Omni William Penn Hotel

Floor Plan

Seventeenth Level

William Penn Place

Allegheny
Greene
Indiana
Franklin
Bedford

Jefferson

Registration or Coat Check Room

Guest Elevators

Grand Ballroom

Monongahela
Banquet Kitchen

Urban

Grant Street

Oliver Avenue

Sixth Avenue

WOMEN

MEN
Monday August 13, 2018

Note that Tuesday, August 14th and Wednesday, August 15th include Concurrent Sessions A and B. Session A will be held in the Grand Ballroom and is focused on Carbon Capture each day. Session B will be held in the Monongahela Room and is focused on Oxy-Combustion on Tuesday, August 14th and on Chemical Looping on Wednesday, August 15th. Details are provided below.

7:00 a.m. Registration – 17th Floor Foyer
Continental Breakfast – Urban Room

GRAND BALLROOM

Opening Session

8:00 a.m. Welcoming Remarks
Sean Plasynski, Director (Acting) U.S. Department of Energy, National Energy Technology Laboratory

8:05 a.m. U.S. DOE Office of Fossil Energy’s Research and Development Programs
Steven E. Winberg, Assistant Secretary, Office of Fossil Energy, U.S. Department of Energy

Moderator: Lynn Brickett, U.S. Department of Energy, National Energy Technology Laboratory

8:25 a.m. Global Update on CCUS and Higher Capture Rates
Tim Dixon, IEA Greenhouse Gas

8:45 a.m. U.S. and Norway Joint Success in Advancing CO₂ Capture Technologies
Bjørn-Erik Haugan and Jørild Svalestuen, Gassnova SF

9:05 a.m. CO₂ Capture R&D at EPRI
Abhoyjit Bhown, Electric Power Research Institute

9:25 a.m. The Wyoming Integrated Test Center: A Venue for up to 20 MWe Scale-up of Developing CO₂ Capture Technologies
Will Morris, Efficient Fuel Additives

9:45 a.m. Overcoming Barriers to Advance Fossil Energy Technologies
Shannon Angielski, Carbon Utilization Research Council

10:05 a.m. Mission Innovation Activities Carbon Capture Workshop and Final Report
<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>10:20 a.m.</td>
<td>BREAK - URBAN ROOM</td>
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<tr>
<td>10:35 a.m.</td>
<td>SEA Post-Combustion Analysis Update</td>
<td>Timothy Fout, U.S. Department of Energy, National Energy Technology Laboratory</td>
</tr>
<tr>
<td>11:00 a.m.</td>
<td>Performance and Cost Sensitivities for Post-Combustion Membrane Systems</td>
<td>Alexander Zoelle, Leidos</td>
</tr>
<tr>
<td>11:25 a.m.</td>
<td>Modeling the Impacts of 45Q</td>
<td>Christopher J. Nichols, U.S. Department of Energy, National Energy Technology Laboratory</td>
</tr>
<tr>
<td>11:50 a.m.</td>
<td>LUNCH - URBAN ROOM</td>
<td></td>
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<tr>
<td>1:10 p.m.</td>
<td>Carbon Capture Simulation for Industry Impact (CCSI²) Overview</td>
<td>Michael Matuszewski and John Shinn, CCSI²</td>
</tr>
<tr>
<td>1:25 p.m.</td>
<td>Open Source Toolset Community Support</td>
<td>Keith Beattie, Lawrence Berkeley National Laboratory</td>
</tr>
<tr>
<td>1:35 p.m.</td>
<td>Development and Application of Advanced Process Control for UKy CO₂ Capture Pilot Plant</td>
<td>Priyadarshi Mahapatra, AECOM/WVURC</td>
</tr>
<tr>
<td>2:00 p.m.</td>
<td>Amine-Appended Metal-Organic Frameworks as Switch-Like Adsorbents for Energy Efficient Carbon Capture (FWP-00006194)</td>
<td>Jeffrey Long, Lawrence Berkeley National Laboratory</td>
</tr>
<tr>
<td>2:25 p.m.</td>
<td>DOCCSS Support for LBNL MOF Sorbents, MECS Device Scale Modeling</td>
<td>Debangsu Bhattacharyya, West Virginia University</td>
</tr>
<tr>
<td>2:50 p.m.</td>
<td>BREAK - URBAN ROOM</td>
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Monday August 13, 2018

