Germany.
- Heuer, V. B., Lorenson, T., Pohlman, J. W., Lever, M. A., Yoshinaga, M., Elvert, M., Hinrichs, K., (2009). The stable carbon isotope biogeochemistry of acetate in sediments from the NE Pacific: a synthesis. International Meeting on Organic Geochemistry, Sept 9-13, Bremen, Germany.
- Heuer, V. B., Lorenson, T., Pohlman, J. W., Lever, M. A., Yoshinaga, M., Elvert, M., Hinrichs, K., (2009). The stable carbon isotope biogeochemistry of acetate in sediments from the NE Pacific: a synthesis. International Meeting on Organic Geochemistry, Sept 9-13, Bremen, Germany.
- Heuer, V. B., Lorenson, T., Pohlman, J. W., Lever, M. A., Yoshinaga, M., Elvert, M., Hinrichs, K., (2009). The stable carbon isotope biogeochemistry of acetate in sediments from the NE Pacific: a synthesis. International Meeting on Organic Geochemistry, Sept 9-13, Bremen, Germany.
- Heuer, V. B., Pohlman, J. W., Torres, M. E., Lever, M. A., Elvert, M., Hinrichs, K.-U., (2009). The stable carbon isotope biogeochemistry of acetate in sediments from the NE Pacific: a synthesis. IODP-ICDP-Kolloquium, March 19-21, Potsdam Germany.
- Hornbach, M. J., B. J. Phrampus, C. D. Ruppel, and P. E. Hart, (2012). The role of ocean circulation on methane hydrate stability and margin evolution (invited), AGU Fall Meeting, T52B-07.
- Hunt, A., Stern, L., Pinkston, J., Pohlman, J., and Ruppel, C., (2010). Noble gas fingerprinting of gas emissions, DOE Investigators' Conference, poster only, January 25.

- Hunt, A., Pohlman, J., Stern, L., Pinkston, J., Ruppel, C., Landis, G., (2010). Noble gas fractionation in synthetic methane hydrates. Geological Society of America National Meeting, Denver, Nov. 2010.
- Hunt, A., Pohlman, J., Stern, L., Ruppel, C., Moscati, R., Landis, G., Pinkston, J., (2011). Observations of mass fractionation of noble gases in synthetic methane hydrate. International Conference on Gas Geochemistry 2011, La Jolla, Dec. 2011.
- Hunter, R., S. Digert, S. Wilson, Collett, T., and Boswell, R., (2007). Gas hydrate resource potential, AAPG Annual Meeting, Long Beach, CA., April, (2007).
- Hutchinson, D., (2006). Heterogeneity and dynamics in gas hydrate occurrence: lessons learned from the northern Gulf of Mexico, Kauai, HI, Engineering Conferences International, Science and Technology Issues in Methane Hydrates R&D, March 5-9.
- Hutchinson, D., Ruppel, C., Pohlman, J., Hart, P., Dugan, B., Snyder, F., and Coffin, R., (2004). "An integrated geological, geophysical, and geochemical analyses of subsurface gas hydrates in the northern Gulf of Mexico, Vancouver, BC," *The American Association of Petroleum Geologists Hedberg Research Conference*, September 12-16.
- Hutchinson, D., Ruppel, C., Pohlman, J., Hart, P., Snyder, F., Dutta, N., Dugan, B., and Coffin, R., (2005). "Geophysical and geochemical characterization of the hydrate stability zone in a region of active salt tectonics, Keathley Canyon, Northern Gulf of Mexico," *Fourth International Workshop on Methane Hydrate Research and Development*, Victoria, BC, May 2005.
- Hutchinson, D., Ruppel, C., Collett, T., Pohlman, J., Hart, P., and Snyder, F., (2006). "Minibasins and subsurface gas hydrate in the Gulf of Mexico," *17th International Sedimentological Congress*, Fukuoka, Japan, August 27-September 1.
- Hutchinson, D., Snyder, F., Hart, P., Ruppel, C., Pohlman, J., Wood, W., Coffin, R., and M. Edwards, (2005). "Geologic and site survey setting for JIP Gulf of Mexico gas hydrate drilling," American Geophysical Union Fall Meeting, San Francisco, CA, December 5-9.
- Hutchinson, D., Hart, P., Dugan, B., Geresi, E., Sliter, R., and Newman, K., (2003). "Subsurface gas hydrates in the northern Gulf of Mexico," *Geological Society of America, Volume 34, n. 7*, November 2-5.
- Hutchinson, D., Hart, P., Ruppel, C., Snyder, F., Dutta, N., Wood, W., Pohlman, J., Dugan, B., Fowler, M., Evans, R., Fornari, D., and Coffin, R., (2005). "Multidisciplinary studies contrasting gas hydrate occurrence at two sites in the northern Gulf of Mexico," *Offshore Technology Conference*, May 2-5.
- Hutchinson, D., Hart, P., Snyder, F., Lee, M., Dutta, N., Muller, L., Dugan, B., Ruppel, C., Wood, W., Coffin, R., Evans, R., and Jones, E., (2003). "Evidence of subsurface gas hydrate in the northern Gulf of Mexico," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 8-12.
- Hutchinson, D. R., Hart, P. E., Collett, T. S., Edwards, K. M., Twichell, D. C., and Snyder, F., (2007). "Geologic Framework of the 2005 Keathley Canyon Gas Hydrate Research Well, Northern Gulf of Mexico," *EOS, Trans. American Geophysical Union, 88(23), Jt. Assemb. Suppl., Abstract NS54A-03*.

