

## **Wednesday, November 4, 2020**

- 11:00 AM Carbon Storage Program Remarks**  
Darin Damiani, DOE FE, Carbon Storage
- 11:05 AM Carbon Storage Technology Manager Remarks**  
Mark McKoy, NETL
- 11:10 AM Welcome, Meeting Objectives, NRAP Background and Accomplishment**  
Bob Dilmore, NETL

### **New Developments in NRAP Tools**

Moderator: TBD

- 11:30 AM NRAP - Open-IAM:**
- Core Functionality for Containment and Leakage Risk
  - Fit-for-purpose functionality
  - Commercial GUI development initiative
- Veronika Vasylykivska, NETL, Mark Brandyberry, Illinois Rocstar
- 11:45 AM Tools for Induced Seismicity Management**
- STSF
  - RiskCat
- Josh White, LLNL, Corinne Layland-Bachmann, LBNL
- 12:00 PM Monitoring Design and Optimization Tools**
- DREAM 2.0 (and 3.0)
  - Microseismic Monitoring Array Design Optimization
- Alex Hanna, PNNL, Lianjie Huang, LANL
- 12:15 PM Other Characterization and Forecasting Tools**
- SOSAT
  - Seal Leakage
  - Fault Leakage ROM
- Jeff Burghardt, PNNL, Ernest Lindner, NETL
- 12:30 PM BREAK**

**Recommended Practices for Risk-Based Decision Support**

Moderator: TBD

**12:35 PM      Conceptualization/Framework for Recommended Practices**  
Curt Oldenburg, LBNL

**12:40 PM      Containment Assurance and Leakage Risk**  
Burt Thomas, NETL

**1:00 PM      Recommended Practices for Induced Seismicity**  
Dennise Templeton, LLNL

**1:20 PM      Moderated Discussion: Feedback on Recommended Practices**  
Moderator: George Guthrie, LANL

**1:35 PM      BREAK**

**Key Messages for GCS Derived from NRAP Research**

Moderator: TBD

**2:15 PM      Context for Large-Scale CCUS Deployment**  
Bob Dilmore, NETL

**2:25 PM      Establishing the Basis for Key Insights on Leakage Probability**  
Chris Brown, PNNL and Rajesh Pawar, LANL

**2:40 PM      Establishing the Basis for Key Insights on Induced Seismicity Risk Management**  
Josh White, LLNL

**2:55 PM      Establishing the Basis for Key Insights on Potential Leakage Impacts to Groundwater**  
Megan Smith, LLNL

**3:10 PM      Establishing the Basis for Key Insights on Risk-Based Monitoring Design**  
Erika Gasperikova, LBNL

**3:25 PM      Moderated Discussion: Feedback on Key Insights**  
Moderator: Grant Bromhal, NETL

**4:00 PM      ADJOURN**



## **Thursday, November 5, 2020**

**11:00 AM Welcome Back / Day 1 Recap**

### **Testing and Application of NRAP Tools and Methods**

Moderator: TBD

**11:15 AM Overview of NRAP Tools and Recommended Practices Applications (Application Catalog)**  
Nicolas Huerta, PNNL

**11:30 AM Example Application: FutureGen 2**

- Characterization
- Risk-Based AOR
- Monitoring Design
- Supporting Post-Injection Closure Decisions
- Containment Assurance and Accounting

Diana Bacon, PNNL

**11:55 AM Data to drive NRAP tools: From Kimberlina, FutureGen and Beyond, Tools to Optimize Data Discovery and Modeling Uses**  
Paige Morkner, NETL

**12:15 AM Panel Discussion: How can NRAP better engage with CCUS demonstration and deployment efforts?**  
Moderator: Mark McKoy, NETL  
Panelists TBD

**1:00 PM Closing Remarks**

### **Lightning Breakout Session**

**(Pre-recorded 3-minute presentations followed by discussion)**

#### **Session A: Reservoir Response and Conformance Assessment; Induced Seismicity Risk Management**

Moderator: TBD

**2:00 PM Modeling Dynamic Risk Using Ensemble Smoother – MDA**  
Bailian Chen, LANL

**2:03 PM CO2 Plume Evolution in a Depleted Natural Gas Reservoir: Reducing Uncertainty in Conformance Over Time**  
Christine Doughty, LBNL

**2:06 PM Channelized CO<sub>2</sub> flow in the Hierarchical Fluvial Reservoir at Cranfield, Mississippi**  
Quanlin Zhou, LBNL

**2:09 PM Seismic Forecasting and PISC: Insights for IS Risk Management**  
Kayla Kroll, LLNL

**2:12 PM Moderated Discussion**

**3:00 PM ADJOURN**

**Session B: Leakage Pathway Characterization**

Moderator: TBD

**2:00 PM Insights from State-Scale Well Integrity Data Analysis**  
Greg Lackey, NETL

**2:03 PM Influence of Effective Stress and Transport on Mechanical and Chemical Alteration Processes at the Cement-Caprock Interface**  
Kevin Rhino, LLNL

**2:06 PM Improved Cemented Wellbore Leakage ROM using a subROM Approach**  
Michelle Bourret, LANL

**2:09 PM Moderated Discussion**

**3:00 PM ADJOURN**

**Session C: Monitoring for CO<sub>2</sub> Leak Detection**

Moderator: TBD

**2:00 PM CO<sub>2</sub> Plume Location by Deep Learning Inversion of Gravity Data**  
Xianjin Yang, LLNL

**2:03 PM An Application of the NRAP State-of-Stress Assessment Tool to the FutrueGen 2.0 Site**  
Delphine Appriou, PNNL

**2:06 PM CO<sub>2</sub> Leakage Detection in the Kimberlina 2 Model Using Elastic Least-Squares Reverse-Time Migration**  
Zongcai Feng, LANL

**2:09 PM Moderated Discussion**

**3:00 PM ADJOURN**