Moderator: Sai Gollakota, U.S. Department of Energy, National Energy Technology Laboratory

3:10 p.m. Low-Viscosity, Water-Lean CO₂ Binding Organic Liquids (CO₂BOL) with Polarity-Swing Assisted Regeneration (PSAR) (FWP-70924)  
David Heldebrant, Pacific Northwest National Laboratory

3:35 p.m. DOCCSS Support for PNNL CO₂BOLs Solvents  
Zhijie Xu, Pacific Northwest National Laboratory  
Charles Freeman, Pacific Northwest National Laboratory

4:00 p.m. High-Efficiency, Integrated Reactors for Sorbents, Solvents, and Membranes Using Additive Manufacturing (FWP-FEW0225)  
Joshua Stolaroff, Lawrence Livermore National Laboratory

4:25 p.m. DOCCSS Support for LLNL Advanced Reactor Manufacturing  
Michael Matuszewski, CCSI²

4:50 p.m. ADJOURN

Tuesday August 14, 2018

7:00 a.m. Registration - 17th Floor Foyer  
Continental Breakfast - Urban Room

SESSION A - GRAND BALLROOM

Carbon Capture Simulation for Industry Impact (CCSI²)

Moderator: Andrew O’Palko, U.S. Department of Energy, National Energy Technology Laboratory

8:00 a.m. Sequential Design of Experiments  
Christine Anderson-Cook, Los Alamos National Laboratory

Capture – Lab/Bench-Scale Research with CCSI² Support

Moderator: Andrew O’Palko, U.S. Department of Energy, National Energy Technology Laboratory

8:25 a.m. Evaluation of Piperazine with Advanced Flash Regeneration for CO₂ Capture from Coal-Fired Flue Gas (FE0005654)  
Gary Rochelle, University of Texas at Austin
8:50 a.m. **Modeling the Advanced Flash Stripper**
Gary Rochelle, University of Texas at Austin
Ben Omell, U.S. Department of Energy, National Energy Technology Laboratory

9:15 a.m. **Hybrid Encapsulated Ionic Liquids for Post-Combustion Carbon Dioxide Capture (FE0026465)**
Mark McCready, University of Notre Dame

9:40 a.m. **BREAK** - URBAN ROOM

Moderator: **Andrew Jones**, U.S. Department of Energy, National Energy Technology Laboratory

10:00 a.m. **MECS Device-Scale Modeling**
Debangsu Bhattacharyya, West Virginia University

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**Capture — Lab/Bench-Scale Research**

Moderator: **Andrew Jones**, U.S. Department of Energy, National Energy Technology Laboratory

10:25 a.m. **A Combined Computational and Experimental Method for Mixed Matrix Membranes for Post-Combustion CO₂ Capture**
David Hopkinson, U.S. Department of Energy, National Energy Technology Laboratory

10:50 a.m. **A High Performance Physical Solvent for Pre-Combustion CO₂ Capture**
Nicholas Siefert, U.S. Department of Energy, National Energy Technology Laboratory

11:15 a.m. **A Data Mining Method for the Identification of New Physical Solvents**
Wei Shi, National Energy Technology Laboratory-AECOM

11:40 a.m. **LUNCH** - URBAN ROOM

Moderator: **Andrew Jones**, U.S. Department of Energy, National Energy Technology Laboratory

1:10 p.m. **Additively Manufactured Intensified Device for Enhanced Carbon Capture (FMP-FEAA130)**
Xin Sun, Oak Ridge National Laboratory

1:35 p.m. **Cryogenic Carbon Capture Development (FE0028697)**
Larry Baxter, Sustainable Energy Solutions/Brigham Young University
2:00 p.m. **Enabling 10 MOL/KG Swing Capacity in Post-Combustion CO₂ Capture Processes (FE0026433)**
Krista S. Walton, Georgia Institute of Technology

Erik Meuleman, ION Engineering

2:50 p.m. **BREAK - URBAN ROOM**

Moderator: **Andrew O’Palko**, U.S. Department of Energy, National Energy Technology Laboratory

3:10 p.m. **Evaluation of Amine-Incorporated Porous Polymer Networks (APPNS) as Sorbents for Post-Combustion CO₂ Capture (FE0026472)**
Hong Cai “Joe” Zhou, Texas A&M University