- Hutchinson, Deborah R., Shelander, Dianna, Dai, Jianchun, McConnel, Dan, Shedd, William, Frye, Matthew, Ruppel, Carolyn, Boswell, Ray, Jones, Emrys, Collett, Timothy S., Rose, Kelly, Dugan, Brandon, Wood, Warren, Latham, Thomas., (2008). "Site Selection For DOE/JIP Gas Hydrate Drilling In The Northern Gulf Of Mexico," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10, 2008.
- Hutchinson, D. et al., (2008). "Site selection for the Next Phase of JIP Deepwater Gulf of Mexico Methane Hydrates Drilling," *Testimony to the NRC Committee reviewing the activities authorized under the Methane Hydrate research Development Act (renewal) of 2005*, Washington, DC, March 4.
- Jones, Keith W., Feng, Huan, Tomov, Stanmire, Winters, William J., Eaton, Michael, and Mahajan, Devinder, (2005). "Characterization of methane hydrate host sediments using synchrotron-computed microtomography (CMT)," *Preprints, American Chemical Society national meeting*, San Diego, CA, March 13-17.
- Joseph, C., Torres, M., Martin, R., Rose, K., Pohlman J. W., Riedel, M., (2011). "Methane sources, fluid flow, and diagenesis along the northern Cascadia Margin: Using the carbonate record to link modern fluid flow to the past. *American Geophysical Union*. Dec. 5-9, San Francisco, CA.
- Joseph, C. E., Torres, M. E., Martin, R. A., Rose, K., Ryan, T., Snyder, G., and Pohlman, J. W., (2010). "New insights on methane cycling from analyses of carbonate samples from the Cascadia Margin," *AGU Fall Meeting*, December 13-17, San Francisco, CA
- Kaneko, M, Shingai, H., Pohlman, J. W., Naraoka, H., (2007). "Bulk organic matter and hydrocarbon biomarker compositions within accretionary sediments at the northern Cascadia margin gas hydrate system (IODP EXP311)," *American Geophysical Union*, Dec 10-14, San Francisco, CA.
- Kastner, M. , Spivack, A. J. , Torres, M. , Solomon, E. A. , Borole, D. V. , Robertson, G. , Das, H. C., (2008). "Gas Hydrates in Three Indian Ocean Regions, A Comparative Study of Occurrence and Subsurface Hydrology," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Katsube, T. J., Dallimore, S. R., Uchida, T., Jenner, K. A., Winters, W., and Collett, T., (1999). "Petrophysical characteristics of formations hosting gas-hydrates at the Mallik 2L-38 well site, N.W. T., Canada," *Third International Conference on Gas Hydrates, Program and Abstracts*, Salt Lake City, Utah, July 18-22.
- Kelley, J. T., Brothers, L. L., and Belknap, D. F., (2012). "Northeast pockmark fields: Shallow marine liquefaction landforms resulting from seismic events?," *Presented at the Northeastern Section GSA Meeting, GSA Abstracts with Programs, Vol. 41, No. 3*, Hartford, CT, Mar. 18-20.
- Kneafsey, T., Waite, W., Lu, H., Moridis, G. J., Winters, W., Hunter, R., and Walker, M., (2009). "Hydrate-bearing sample alteration from core retrieval, handling, and preservation (Abstract)," *American Association of Petroleum Geologists Annual Meeting*, Denver, CO, June 7-10, 2009, p. 117.

- Long, P. E., Schaef, H. T., Torres, M. E., Holland, M., Schultheiss, P., Kastner, M., Solomon, E., Winters, W. J., and the NGHP Expedition-01 Scientific Party, (2008). "Infrared (IR) imaging results from NGHP Expedition 01: Implications for gas hydrate abundance and correlation to physical properties and pore-water chemistry," International Conference on Gas Hydrates, Noida, India, Feb. 6-8, (2008). p.38-39.
- Lorenson, T., (2008). "Geochemistry of Hydrocarbon Gases and Volatile Organic Acids from Sediments, Results from the India NGHP Expedition 01," National Gas Hydrate Program (NGHP) Gas Hydrate Conference, New Delhi, India, Feb. 6-8.
- Lorenson, T. D., Winters, W., Hart, P. E., and Paull, C. K., (2002). Gas Hydrate Occurrence in the Northern Gulf of Mexico Studied with Giant Piston Cores: EOS, Transactions, American Geophysical Union, v. 83, n. 51, Dec., pp. 601, 607-608.
- Lorenson T. D., Collett, T. S., (2011). "Geochemical Evidence for Gas Hydrate Occurrences in Northern Alaska," AAPG annual meeting, Houston, TX, AAPG Search and Discovery Article 90124.
- Lorenson, T. D., Collett, T. S., and Schoderbek, D. A., (2012). Geochemical evidence for gas hydrate occurrences in ConocoPhillips gas hydrate production test well, North Slope, Alaska, AAPG 2012 Annual Convention and Exhibition, April 22-25, Long Beach, CA.
- Lorenson, T. D., Collett, T. S., and the Ignik Sikumi Scientific Party, (2012). Geochemical monitoring of gas hydrate production by CO₂/CH₄ exchange in the Ignik Sikumi gas hydrate production test well, Alaska North Slope, Abstract OS33E-04 presented at the American Geophysical Union Fall Meeting, Dec. 3-7, San Francisco, CA.
- Lorenson, T. D., Hart, P.E, Pohlman, J., Edwards, B.D, (2011). Sources and Implications of Hydrocarbon Gases from the Deep Beaufort Sea, Alaska. Abstract PP33A-1918 presented at 2011 Fall Meeting, AGU, San Francisco, CA, 5-9 Dec.
- Lorenson, T., Winters, W., Paull, C., and Ussler, W., (2003). Gas hydrate occurrence in the northern Gulf of Mexico studies with giant piston cores from sea-floor vents to minibasins, Seattle, WA, The American Association of Petroleum Geologists Annual Meeting, November 2-5.
- Lorenson, T., Winters, W., Paull, C., and Ussler, W., (2003). "Gas hydrate occurrence in the northern Gulf of Mexico studies with giant piston cores from sea-floor vents to minibasins, Nice, France, EGS-AGU-EUG Joint Assembly, April 6-11.
- Lorenson, T., Winters, W., Paull, C., and Ussler, W., (2006). Is gas hydrate and the Storegga Slide offshore Norway connected to an active petroleum system?, Houston, TX, The American Association of Petroleum Geologists Annual Meeting, April 9-12.
- Lorenson, T., Winters, W., Paull, C., Ussler, W., and J. Dougherty, 2003, Modeling gas hydrate occurrences in the northern Gulf of Mexico from giant piston cores, Seattle, WA, Geological Society of America Annual Meeting, November 2-5.
- Lorenson, T., Winters, W., Paull, C., Ussler, W., and the Shipboard Scientific Party, 2003, Gas hydrate occurrence in the northern Gulf of Mexico: new insights learned from giant piston coring, Salt Lake City, UT, The American Association of Petroleum Geologists Annual Meeting.

