Crosscutting Research and Advanced Energy Systems Project Review Meeting
Gasification Systems Virtual Session Agenda

All times designated in Eastern Daylight Time

**Tuesday, May 4, 2021**

**10:00 AM** Welcome Remarks and Gasification Systems Portfolio Overview
Dave Lyons, National Energy Technology Laboratory

**Air Separation Technology**

Moderator: Evelyn Lopez

**10:30 AM** Advanced Oxygen Separation from Air Using a Novel Mixed Matrix Membrane (FWP-B000-18-061)
Frederick Stewart, Idaho National Laboratory

**11:00 AM** Radically Engineered Modular Air Separation System Using Tailored Oxygen Sorbents (FE0031521)
Fanxing Li, North Carolina State University

**11:30 AM** Pilot Testing of a Modular Oxygen Production System Using Oxygen Binding Adsorbents (FE0031527)
John Carpenter, Research Triangle Institute (RTI)

**12:00 PM** BREAK

**Air Separation Technology**

Moderator: Andrew (Drew) O'Connell

**1:00 PM** Modularization of Ceramic Hollow Fiber Membrane Technology for Air Separation (FE0031473)
Chris Xue, University of South Carolina

**1:30 PM** Pressure Driven Oxygen Separation (FWP-73130)
David Reed, Pacific Northwest National Laboratory
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2:00 PM  High Selectivity and High Throughput Carbon Molecular Sieve Hollow Fiber Membrane Based Modular Air Separation Unit for Producing High Purity O₂ (FWP-FE-1049-18-FY19)
Rajinder Singh, Los Alamos National Laboratory

2:30 PM  Oxygen Production for Gasification (FWP-1022405-Task5)
Jonathan Lekse, National Energy Technology Laboratory

3:00 PM  Magnetocaloric Cryogenic System for High Efficiency Air Separations (FWP-73143)
John Barclay, Pacific Northwest National Laboratory

Process Intensification for Syngas & Hydrogen

Moderator: Andrew (Drew) O’Connell

3:30 PM  Experimental Validation of Coal Gasification with Neutron Imaging (FWP-FEAB325)
James Parks II, Oak Ridge National Laboratory

4:00 PM  Advanced Gasifier Design (FWP-1022405-Task3)
William Rogers, National Energy Technology Laboratory
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Wednesday, May 5, 2021

Process Intensification for Syngas & Hydrogen

Moderator: Steve Markovich

10:00 AM  Making Coal Relevant for Small Scale Applications: Modular Gasification for Syngas/Engine CHP Applications in Challenging Environments (FE0031601)
Brent Sheets, University of Alaska - Fairbanks

10:30 AM  Advanced Manufacturing and Materials Technologies for Gasification (FWP-1022405-Task4)
Jinichiro Nakano & Omer Dogan, National Energy Technology Laboratory

11:00 AM  Small-Scale Engineered High Flexibility Gasifier (FE0031531)
Mikhail Granovskiy, Southern Research Institute

11:30 AM  Staged Opposed Multi Burner (OMB) for Modular Gasifier/Burner (FE0031506)
Kunlei Liu, University of Kentucky Research Foundation

12:00 PM  BREAK

Process Intensification for Syngas & Hydrogen

Moderator: Steve Markovich

1:00 PM  Conversion of Coal Wastes and Municipal Solids Mixtures by Pyrolysis Torrefaction and Entrained Flow Gasification (SC0018580)
Nicholas Schwartz, Mainstream Engineering Corporation

1:30 PM  Microwave Reactions for Gasification (FWP-1022405-Task6)
Mark Smith, National Energy Technology Laboratory
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Blue Hydrogen & Negative CO₂ Emissions

Moderator: Diane Revay Madden

2:00 PM  Integrated Water-Gas-Shift (WGS) / Pre-Combustion Carbon Capture Process (FE0023684)
Gokhan Alptekin, TDA Research, Inc.

2:30 PM  Comparison of Commercial, State-of-the-Art, Fossil-based, Hydrogen Production Technologies (FWP-1022405-Task 13)
Bob Stevens, National Energy Technology Laboratory