3:35 p.m. **Combined Sorbent/WGS-Based CO₂ Capture Process with Integrated Heat Management for IGCC Systems (FE0026388)**
Santosh Gangwal, Southern Research

4:00 p.m. **Sorption Enhanced Mixed Matrix Membranes for Hydrogen Purification and Carbon Dioxide Capture (FE0026463)**
Haiqing Lin, State University of New York (SUNY) - Buffalo

4:25 p.m. **Zeolite Membrane Reactor for Pre-Combustion Carbon Dioxide Capture (FE0026435)**
Lie Meng, Arizona State University

4:50 p.m. **A High Efficiency, Ultra-Compact Process for Pre-Combustion CO₂ Capture (FE0026423)**
Theo Tsotsis, University of Southern California

5:15 p.m. **ADJOURN**

5:30 p.m. **Reception and Poster Presentations for Carbon Capture Technologies - Sky Room**
SESSION B - MONONGAHELA ROOM

**Moderator:** John Rockey, U.S. Department of Energy, National Energy Technology Laboratory

10:00 a.m. **Pre-Project Planning for a Flameless Pressurized Oxy-Combustion Pilot Plant**
Joshua Schmitt, Southwest Research Institute

10:25 a.m. **Particle Separator for Improved Flameless Pressurized Oxy-Combustion**
Joshua Schmitt, Southwest Research Institute

10:50 a.m. **Integrated Flue Gas Purification and Latent Heat Recovery for Pressurized Oxy-Combustion**
Richard Axelbaum, Washington University in St. Louis

11:15 a.m. **Enabling Staged Pressurized Oxy-Combustion: Improving Flexibility and Performance at Reduced Cost**
Scott Hume, Electric Power Research Institute

11:40 a.m. **LUNCH - URBAN ROOM**

Moderator: John Rockey, U.S. Department of Energy, National Energy Technology Laboratory

1:10 p.m. **Technology Demonstration of a High-Pressure Swirl Oxy-Coal Combustor**
Jad Aboud, University of Texas at El Paso

1:35 p.m. **Oxy-Combustion System Process Optimization**
Gokhan Alptekin, TDA Research Inc.

2:00 p.m. **Development of Enabling Technologies for a Pressurized Dry Feed Oxy-Coal Reactor**
Bradley Adams, Brigham Young University

2:25 p.m. **Characterizing Impacts of Dry Coal Feeding in High Pressure Oxy-Coal Combustion Systems**
Kevin Davis, Reaction Engineering International

2:50 p.m. **BREAK - URBAN ROOM**
Oxy-Combustion and Novel Concepts

Moderator: John Rockey, U.S. Department of Energy, National Energy Technology Laboratory

3:10 p.m. Characterizing Impacts of High Temperatures and Pressures in Oxy-Coal Combustion Systems
Kevin Davis, Reaction Engineering International

3:35 p.m. Catalytic Removal of Oxygen and Pollutants in Exhaust Gases from Pressurized Oxy-Combustors
Hafiz Salih and Yongqi Lu, Illinois State Geological Survey, University of Illinois at Urbana-Champaign

4:00 p.m. Flue Gas Water Vapor Latent Heat Recovery for Pressurized Oxy-Combustion
Dexin Wang, Gas Technology Institute

4:25 p.m. Advanced Cost-Effective Coal-Fired Rotating Detonation Combustor for High Efficiency Power Generation
Kareem Ahmed, University of Central Florida-Center for Advanced Turbomachinery & Energy

4:50 p.m. ADJOURN

Wednesday August 15, 2018

7:00 a.m. Registration – 17th Floor Foyer
Continental Breakfast – Urban Room

SESSION A - GRAND BALLROOM

Capture - Lab/Bench-Scale Research

Moderator: Steve Mascaro, U.S. Department of Energy, National Energy Technology Laboratory

8:00 a.m. Development of a Novel Biphasic CO₂ Absorption Process with Multiple Stages of Liquid-Liquid Phase Separation for Post-Combustion Carbon Capture (FE0026434)
Yongqi Lu, Illinois State Geological Survey, University of Illinois at Urbana-Champaign
8:25 a.m.  **Bench-Scale Development for Hybrid Membrane-Absorption CO₂ Capture (FE0013118)**
Brice Freeman, Membrane Technology and Research Inc.