- Lorenson, T., Winters, W., Hart, P., and Paull, C., (2002). Gas hydrate occurrence in the Northern Gulf of Mexico studied with giant piston cores, American Geophysical Union Fall Meeting, December 6-10.
- Malinverno, A., Pohlman J. W., (2009). "Diagenetic modeling of sulfate reduction in sediment sequences overlying methane hydrate. American Geophysical Union, Dec 14-18, San Francisco, CA.
- Maue, C., Yvon-Lewis, S. A., Kessler, J. D., Pohlman, J. W., Bergeron, E., Worley, C., Ruppel, C. D., Sparrow, K. 2012. Monitoring methane fluxes with an integrated seawater equilibrator and cavity ring-down spectrometer (CRDS): System validation and application. *Ocean Sciences Meeting*. Feb 20-24, Salt Lake City, UT.
- McConnell, D., Boswell, R. M., Collett, T. S., Frye, M., Shedd, W., Mrozewski, S., Guerin, G., Cook, A., Shelander, D., Dai, J., Dufrene, R., Godfriaux, R., Roy, R., and Jones, E., (2009). "Initial results of Gulf of Mexico Gas Hydrate Joint Industry Program Leg II logging-while-drilling operations in Green Canyon Block 955," *Fall Meeting of the American Geophysical Union, December 14-18, 2009, San Francisco, California, Proceedings, Abstract OS24A-03*.
- Pack, M. A., Pohlman, J., Ruppel, C., and X. Xu, (2012). "Low-level ^{14}C methane oxidation rate measurements modified for remote field settings," *AGU Fall Meeting, OS43B-1823*.
- Paull, C., Ussler, W., Winters, W., and Lorenson, T., (2003). "Constraints on the distribution of gas hydrates in the Gulf of Mexico," *EGS-AGU-EUG Joint Assembly, Nice, France, April 6-11*.
- Paull, C. K., Ussler, W. I. III, Keaton, R., Holbrook, W. S., Hill, T., Mieneri, J., Halfidison, H., Johnson, J., Winters, W. J., Lorenson, T. D., and Aiello, I., (2006). "Assessing methane release from the colossal Storegga submarine landslide," *Eos, Transactions, American Geophysical Union, Fall Meeting Supplement, San Francisco, CA, December 11-15*.
- Pecher, I. A., Booth, J. S., Winters, W. J., Mason, D. H., Relle, M. K., and Dillon, W. P., (1999). "Gas hydrate distribution in sands – results from seismic laboratory studies," *EOS Supplement, 1999 Spring Meeting, Boston, Trans. American Geophysical Union, v. 80, no. 17, p. S338*.
- Pohlman, J. W., Bauer, J. E., Osburn, C. L., Coffin, R. B., (2007). "Carbon isotope evidence (^{13}C and ^{14}C) for fossil methane-derived dissolved organic carbon from gas hydrate bearing cold seeps," *Goldschmidt Conference, Cologne, Germany, August 19-24*.
- Pohlman, J. W., Bauer, J. E., Waite, W. F., Osburn, C. L., Chapman, N. R. "Methane hydrate-bearing seeps as a source of aged dissolved organic matter to the oceans," *Ocean Sciences Meeting, Portland, OR, Feb 22-26*.
- Pohlman, J. W., Elvert, M., Rossel, P., Hinrichs, K., (2009). "Distribution of polar and apolar lipids within biogeochemical regimes of a gas hydrate-bearing hydrocarbon cold seep," *International Meeting on Organic Geochemistry, Bremen, Germany, Sept 9-13*.
- Pohlman, J. W., Kaneko, M., Heuer, V., Coffin, R.B, Whiticar, M., (2007). "Gas source characterization of the gas hydrate bearing northern Cascadia margin accretionary system: biogeochemical controls," *IODP Expedition Post-Cruise Meeting, Paris, France, April 22-23*.

- Pohlman, J. W., Kessler, J. K., Maue, C., Yvon-Lewis, S. A., Ruppel, C. D., Brothers, L., Sparrow, K., Bergeron, E., Worley, C., (2012). "Methane Fluxes to the atmosphere from thawing submarine permafrost in the shallow Beaufort Sea, Alaska," *Ocean Sciences Meeting*, Salt Lake City, UT, Feb 20-24.
- Pohlman, J. W., Kim, Ji-Hoon, Heuer, V. B., Osburn, C. L., (2009). "Availability of Dissolved Organic Carbon (DOC) In the Northern Cascadia Margin Gas Hydrate System: Results from IODP Expedition 311," *American Geophysical Union*, San Francisco, CA, Dec 14-18.
- Pohlman, J., Lorenson, T. D., Hart, P.E, Ruppel, C. D., Joseph, C., Torres, M. E., Edwards, B.D, (2011). "Evidence for Freshwater Discharge at a Gas Hydrate-Bearing Seafloor Mound on the Beaufort Sea Continental Slope," *Abstract GC41B-0813, AGU Fall Meeting*, San Francisco, CA, Dec 5-9.
- Pohlman, J., Pack-Woo, M., Xu., X., Ruppel, C., Casso, M., and Worley, C., (2012). "Seawater methane flux, methane oxidation rates, and methane sources on the Central US Beaufort Shelf," *Abstract OS33E-06, AGU Fall Meeting*, San Francisco, CA, Dec. 5-9.
- Pohlman, J. W., Riedel, M., Waite, W., Rose, K., Lapham, L., T. S. Hamilton, R. Enkin, Spence, G. D., R. D. Hyndman and R. Haacke, (2008). "Geochemical Investigation of Slope Failure on the Northern Cascadia Margin Frontal Ridge," *American Geophysical Union*, San Francisco, CA, Dec 15-19.
- Pohlman, J. W. and others, (2013). "Methane emissions from a shallow gas seep in the Dutch North Sea: An analog for bubbling Arctic methane systems?," *PERGAMON*, Kiel, Germany November 2013.
- Pohlman, J. W. and others, (2014). "Methane distribution and flux in the western Arctic Ocean, (Poster)," *the Gordon Research Seminar and Conference on Natural Gas Hydrate Systems*, Galveston, TX March 23-28.
- Pohlman, J. W., Greinert, J., Silyakova, A., Casso, M., Ruppel, C. D., and Mienert, J., (2015). Atmospheric methane emissions along the western Svalbard margin. Presented at AGU Fall Meeting, Dec. 14-18, (2015).
- Powell, C. L., Valentich-Scott, P., Lorenson, T. D., Edwards, B.D, (2011). "Megafauna recovered from a cold hydrocarbon seep in the deep Alaskan Beaufort Sea, including a new species of *Axinus* (Thracidae: Bivalvia: Mollusca)," *Abstract PP33A-1917, 2011 Fall Meeting, AGU*, San Francisco, CA, 5-9 Dec.
- Rehder, G., Kirby, S., Durham, W., P. Brewer, Stern, L., E. Peltzer, and Pinkston, J., (2001). "Dissolution rates of synthetic methane hydrate and carbon dioxide hydrate in undersaturated seawater at 1000m depth," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 10-14.
- Riedel, M., Yu, P., Collett, T., Lorenson, T., Paull, C., Collett, T., and Dallimore, S., (2008). "Methane seepage from the Arctic Shelf, 20 Years of research on the Beaufort Sea Margin," *Abstract U23D-0086, Fall Meeting of the American Geophysical Union*, San Francisco, California, December 15-19.