8:50 a.m.  **Large Bench Scale Development of Non-Aqueous Solvent Carbon Dioxide Capture Process for Coal Fired Power Plants Utilizing Real Coal Derived Flue Gas (FE0026466)**
Jak Tanthana, RTI International

9:15 a.m.  **Energy Efficient GO-Peek Hybrid Membrane Process for Post-Combustion Carbon Dioxide Capture (FE0026383)**
Shiguang Li, Gas Technology Institute

9:40 a.m.  **BREAK – URBAN ROOM**

**Moderator:** Bruce Lani, U.S. Department of Energy, National Energy Technology Laboratory

10:00 a.m.  **Bench Scale Testing of Next Generation Hollow Fiber Membrane Modules (FE0026422)**
Alex Augustine, American Air Liquide Inc.

10:25 a.m.  **Novel CO₂-Selective Membranes for CO₂ Capture <1% CO₂ Sources (FE0026919)**
Yang Han and Winston Ho, The Ohio State University

10:50 a.m.  **Lab-Scale Development of a Hybrid Capture System with Advanced Membrane, Solvent System, and Process Integration (FE0026464)**
Hunaid Nulwala and David Luebke, Liquid Ion Solutions LLC.
Scott Chen, Carbon Capture Scientific

11:15 a.m.  **Electrochemically Mediated Amine Regeneration in CO₂ Scrubbing Processes (FE0026489)**
T. Alan Hatton, Massachusetts Institute of Technology

11:40 a.m.  **LUNCH – URBAN ROOM**

**Moderator:** Bruce Lani, U.S. Department of Energy, National Energy Technology Laboratory

12:50 p.m.  **Lab-Scale Development of a Solid Sorbent for CO₂ Capture Process for Coal-Fired Power Plants (FE0026432)**
Mustapha Soukri, RTI International
Wednesday August 15, 2018

1:15 p.m. Development of a Precombustion Carbon Dioxide Capture Process Using High Temperature Polybenzimidazole Hollow-Fiber Membrane (FE0012965)
Indira Jayaweera, SRI International

Capture - Pilot-Scale Research

Moderator: Bruce Lani, U.S. Department of Energy, National Energy Technology Laboratory

1:40 p.m. National Carbon Capture Center (FE0022596)
Tony Wu, Southern Company

2:05 p.m. Advanced Solvent Testing and Evaluation at TCM
Charles Freeman, Pacific Northwest National Laboratory
Satish Reddy, Fluor

2:30 p.m. Pilot Unit Sorbent-Based CO₂ Capture (FE0012870)
Jeannine Elliott, TDA Research, Inc.

2:55 p.m. BREAK - URBAN ROOM

Moderator: Steve Mascaro, U.S. Department of Energy, National Energy Technology Laboratory

3:10 p.m. Application of a Heat Integrated Post-Combustion Carbon Dioxide Capture System with Hitachi Advanced Solvent into Existing Coal-Fired Power Plant (FE0007395)
Jesse Thompson, University of Kentucky Center for Applied Energy Research

3:35 p.m. Pilot Test of a Nanoporous, Super-Hydrophobic Membrane Contactor Process for Post-Combustion Carbon Dioxide Capture (FE0012829)
Shiguang Li, Gas Technology Institute

4:00 p.m. Pilot Test of Novel Electrochemical Membrane System for Carbon Dioxide Capture and Power Generation (FE0026580)

4:25 p.m. Pilot Testing of a Highly Effective Pre-Combustion Sorbent-Based Carbon Capture System (FE0013105)
Gokhan Alptekin, TDA Research, Inc.
4:50 p.m.  **Dilute Source Carbon Dioxide Capture: Management of Atmospheric Coal-Produced Legacy Emissions (FE0026861)**  
Ricky Souza, Carbon Engineering

5:15 p.m.  **ADJOURN**

**SESSION B - MONONGAHELA ROOM**

**Chemical Looping**

**Moderator:** Seth Lawson, U.S. Department of Energy, National Energy Technology Laboratory

10:00 a.m.  **10 Megawatts Electric Coal Direct Chemical Looping Large Pilot Plant - Pre-Front End Engineering and Design Study**  
Luis Velazquez-Vargas, The Babcock & Wilcox Company

10:25 a.m.  **Heat Integration Optimization and Dynamic Modeling Investigation for Advancing the Coal Direct Chemical Looping Process**  
Andrew Tong, The Ohio State University

10:50 a.m.  **Coal-Fueled Pressurized Chemical Looping Combustion with a Spouting Fluidized Bed**  
Kunlei Liu, University of Kentucky

11:15 a.m.  **Integrated Oxygen Production and CO₂ Separation Through Chemical Looping Combustion with Oxygen Uncoupling**  
Kevin Whitty, University of Utah

11:40 a.m.  **LUNCH - URBAN ROOM**

**Moderator:** Justin Strock, KeyLogic

1:10 p.m.  **Development of Enabling Technologies for Chemical Looping Combustion and Chemical Looping with Oxygen Uncoupling**  
Kevin Whitty, University of Utah

1:35 p.m.  **Chemical Looping with Oxygen Uncoupling Systems Studies**  
Bob Stevens, U.S. Department of Energy, National Energy Technology Laboratory

2:00 p.m.  **Overview of CLC Research at NETL**  
Doug Straub, U.S. Department of Energy, National Energy Technology Laboratory
Wednesday August 15, 2018

2:25 p.m. Methodology for Attrition Evaluation of Oxygen Carriers in Chemical Looping Systems
Srivats Srinivasachar, Envergex LLC.

2:50 p.m. BREAK - URBAN ROOM

Moderator: Justin Strock, KeyLogic

3:10 p.m. Method for Separation of Coal Conversion Products from Sorbents/Oxygen Carriers
Srivats Srinivasachar, Envergex LLC.

3:35 p.m. Low-Cost and Recyclable Oxygen Carrier and Novel Process for CLC
Junior Nasah, University of North Dakota, Institute for Energy Studies

4:00 p.m. ADJOURN

Thursday August 16, 2018

7:00 a.m. Registration - 17th Floor Foyer
Continental Breakfast - Urban Room

GRAND BALLROOM

CO₂ Compression

Moderator: Sai Gollakota, U.S. Department of Energy, National Energy Technology Laboratory

8:00 a.m. Advanced Carbon Dioxide Compression with Supersonic Technology (FE0026727)
Ravi Srinivasan, Dresser-Rand, A Siemens Business

Large-Scale Pilot Testing

Moderator: Sai Gollakota, U.S. Department of Energy, National Energy Technology Laboratory

8:25 a.m. Large Pilot Testing of Linde/BASF Advanced Post-Combustion CO₂ Capture Technology at a Coal-Fired Power Plant (FE0031581)
Kevin O’Brien, Illinois Sustainable Technology Center
<table>
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<tr>
<th>Time</th>
<th>Session Description</th>
<th>Presenter/Institution</th>
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<tbody>
<tr>
<td>8:40 a.m.</td>
<td><strong>UKy-CAER Heat Integrated Transformative CO$_2$ Capture Process in Pulverized Coal Power Plants (FE0031583)</strong></td>
<td>Heather Nikolic, University of Kentucky-CAER</td>
</tr>
<tr>
<td>8:55 a.m.</td>
<td><strong>Large Pilot Testing of the MTR Membrane Post-Combustion CO$_2$ Capture Process (FE0031587)</strong></td>
<td>Richard Baker, Membrane Technology and Research Inc.</td>
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### Design and Testing of Advanced Carbon Capture Technologies

**Moderator:** Sai Gollakota, U.S. Department of Energy, National Energy Technology Laboratory

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<tr>
<td>9:10 a.m.</td>
<td><strong>Engineering Scale Testing of Transformational Non-Aqueous Solvent-Based CO$_2$ Capture Process at Technology Centre Mongstad (FE0031590)</strong></td>
<td>Shaojun James Zhou, Research Triangle Institute</td>
</tr>
<tr>
<td>9:25 a.m.</td>
<td><strong>Scale-Up and Testing of Advanced Polaris Membrane CO$_2$ Capture Technology (FE0031591)</strong></td>
<td>Tim Merkel, Membrane Technology and Research Inc.</td>
</tr>
<tr>
<td>9:40 a.m.</td>
<td><strong>Membrane-Sorbent Hybrid System for Post-Combustion CO$_2$ Capture (FE0031603)</strong></td>
<td>Gokhan Alptekin, TDA Research, Inc.</td>
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<td>9:55 a.m.</td>
<td><strong>BREAK – URBAN ROOM</strong></td>
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**Moderator:** Andrew Jones, U.S. Department of Energy, National Energy Technology Laboratory