- Riedel, M., Mair, Stephanie, Collett, Timothy S., Kumar, P., Sathe, A. V., (2008). "Seismic Mapping Of Gas Hydrate Deposits In The Krishna-Godavari Basin Offshore India," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Ruppel, C., (2008). "Multiscale heterogeneity in methane flux regimes between and within major marine gas hydrate provinces," *EOS Trans. AGU, 89(53), Fall Mtg Supplement, Abstract OS31D-02*.
- Ruppel, C., (2008). "Before Production...The Challenges of Finding and Evaluating Gas Hydrates," *MIT/USGS ENI Methane Hydrate Seminar Series*, Cambridge, MA, October.
- Ruppel, C., (2008). "Methane Hydrates and Methane Seeps: The Potential of Biogeophysical Measurements for Identifying Microbial Hotspots," *AGU Chapman Conference on Biogeophysics*, Portland, ME, October 2008.
- Ruppel, C., (2008). "State of the art in climate change-gas hydrates research," *DOE Methane Hydrates Federal Advisory Committee*, La Jolla, CA.
- Ruppel, C., (2009). "An assessment of methane hydrates as an energy resource," *MIT Energy Initiative Natural Gas Study*, MIT, Cambridge MA, February 2.
- Ruppel, C., (2009). "Non-seismic geophysical methods for detection and characterization of resource-grade marine hydrates," *Testimony to the NRC panel to assess the DOE Methane Hydrates R&D program*, Washington, DC, March 4.
- Ruppel, C., (2009). "Methane Hydrate Resource Assessment," *Presentation to the Advisory Committee for the MIT Energy Initiative Natural Gas Study*, MIT, Cambridge, MA, March 24.
- Ruppel, C., (2009). "Methane hydrate degassing and global climate change," *USGS Reston—Headquarters presentation*, April 9.
- Ruppel, C., (2009). "USGS Gas Hydrates Project Plans: Methane hydrate degassing and global climate change," *USGS Menlo Park-Coastal and Marine Geology and USGS Alaska Science Center*, Anchorage, AK, April.
- Ruppel, C. et al., (2009). "Site selection for JIP Phase III drilling," *JIP meeting*, Houston, TX, August 18.
- Ruppel, C., (2009). "Climate change and Arctic gas hydrates," *USGS Woods Hole Field Center All-Hands presentation*, Woods Hole, November 3.
- Ruppel, C., Walter, K., Pohlman, J., and M. Wooller, (2009). "Gas Hydrates and Perturbed Permafrost: Can Thermokarst Lakes Leak Hydrate-Derived Methane?," *EOS Trans. AGU, 89(53), Fall Mtg Supplement, Abstract U23D-0084*.
- Ruppel, C. et al., (2010). "USGS activities under the DOE-USGS interagency agreement," *DOE Investigators' Meeting*, Atlanta, GA, January 25.
- Ruppel, C., (2010). "Climate Change in Alaska: What's Hot—Methane Hydrates," *Alaska Forum on the Environment*, Anchorage, April 8.
- Ruppel, C., (2010). "US Federal Government Activities on Gas Hydrates as a Potential Resource," *C-Core Workshop on Gas Hydrates as a Resource in Maritime Canada*, St. Johns, Newfoundland, March 23-24.

- Ruppel, C., (2010). "Methane hydrate degassing and global climate change—past, present, and future," *Lawrence Livermore National Laboratory*, Livermore, CA, April 12.
- Ruppel, C., (2010). "Climate change and methane in the Arctic," *USGS Woods Hole Earth Day symposium*, Woods Hole, MA April 21.
- Ruppel, C., (2010). "Shallow offshore hydrate in the Beaufort Sea—Climate/hydrate interactions," *USGS-MMS cooperative meeting*, Herndon, VA, April 27.
- Ruppel, C., (2010). "Climate change and methane in the Arctic," *WHOI Summer Student Fellow symposium*, Woods Hole, MA, June 21.
- Ruppel, C., (2010). "Global warming on the North Slope: A tale of permafrost and methane ice (hydrate)," *BASC-Barrow Schoolyard lecture series*, Barrow, AK, July 10.
- Ruppel, C. (2010). "Gas hydrates and scientific ocean drilling," *itestimony to the NRC review of Scientific Ocean Drilling*, Texas A&M University, July 2010.
- Ruppel, C., (2010). "USGS Gas Hydrates Project: Coastal and Marine Program Accomplishments and Project Review," *USGS HQ Reston* [remotely].
- Ruppel, C., (2011). "USGS Programs in Arctic climate-hydrates interactions," *COST PERGAMON presentation*, Brussels, Belgium, February 23.
- Ruppel, C., (2011). "USGS Gas Hydrates Project: Arctic climate-methane hydrates research," *USGS/DOE workshop on climate-hydrates research priorities*, Boston, MA , March 15.
- Ruppel, C., (2011). "Planned scientific drilling on the US Beaufort margin," *IODP USSSP workshop on Catching Climate Change in Progress—Drilling on Circum-Arctic margins*, San Francisco, December 10-11.
- Ruppel, C., (2011). "Gas hydrates and the global methane budget, at: The enigma of the current methane budget (pre-IPCC workshop)," *Max-Planck Institute, Jena, Germany*, September 7-9.
- Ruppel, C., (2011). "Methane hydrates on Arctic continental shelves, at: The enigma of the current methane budget (pre-IPCC workshop)," *Max-Planck Institute, Jena, Germany*, September 7-9.
- Ruppel, C., Brothers, L. L., Hart, P. E., Worley, C., (2011). "The distribution of subsea permafrost and shallow methane on the central U. S. Beaufort Inner Shelf from newly acquired geophysical data," *AGU Fall Meeting, Abstract GC52A-04*.
- Ruppel, C., P. E. Hart, E. Moore, C. Worley, and L. Brothers, (2012). "Mapping subsea permafrost, relict methane hydrate, and gas migration: new cross-shelf multichannel seismic surveys on the central US Beaufort shelf," *AGU Fall Meeting, OS33E-05*.
- Ruppel, C., (2012). "Summary of IODP USSSP workshop on scientific drilling in the Circum-Arctic," *IODP workshop on Beaufort Sea drilling*, Kananaskis, February 12-15.
- Ruppel, C., (2012). "Scientific drilling of a shelf-upper continental slope transect on the US Beaufort Sea passive margin," *IODP workshop on Beaufort Sea drilling*, Kananaskis, 12-15 February.