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<tr>
<td>10:15 a.m.</td>
<td><strong>Engineering Scale Demonstration of Mixed-Salt Process for CO$_2$ Capture (FE0031588)</strong></td>
<td>Indira Jayaweera, SRI International</td>
</tr>
<tr>
<td>10:30 a.m.</td>
<td><strong>ION Engineering Commercial Carbon Capture Design &amp; Costing (FE0031595)</strong></td>
<td>Erik Meuleman, ION Engineering</td>
</tr>
<tr>
<td>10:45 a.m.</td>
<td><strong>Initial Engineering Design of a Post-Combustion CO$_2$ Capture System for Duke Energy’s East Bend Station Using Membrane-Based Technology (FE0031589)</strong></td>
<td>Abhoyjit Bhown, Electric Power Research Institute</td>
</tr>
</tbody>
</table>
11:00 a.m. Initial Engineering, Testing, and Design of a Commercial-Scale, Post-Combustion CO\textsubscript{2} Capture System on an Existing Coal-Fired Generating Unit (FE0031602)
Jason Laumb, Energy and Environmental Research Center

Moderator: Andrew Jones, U.S. Department of Energy, National Energy Technology Laboratory

11:15 a.m. Development and Bench-Scale Testing of a Novel Biphasic Solvent-Enabled Absorption Process for Post-Combustion Carbon Capture (FE0031600)
Paul Nielsen, Illinois State Geological Survey, University of Illinois at Urbana-Champaign

11:30 a.m. Development of Self-Assembly Isoporous Supports Enabling Transformational Membrane Performance for Cost Effective Carbon Capture (FE0031596)
Hans Wijmans, Membrane Technology and Research, Inc.

11:45 a.m. A Process with Decoupling Absorber Kinetics and Solvent Regeneration through Membrane Dewatering and In-Column Heat Transfer (FE0031604)
James Landon, University of Kentucky

12:00 p.m. LUNCH - URBAN ROOM

Moderator: Andy Aurelio, U.S. Department of Energy, National Energy Technology Laboratory

1:30 p.m. Mixed-Salt Based Transformational Solvent Technology for CO\textsubscript{2} Capture (FE0031597)
Palitha Jayaweera, SRI International

1:30 p.m. Poster Presentations for CO\textsubscript{2} Utilization Technologies - held concurrently in Allegheny Room

1:45 p.m. Bench-Scale Development of a Transformational Graphene Oxide-Based Membrane Process for Post-Combustion CO\textsubscript{2} Capture (FE0031598)
Shiguang Li, Gas Technology Institute
CO₂ Utilization

Moderator: Andy Aurelio, U.S. Department of Energy, National Energy Technology Laboratory

2:00 p.m.  **Flue Gas Aerosol Pre-Treatment Technologies to Minimize PCC Solvent Losses** (FE0031592)
Devin Bostick, Linde LLC

2:15 p.m.  **Storing CO₂ in Built Infrastructure: CO₂ Carbonation of Precast Concrete Products** (FE0030684)
Brian R. Ellis, University of Michigan

2:40 p.m.  **Nano Engineered Catalyst Supported on Ceramic Hollow Fibers for the Utilization of CO₂ in Dry Reforming to Produce Syngas** (FE0029760)
Shiguang Li, Gas Technology Institute

3:05 p.m.  BREAK – URBAN ROOM

3:25 p.m.  **High Energy Systems for Transforming CO₂ to Valuable Products** (FE0029787)
Osman Akpolat, Gas Technology Institute

3:50 p.m.  **Advanced Manufactured Carbonate Materials for Algal Biomass Production: Joint LLNL-SNL Program** (FWP-16-019510)
Jennifer Knipe, Lawrence Livermore National Laboratory

4:15 p.m.  **Upcycled CO₂-Negative Concrete for Construction Functions** (FE0029825)
Gaurav Sant, University of California, Los Angeles

4:40 p.m.  **Microalgae Commodities from Coal-Fired Power Plant Flue Gas CO₂** (FE0026490)
John Benemann, MicroBio Engineering, Inc.