- Ruppel, C., Brothers, L., Hart, P., Pohlman, J., (2012). "Warming-driven dissociation of gas hydrates on the continental shelf and upper continental slope of the US Beaufort Sea," *Arctic Frontiers: Energies of the North*, Tromso, Norway.
- Ruppel, C. D., Hart, P. E., Moore, E., Worley, C., and Brothers, L., (2012). "Mapping subsea permafrost, relict methane hydrate, and gas migration: New cross-shelf multichannel seismic surveys on the central US Beaufort Shelf," *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 3-7.
- Ruppel, C., (2013). "Drilling on the US Beaufort Sea margin for climate objectives," *IODP Chukchi Drilling Workshop*, Columbus, OH, March 2013.
- Ruppel, C., (2013). "Gas hydrates, climate change, and methane dynamics on the US Arctic Ocean Margin," *Woods Hole Oceanographic Institution*, January 25, 2013.
- Ruppel, C. D., (2013). Gas Hydrates, climate change, and ocean-atmospheric methane fluxes in the Western Arctic Ocean," *MIT Earth, Atmospheric and Planetary Sciences Distinguished Lecture Series*.
- Ruppel, C. D. and others, (2013). "Methane in the Western Arctic Ocean," *Final Meeting of PERGAMON*, Kiel, Germany, Nov. 2013.
- Ruppel, C. D. and others, (2013). "Methane hydrate dissociation and gas seepage on global upper continental slopes driven by intermediate ocean warming," *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 9-13.
- Ruppel, C., (2014). "Gas seeps on the US Atlantic margin," *NOAA Education and Outreach presentation*, March 2014.
- Ruppel, C. D., (2014). "Climate-hydrate interactions in the Arctic and global system," *Gordon Research Seminar and Conference on Natural Gas Hydrate Systems*, Galveston, TX, March 23-28.
- Ruppel, C. D., (2014). "Methane gas hydrates: energy resource and climate implications," *Goldschmidt Conference*, Sacramento, CA, June 2014.
- Ruppel, C. D., Brothers, L., Hart, P., and Herman, (2014). "Subsea permafrost on the U. S. Beaufort margin," *International Permafrost Association meeting*, Portugal, June 2014.
- Ruppel, C. D., (2014). "Exploration in the Atlantic Canyons," *NOAA OER Conference and Review*, Baltimore, MD, September 2014.
- Santamarina, J., Ruppel, C., J. Lee, and Yun, T., (2007). "Making the Case for In Situ Characterization of Gas Hydrate-Bearing Sediments at Observatories: Laboratory and Catwalk Results Testing the Impact of Core Retrieval," *JOI Gas-Hydrate Observatories Workshop*, July 18-20.
- Scandella, B., H. Hemond, C. D. Ruppel, and R. Juanes, (2011). "Escape paths for biogenic methane gas in lake sediments: morphology and dynamics," *AGU Fall Meeting, Abstract H21B-1089*.
- Scandella, B., Wood, H. G., Ruppel, C., Hemond, H. F., and Juanes, R., (2012). "Detailed dynamics and seasonal persistence of methane venting from lakes," *the American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 3-7.

- Scandella, B., Urban, P., Delwiche, K., Greinert, J., Hemond, H., Ruppel, C. D., and Juanes, R., (2013). "Quantifying methane flux from lake sediments using multibeam sonar. Presented at American Geophysical Union Fall Meeting, Dec. 9-13, San Francisco, CA.
- Scholl, D. W., Barth, G. A., and Childs, J. R., Evidence that acoustic VAMP structures in the deep water Bering Sea basin represent large accumulations of methane hydrate with matching resource implications [abs.]," *Geophysical Society of Alaska meeting*, Anchorage, January 11.
- Shedd, W., Frye, M., Boswell, R. M., Collett, T. S., McConnell, D., Jones, E., Shelander, D., Dai, J., Mrozewski, S., Guerin, G., Cook, A., Dufrene, R., Godfriaux, R., and Hutchinson, D., (2009). "Gulf of Mexico Gas Hydrate Joint Industry Project Leg II: Results from Walker Ridge 313 Site," *Proceedings, Abstract OS24A-04, Fall Meeting of the American Geophysical Union*, San Francisco, CA, December 14-18, 2009.
- Shu, J., Chen, X., Chou, I-M., Yang, W., Hu, J., Hemley, R. J., and Mao, H-K., (2011). "Structural stability of methane hydrate at high pressures," *J. Geoscience Frontiers*, 2(1):93-100.
- Skarke, A., Ruppel, C., Kodis, M., Lobecker, E., and Malik, M., (2013). "Geologic significance of newly discovered methane seeps on the Northern US Atlantic margin," *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 9-13.
- Solomon, E. A., Spivack, A. J., Kastner, M., Torres, M., Borole, D. V., Robertson, G., Das, H. C., (2008). "Hydrogeochemical and Structural Controls on Heterogeneous Gas Hydrate Distribution in the K-G Basin Offshore SE India," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Stein, R., B. Coakley, N. Mikkelsen, M. O'Regan, and Ruppel, C., (2012). "Future scientific drilling in the Arctic Ocean: Key objectives, areas, and strategies," *EGU General Assembly, abstract 1824*.
- Stern, L., (2006). "Gas hydrates: an overview of our 10+ years of laboratory research on these unusual compounds," *U. S. Geological Survey Earthquake Hazards Team seminar*, January 25.
- Stern, L., and Kirby, S., (2006). "Gas hydrates in sediments imaged by cryogenic SEM (CSEM): Insights from lab experiments on synthetic hydrates as interpretive guides (abs.),", *Physics and Chemistry of Ice (PCI) Conference*, Bremerhaven, Germany July 23-28.
- Stern, L., W. Durham, Kirby, S., Circone, S., and Helgerud, M., (2004). "Experimental Observations Pertinent to the Mechanical and Thermal Stability of sl Methane Hydrate/Sand Aggregates," *The American Association of Petroleum Geologists Annual Meeting*, Dallas, TX, April 16-21.
- Stern, L. A., Du Frane W. L., Weitemeyer, K. A., Constable, S., and Roberts, J. J., (2012). "Electrical conductivity of lab-formed methane hydrate + sand mixtures, technical developments and new results," *American Geophysical Union Fall Meeting*, San Francisco, CA, Dec. 3-7.
- Suzuki, K., Nakatsuka, Y., Fujii, T., Santamarina, J.C, Waite, W. F., Winters, W. J., Ito, K, Konno, Y, Yoneda, J., Kida, M., Jin, Y., Egawa, K., Nagao, J., (2013). "P-wave velocity features of methane hydrate-bearing turbidity sediments sampled by a pressure core tool, from the first offshore production test site in the eastern Nankai Trough, Japan," *AGU 2013 Fall Meeting*.

- Ussler, W., Paull, C., S. Hallam, E. Delong, Y. Chen, R. Matsumoto, Lorenson, T., and Winters, W., (2003). "The anatomy of the sulfate-methane interface in a methane-rich core from the Gulf of Mexico," *Geological Society of America Annual Meeting*, Seattle, WA, November 2-5.
- Ussler, W., Paull, C., Y. Chen, R. Matsumoto, Lorenson, T., and Winters, W., (2005). "The consequences of methane oxidation at the sulfate-methane interface in a methane-rich core from the northern Gulf of Mexico," *Fifth International Conference on Gas Hydrates*, Trondheim, Norway, June 12-16.
- Waite, W. F., Bratton, P. M., Mason, D. H., (2009). "Laboratory formation of non-cementing, methane hydrate-bearing sand samples (Abstract)," *EOS Transactions, American Geophysical Union*, vol. 92, no. 52, Fall Meeting Supplement, Abstract OS21A-1138.
- Waite, W., Pinkston, J., and Kirby, S., (2002). "Preliminary laboratory thermal conductivity measurements in pure methane hydrate and methane hydrate-sediment mixtures," *4th International Conference on Gas Hydrates*, Yokohama, Japan, May 19-23.
- Waite, W., L. Gilbert, Winters, W., and Mason, D., (2004). "Thermal property measurements in Tetrahydrofuran (THF) hydrate between -25 and +4C and their application to methane hydrate," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 13-17.
- Waite, W., L. Gilbert, Winters, W., and Mason, D., (2005). "Thermal property measurements in Tetrahydrofuran (THF) hydrate and hydrate-bearing sediment between -25 and +4C and their application to methane hydrate," *5th International Conference on Gas Hydrates*, June 12-16.
- Waite, W., Kneafsey, T., Santamarina, J., Winters, W., Yun, T., Mason, D., and Ruppel, C., (2006). "Physical property changes in hydrate-bearing sediment samples due to depressurization/repressurization," *American Geophysical Union Fall Meeting*, December 11-15.
- Waite, W., Stern, L., Winters, W., and Mason, D., (2006). "Simultaneous determination of thermal conductivity, thermal diffusivity and specific heat in sl methane hydrate," *American Geophysical Union Conference Fall Meeting*, December 11-15.
- Waite, W., Winters, W., and Mason, D., (2003). "Hydrate formation and compressional wave development in partially saturated Ottawa sand," *EGS-AGU-EUG Joint Assembly*, Nice, France, April 6-11.
- Waite, W., Winters, W., and Mason, D., (2003). "Thermal conductivity of THF hydrate between -25C and +4C," *American Geophysical Union Fall Meeting*, San Francisco, CA, December 8-12.
- Winters, W., Walker, M., Kwon, O., Hunter, R., Collett, T., Waite, W., Rose, K., Torres, M., and Colwell, F., (2009). "Intrinsic properties of sediment from the BPXA-DOE Mount Elbert gas hydrate research well (Abstract)," p. 229, *American Association of Petroleum Geologists Annual Meeting*, Denver, CO, June 7-10, 2009.
- Winters, W., (2008). "Triaxial strength and acoustic properties of repressurized samples from the 2006 National Gas Hydrate Program of India Expedition," *National Gas Hydrate Program (NGHP) Gas Hydrate Conference*, New Delhi, India, Feb. 6-8.

- Winters, W., Novosel, I., O. Boldina, Waite, W., Lorenson, T., Paull, C., and W. Bryant, (2002). "Physical properties of sediment related to gas hydrate in the northern Gulf of Mexico," American Geophysical Union Fall Meeting, San Francisco, CA, December 6-10.
- Winters, W., Novosel, I., O. Boldina, Waite, W., Lorenson, T., Paull, C., and W. Bryant, (2002). "Physical properties of sediment related to gas hydrate in the Northern Gulf of Mexico," *EOS Transactions, American Geophysical Union, Volume 83, n. 47.*
- Winters, W., Pecher, I., Mason, D., and Dillon, W., (2000). "Acoustic and strength properties of sediment containing water, ice, and laboratory-formed gas hydrate and natural gas hydrate," *Sixth International Conference on Gas in Marine Sediments*, St. Petersburg, Russia, September 5-9.
- Winters, W., Pecher, I., Mason, D., J. Booth, and Dillon, W., (2000). "Physical properties of sediment containing natural and laboratory-formed gas hydrate," *American Association of Petroleum Geologist Annual Meeting*, New Orleans, LA, April 16-19.
- Winters, W., Pecher, I., Dillon, W., and Mason, D., (2000). "Comparison of physical properties of sediment containing natural and laboratory formed gas hydrate and ice," Geological Society of America Annual Meeting, Reno, NV, November 9-18.
- Winters, W., Pecher, I., Waite, W., J. Wright, Dallimore, S., Collett, T., Mason, D., K. Jenner, Dillon, W., and Uchida, T., (2001). "Laboratory test program and physical properties of samples containing gas hydrate from the MacKenzie delta, NWT," *Canadian Society of Petroleum Geologists Annual Convention*, Calgary, AB, June 18-22.
- Winters, W., M. Gomes, Giosan, L., J. Johnson, M. Kastner, Torres, M., Long, P., H. Schaefer, Rose, K., and the NGHP-01 Shipboard Scientific Party, (2008). "Physical properties of sediment from the 2006 National Gas Hydrate Program expedition offshore India," *National Gas Hydrate Program (NGHP) Gas Hydrate Conference*, New Delhi, India, Feb. 6-8.
- Winters, W., Dallimore, S., Collett, T., B. Medioli, R. Matsumoto, P. Brennan-Alpert, and J. Katsube, (2003). "Physical property relationships of sediments from the JAPEx/JNOC/GSC et al Mallik 5L-38 gas hydrate production research well, MacKenzie delta, NWT," *Mallik International Symposium*, Chiba City, Japan, December 8-10.
- Winters, W., Waite, W., and Mason, D., (2005). "Effects of Methane gas hydrate formation on pore pressure response, shear strength, and acoustic properties of sediment," *paper OS43A-0607, American Geophysical Union Fall Meeting*, December 5-9.
- Winters, W., Waite, W., and Mason, D., (2006). "Grain size effects on acoustic and strength behavior of sediments containing natural- and laboratory-formed methane gas hydrate," *Workshop on Science and Technology Issues in Methane Hydrate Research and Development*, Kauai, HI, March 5-9.
- Winters, W., Waite, W., Dugan, B., Mason, D., and Pecher, I., (2004). "Strength and physical properties of sediment containing laboratory-formed and natural gas hydrate," *The American Association of Petroleum Geologists Annual Convention*, Dallas, TX, April 18-21.