5:05 p.m.  **ADJOURN**
7:00 a.m.  Registration - Monongahela Room Foyer
Continental Breakfast - Allegheny Room

MONONGAHELA ROOM

Moderator: Andy Aurelio, U.S. Department of Energy, National Energy Technology Laboratory

8:00 a.m.  Environmental Life Cycle Analysis Guidance for Carbon Utilization Projects
Timothy Skone, U.S. Department of Energy, National Energy Technology Laboratory

8:25 a.m.  Catalytic Conversion of CO₂ into Value Added Products
Douglas Kauffman, U.S. Department of Energy, National Energy Technology Laboratory

8:50 a.m.  CO₂ Mineralization Using Porous Carbon and Industrial Wastes to Make Multifunctional Concrete (FE0030716)
Rouzbeh Shahsavari, C-Crete Technologies, LLC.

9:15 a.m.  A New Process for CO₂ Conversion to Fuel (FE0029866)
Gokhan Alptekin, TDA Research Inc.

9:40 a.m.  Improving the Economic Viability of Biological Utilization of Coal Power Plant CO₂ by Improved Algae Productivity and Integration with Wastewater (FE0030822)
Lance Schideman, Sustainable Technology Center, University of Illinois at Urbana-Champaign

10:05 a.m.  Novel Catalysts Process Technology for Utilization of CO₂ for Ethylene Oxide and Propylene Oxide (FE0030678)
Marty Lail, Research Triangle Institute

10:30 a.m.  BREAK - ALLEGHENY ROOM

10:50 a.m.  A Combined Biological and Chemical Flue Gas Utilization System Towards Carbon Dioxide Capture from Coal-Fired Power Plants (FE0030977)
Wei Liao, Michigan State University
11:15 a.m.  **Low Temperature Process Utilizing Nano-Engineered Catalyst for Olefin Production from Coal Derived Flue Gas (FE0029570)**
Jadid E. Samad, Southern Research

11:40 a.m.  **Maximizing Current Density for Electrochemical Conversion of Flue Gas Carbon Dioxide to Ethanol (FWP-FEAA132)**
Adam Rondinone, Oak Ridge National Laboratory

12:05 p.m.  **Electrochemical CO₂ Conversion to Alcohols (FE0029868)**
Feng Jiao, University of Delaware

12:30 p.m.  **CO₂ to Bioplastics: Beneficial Re-Use of Carbon Emissions from Coal-Fired Power Plants using Microalgae (FE0029623)**
Michael Hayes Wilson, University of Kentucky Center for Applied Energy Research

12:55 p.m.  **ADJOURN**
Membrane-Integrated Sorbent Adsorption Process (SC0011885)
Gokhan Alptekin, TDA Research Inc.

Process for CO₂ Capture from Low Concentration Sources (SC0015114)
Ravi Jain, Inno-Sepra LLC.

Passive CO₂ Separation Membranes for Hot Flue Gases (SC0017124)
Matthew Merrill, Luna Innovations, Inc.

Cross-Linked Ionic Liquid/Polyether Gels for CO₂ Separation Membranes
Samir Budhathoki, AECOM, National Energy Technology Laboratory

Amine-Containing Facilitated Transport Membranes for Post-Combustion CO₂ Capture
James Baker, U.S. Department of Energy, National Energy Technology Laboratory

An Integrated Approach of Database, Machine Learning in Molecular Simulation to Screen Physical Solvents for Gas Separation
Wei Shi, AECOM/National Energy Technology Laboratory

Microporous Polymer Design and Preparation for CO₂ Capture and Separation from Flue Gas
Jim Hoffman, U.S. Department of Energy, National Energy Technology Laboratory

Computational Designing and Screening Solid Materials for CO₂ Capture
Yuhua Duan, U.S. Department of Energy, National Energy Technology Laboratory

Computational Modelling of Bulk and Surface Properties of ZIF-8 for Carbon Capture Applications
Hari Paudel, U.S. Department of Energy, National Energy Technology Laboratory

Microporous Polymer Based Blend Membranes with Advanced Gas Separation Performance
Ali Sekizkardes, AECOM/National Energy Technology Laboratory

Sequential Design of Experiments in FOQUS to Maximize Learning from Experiments
Towfiq Ahmed and Christine Anderson-Cook, Los Alamos National Laboratory

High Temperature Ceramic-Carbonate Dual-Phase Membrane Reactor for Pre-Combustion Carbon Dioxide Capture (FE0031634)
Lie Meng, Arizona State University

Transformational Membranes for Pre-Combustion Carbon Capture (FE0031635)
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K. Sham Bhat, Los Alamos National Laboratory
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Chandrakant B. Panchal, E3TEC Service, LLC

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