- Winters, W., Waite, W., Mason, D., Novosel, I., O. Boldina, Dallimore, S., Collett, T., Lorenson, T., Paull, C., Rogers, R., W. Bryant, and McGee, T., (2003). "Physical Properties of Sediment Containing Natural and Laboratory-Formed Gas Hydrate," *The American Association of Petroleum Geologists Annual Meeting*, Salt Lake City, UT, May 11-14.
- Winters, W., Waite, W., Mason, D., Novosel, I., O. Boldina, Lorenson, T., and Paull, C., (2003). "Field and laboratory studies of sediment containing natural and synthetic gas hydrate," *Symposium on Gas Hydrate, a Potential New Energy Source for the New Millenium*, Qingdao, China, October 15-17.
- Winters, W., Waite, W., Mason, D., Lorenson, T., Paull, C., Novosel, I., O. Boldina, Dallimore, S., and Collett, T., (2003). "Physical properties of northern Gulf of Mexico sediment and laboratory samples containing natural and synthetic methane gas hydrate," *EGS-AGU-EUG Joint Assembly*, Nice, France, April 6-11.
- Winters, W., Waite, W., Mason, D., Dillon, W., and Hutchinson, D., (2002). "Acoustic, Pore Pressure, and Strength Properties of Sediment Containing Gas Hydrate," *Proceedings of the Minerals of the Ocean International Conference, Ministry of Natural Resources, Russian Academy of Sciences*, pp. 161-164, St. Petersburg, Russia, April 20-25.
- Winters, W., Waite, W., Mason, D., Dillon, W., and Pecher, I., (2002). "Sediment properties associated with gas hydrate formation," *4th International Conference on Gas Hydrates*, Yokohama, Japan, May 19-23.
- Winters, W., Waite, W., Pecher, I., Mason, D., and Dillon, W., (2001). "Sediment property changes caused by gas hydrate formation and pore water freezing," *Russian Academy of Sciences International Conference, Conservation and Transformation of Matter and Energy in the Earth Cryosphere*, Pushino, Russia, June 1-5.
- Winters, W., Waite, W., Pecher, I., Mason, D., Dugan, B., Dallimore, S., Collett, T., Lorenson, T., and Paull, C., (2003). "The relation of laboratory physical property measurements to the presence and behavior of natural gas hydrates," *Geological Society of America Annual Meeting*, Seattle, WA, November 2-5.
- Winters, W., Waite, W., Dillon, W., Mason, D., and Pecher, I., (2001). "Relationships between frozen and gas hydrate containing sediment," *2nd Russian Conference on Geocryology*, Moscow, Russia, June 6-8.
- Winters, W., Waite, W., Dillon, W., Mason, D., and Pecher, I., (2001). "Relationships between frozen and gas hydrate-containing sediment," *Second Russian Conference on Geocryology, Volume 3*, p.314-320, Moscow, Russia, June 6-8.
- Winters, W. J., Dallimore, S. R., Collett, T. S., Taylor, A. E., Mediolli, B., Matsumoto, R., Katsube, J. T., Wright, J. F., Nixon, F. M., Ethier, A. and Uchida, T., (2003). "Physical properties of sediments from the 2002 Mallik 5L-38 gas hydrate production research well, NWT, Canada," *Abstracts, Mallik 5L-38 Post-Field Workshop*, Whistler, BC, January 22-24.
- Winters, W. J., Hutchinson, D. R., Waite, W. F., and Mason, D. H., (2006). "Behavior of sediment containing synthetic and natural gas hydrate," *2006 Taiwan Gas Hydrate Workshop, Proceedings*, pp. 3-4, Taipei, Taiwan, March 14-17.

- Winters, W. J., Katsube, J., Dallimore, S. R., Uchida, T., Jenner, K. A., Collett, T. S., Cranston, R., Wright, J. F., and Nixon, F. M., (1999). "Physical and petrophysical properties of sediments and their relation to gas hydrate occurrence, JAPEX/JNOC/GSC Mallik 2L-38 research well, Mackenzie Delta, N.W. T., Canada," *Third International Conference on Gas Hydrates, Program and Abstracts*, Salt Lake City, Utah, July 18-22.
- Winters, W. J., Pecher, I. A., Mason, D. H., Waite, W. F., and Dillon, W. P., (2001). "Physical properties and preservation of samples containing natural gas hydrate from the Mackenzie Delta, NWT, Canada," *Abstracts, Methane Hydrates Open Session, Japan National Oil Corporation, Chiba, Japan, April 26*, pp. 10-11.
- Winters, W. J., Waite, W. F., Mason, D. H., and Gilbert, L. Y., (2005). "Physical properties of sediment containing methane gas hydrate," *Preprints, American Chemical Society national meeting*, San Diego, CA, March 13-17.
- Winters, W. J., Waite, W. F., Mason, D. H., Gilbert, L. Y., and Hutchinson, D. R., (2005). "Determination of in situ methane gas hydrate stability and properties: Abstract supplement," *National Gas Hydrate Program of India Workshop, Petrotech-2005*, New Delhi, India, Jan. 15-19, 2005.
- Winters, W. J., Waite, W. F., Mason, D. H., Gilbert, L. Y., Hutchinson, D. R., Pecher, I. A., Chuvilin, E. M., and Boldina, O. M., (2005). "Comparison of natural gas hydrate, laboratory-formed methane gas hydrate, and frozen sediment," *Abstracts, Third Russian Conference on Geocryology*, Moscow, Russia, May 31-June 3.
- Winters, W. J., Waite, W. F., Mason, D. H., Kumar, P., (2008). "Triaxial strength and acoustic properties of repressurized samples from the Indian National Gas Hydrate Program (NGHP) Expedition 01," *International Conference on Gas Hydrates, Noida, India, Feb. 6-8, 2008*, pp. 72-73.
- Winters, W. J., Wright, J. F., Booth, J. S., Dallimore, S. R., Pecher, I. A., Mason, D. H., Relle, M. K., and Dillon, W. P., (1999). "Laboratory tests of gas hydrate samples from the Mackenzie Delta," *EOS Supplement, 1999 Spring Meeting, Boston, Trans. American Geophysical Union*, v. 80, no. 17, p. S338.
- Winters, W. J., Waite, W. F., Mason, D. H., Kumar, P., (2008). "Physical Properties Of Repressurized Samples Recovered During The 2006 National Gas Hydrate Program Expedition Offshore India," *Proceedings of the 6th International Conference on Gas Hydrates (ICGH 2008)*, Vancouver, BC, July 6-10.
- Winters, William J., Waite, William F., Mason, David H., Gilbert, Lauren Y., and Pecher, Ingo A., (2005). "Effect of grain size and pore pressure on acoustic and strength behavior of sediments containing methane gas hydrate," *Proceedings of the Fifth International Conference on Gas Hydrates*, v. 2, paper 2017, Trondheim, Norway, June 13-16, 2005, p. 507-516.
- Winters, W. J. and Santamarina, J. C., (2012). "Instrumented pressure testing chamber (A member of the Pressure Core Characterization Tools)," *Nankai Trough Drilling Project Meeting*, Georgia Institute of Technology, Atlanta, GA, Dec 19.
- Winters, W. J. and Santamarina, J. C., (2011). "IPTC and pressure cores on JIP Leg III in the Gulf of Mexico," *Design of Pressure Core Devices Project Meeting*, Georgia Institute of Technology, Atlanta, GA, Feb 10.

- Winters, W. J. and Santamarina, J. C., (2011). "Physical properties of IPTC pressure cores," *Nankai Trough, Japan, Drilling Program Planning Meeting*, Georgia Institute of Technology, Atlanta, GA, Aug 4.
- Winters, W. J., (2010). "Physical properties of host sediments and their geologic controls on the formation of gas hydrate," *Japan-US Symposium on Geomechanics of Hydrate Bearing Sediment*, Georgia Institute of Technology, Atlanta, GA, Dec 10.
- Wood, W., G. A. Barth, and D. W. Scholl. "Long-offset seismic investigations of the deep Bering Sea," *AGU Fall Meeting*, T33A-2389.
- Wooller, M. J., C. Ruppel and UAF-USGS-UCSB project group, (2010). "Source characterization and temporal variation of methane seepage from thermokarst lakes on the Alaska North Slope in response to arctic climate change," *DOE Investigators' Conference*, Atlanta, January 25.
- Wooller, M. J., Leigh, M., Pohlman J. W., Ruppel, C. and Walter, K., (2009). "Source characterization and temporal variation of methane seepage from thermokarst lakes on the Alaska North Slope in response to Arctic climate change," *Developing Long Term International Collaboration on Methane Hydrate Research and Monitoring in the Arctic Region*, Texel, The Netherlands, February 18-20.
- Yoon, S., Jones, K. W., Feng, H., Winters, W. J. and Mahajan, D., (2003). "Methane hydrate studies, delineating properties of sediments by computed microtomography (CMT): Abstracts," *2003 AIChE Spring National Meeting, Symposium on Gas Hydrates*, New Orleans, La., 30 March-3 April 2003, p 66.
- Yoshinaga, M. Y., Lazar, C., Briggs, B. R., Colwell, F. S., Pohlman, J. W., Elvert, M., Teske, A., Hinrichs, K.-U., (2011). "Archaeal metabolism in methane-impacted sediments through molecular and stable carbon isotopic compositions of intact polar lipids coupled to 16S rRNA sequencing," *ISME Meeting*, Copenhagen, Denmark August 14-24.
- Yoshinaga, M. Y., Pohlman, J. W., Goldhammer, T., Broda, N., Riedel, M., Elvert, M., Hinrichs, K.-U., (2011). "Methane fluxes modulating the molecular and carbon isotopic composition of microbial lipids in gas hydrate bearing sediments from the northern Cascadia margin," *International Meeting on Organic Geochemistry*. Interlaken, Switzerland, Sept. 18-23.

Section VI: Programmatic Reports

Peer-Reviewed Publications

- Allison, E., (2000). "Department of Energy methane hydrate research and development program: an update," in Holder, G., and P. Bishnoi, eds., *Gas Hydrates: Challenges for the Future*, *Annals of the New York Academy of Sciences*, Volume 912, pp. 437-440.
- Allison, E., and Boswell, R., (2009). "Overview of the Department of Energy's gas hydrate R&D program: 2000 to 2005," in Collett, T., A. Johnson, C. Knapp, and Boswell, R., eds., *Natural gas hydrates—Energy resource potential and associated geologic hazards: AAPG Memoir 89*.
- Boswell, R., (2007). "Resource potential of methane hydrate coming into focus," in D. Mahajan, Taylor, C., and G. Ali Mansoori, *Journal of Petroleum Science and Engineering – Natural Gas Hydrate/Clathrate*, eds. Volume 56, Issues 1-3, pp. 9-13, March.

Government Reports

- Engineering Conferences International, (2007). "Science and Technology Issues in Methane Hydrate R&D," *Summary and Recommendations of Workshop held in Kauai, Hawaii, March 5-9, 2006*, 95 pages.
- Federal Methane Hydrate Advisory Committee, 2007, "An Assessment of the Methane Hydrate Research Program and An Assessment of the 5-Year Research Plan of the Department of Energy," June.
- Gas Hydrates Technical Coordination Team, (2006). "An interagency roadmap for methane hydrates research and development," *DOE Office of Fossil Energy*, 36 pages.
- Gas Hydrates Technical Coordination Team, (2007). "Interagency Coordination in methane hydrates R&D," *DOE Office of Fossil Energy*, 28 pages.
- National Research Council, (2004). "Charting the Future of Methane Hydrate Research in the United States," *The National Academies Press* Washington, DC.

Other Publications

- Boswell, R., (2005). "Buried Treasure, Power and Energy," *American Society of Mechanical Engineers*, February, Volume 2, n. 1.
- Boswell, R. and Collett, T., (2006). "The Gas Hydrates Resource Pyramid," *U. S. DOE-NETL Fire in the Ice Newsletter*, Fall 2006.
- Boswell, R., Hutchinson, D., and P. Ray, (2005). "Changing perspectives on the resource potential of methane hydrates," *U. S. DOE-NETL Fire in the Ice Newsletter*, Summer 2005.
- Collett, T., Hunter, R., Kurihara, M., Y. Masuda, P. McGrail, Moridis, G. J., H. Narita, White, M., Wilder, J., and S. Wilson, (2005). "An international effort to compare methane hydrate reservoir simulators," *U. S. DOE-NETL Fire in the Ice Newsletter*, Summer 2005.
- Collett, T., Riedel, M., Boswell, R., J. Cochran, P. Kumar, A. Sethi, A. Sathe, (2006). "International Team Completes Landmark Gas Hydrate Expedition in the Offshore of India," *U. S. DOE-NETL Fire in the Ice Newsletter*, Fall 2006.

Gas Hydrate Simulator Comparison Team, (2007). "International Methane Hydrate Code Comparison Project Simulates Relevant Problems," *U. S. DOE-NETL Fire in the Ice Newsletter*, Winter 2007.

Tomer, B., H. Guthrie, T. Mroz, and Boswell, R., (2001). "A Collaborative Approach to Methane Hydrate R&D Activities," *Proceedings of the 2001 Offshore Technology Conference*, Houston, TX, 30 April – 3 May. [SPE 13038-MS](#)

Presentations

Allison, E., (2006). "U. S. Department of Energy Methane Hydrate Research: Progress and Potential," Kauai, Hawaii, *Engineering Conferences International, Science and technology issues in methane hydrate R&D*, March 5-9.

Boswell, R., (2005). "U. S. DOE methane hydrate R&D program," San Diego, CA, *American Chemical Society Annual Meeting*, March 11-15.

Boswell, R., (2005). "Gas hydrates: potential future source of energy?" Durham, NC, *American Public Gas Association Annual Meeting*, May 4-5.

Boswell, R., (2005). "U. S. DOE's program in natural gas hydrates," Anchorage, AK, *Alaska Division of Natural Resources, Alaska Gas Hydrate Planning Workshop*, August 16-17.

Boswell, R., (2006). "Progress and Implications of DOE-BP-USGS Gas Hydrates Research at Milne Point, Alaska North Slope," Kauai, Hawaii, *Engineering Conferences International, Science and technology issues in methane hydrate R&D*, March 5-9.

Boswell, R., (2006). "U. S. DOE's Program in Gas Hydrates," Washington, DC, *Meeting of the Methane Hydrates Federal Advisory Committee*, April 24.

Boswell, R., (2006). "Draft Interagency Long-Term R&D Roadmap," Washington, DC, *Meeting of the Methane Hydrates Federal Advisory Committee*, April 24.

Boswell, R., (2006). "Remaining Challenges in Commercializing Gas Hydrate," *Hart Energy Publishing Methane Hydrates Conference*, Dec. 5-6.

Boswell, R., (2012). "Gas hydrate E&P R&D at the US DOE. US-Norway MOU Workshop, September, 2012, Washington, DC.

Lawson, W., (2005). "Gas hydrate R&D opportunities in Alaska," Anchorage, AK, *ACI Arctic Gas Symposium*, September.

Mroz, T., (2005). "Gas hydrates, prospects for future production," Washington, DC, *Natural Gas Vehicles Technologies Forum*, August 2-4.

Tomer, B., (2002). "Status of research into naturally-occurring methane hydrates in the United States," *International Hydrates R&D Conference*, October 29.

Tomer, B., (2008). "Methane Hydrate Challenges and Future," *Offshore Technology Conference*, Houston, TX, May 8.

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