University Coalition for Fossil Energy Research

2020 Virtual Annual Technical Review Meeting

Host: National Energy Technology Laboratory
3610 Collins Ferry Rd, Morgantown, WV 26505
Webinar Info: Attendee Link
Webinar ID: 950-082-899
Audio: +1 (415) 655-0052

AGENDA
August 21, 2020

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11:00 – 11:05 am	**Opening Remarks** Madhava Syamlal, *DOE Technical Director, University Coalition for Fossil Energy Research*
11:05 – 11:10 am	**Welcome Remarks** Brian Anderson, *Director, National Energy Technology Laboratory*
11:10 – 11:15 am	**Administrative Update** Omer Bakshi, *DOE Project Officer, University Coalition for Fossil Energy Research*
11:15 – 11:30 am	**NETL Core Competency Overview** Bryan Morreale, *Executive Director, Research & Innovation Center, National Energy Technology Laboratory*
11:30 – 12:00 pm	**State of the Coalition** Bruce Miller, *Director, University Coalition for Fossil Energy Research*
12:00 – 12:30 pm	**LUNCH BREAK**

August 21, 2020 Continued

12:30 – 12:50 pm	**Seed-Free MHD Topping Cycle for Coal and Gas-Fired Power Generation (03-TAMU-H1a-61: Advanced Combustion)** Richard Miles, *Texas A&M University*
12:50 – 1:10 pm	**Modular Chemical Functionalization of External Surfaces of Porous Metal-Organic Framework for Filler Particles for Optimization of Interfacial Properties in Mixed Matrix Membranes (03-UPitt-I1b-04: Carbon Capture)** Nathaniel Rosi, University of Pittsburgh
1:10 – 1:30 pm	**Porous Polymer Network Membranes with Porous Molecular Additives for Post-Combustion CO2 Capture (03-TAMU-I1b-80: Carbon Capture)** Hong-Cai Zhou, Texas A&M University
1:30 – 1:40 pm	**BREAK**

1:40 – 2:00 pm **Improved wellbore integrity via sealing small cracks with CO2-soluble polymers that block water, oil and gas (03-UPitt-J1a-41: Carbon Storage)**
Robert Enick, *University of Pittsburgh*

2:00 – 2:20 pm **CO2 Storage Optimization under Geomechanical Risk and Prediction Uncertainty Using Coupled-Physics Models (03-USC-J2a-20: Carbon Storage)**
Behnam Jafarpour, *University of Southern California*

2:20 – 2:40 pm **Upscaling Experimental Measurements to the Field Scale Using a Machine-Learning-Based, Scale-Bridging Data Assimilation Approach (04-VaT-O1-09: Carbon Storage)**
Cheng Chen, *Virginia Polytechnic and State University*

2:40 – 2:45 pm **Closing Remarks & Adjourn**

August 28, 2020

11:00 – 11:05 am	**Opening Remarks** Dr. Randall Gentry, *Science & Technology Strategic Plans & Programs Deputy Director & Chief Research Officer, National Energy Technology Laboratory*
11:05 – 11:25 am	**Catalytic conversion of CO2 into vinyl acetate (03-LSU-K1d-45: Carbon Use and Reuse)** James Spivey, *Louisiana State University*
11:25 – 11:45 pm	**Atomically Precise Au25-based Alloy Nanoclusters for Electrochemical CO2 Conversion (03-UPitt-K1d-16: Carbon Use and Reuse)** Ioannis Bourmpakis (Giannis Mpourmpakis), *University of Pittsburgh*
11:45 – 12:05 pm	**Developing a Novel Ultrafine Coal Dewatering Process (04-VaT-P1-32: Coal Beneficiation)** Rui Qiao, *Virginia Polytechnic and State University*
12:05 – 12:35 pm	**LUNCH BREAK**
12:35 – 12:55 pm	**Porous Silicon/Lignite-Derived Graphene Composite Anodes for Lithium-Ion Batteries (04-UND-P2-15: Coal Beneficiation)** Xiaodong Hou, *University of North Dakota*
12:55 – 1:15 pm	**Computer vision and machine learning making the processing-microstructure-property connection in heat resistant alloys (04-CMU-Q1-20: Crosscutting Research)** Elizabeth Holm, *Carnegie Mellon University*
1:15 – 1:35 pm	**Development of a Novel Supersonic Hybrid Non-equilibrium Plasma Reactor for Efficient and Tunable Co-Production of Hydrogen and Value-Added Solid Carbons (04-PrU-R1-10: Fuel Cell Technologies)** Yiguang Ju, *Princeton University*
1:35 – 1:45 pm	**BREAK**
1:45 – 2:05 pm	**Optimization of Microwave-Driven, Plasma-Assisted Conversion of Methane to Hydrogen and Graphene Solid Carbons (03-PSU-L1a-17: Fuel Cell Technologies)** Randy Vander Wal, *Pennsylvania State University*
2:05 – 2:25 pm	**Metal-free Catalyzed Synthesis of Novel Carbon by Carbon Allotrope Seeds (04-PSU-R2-02: Fuel Cell Technologies)** Randy Vander Wal, *Pennsylvania State University*
2:25 – 2:45 pm	**UCFER: Computational Investigation of Coal Conversion via Microwave Induced Plasmas (03-WVU-M1a-51: Gasification)** Terence Musho, *West Virginia University*
2:45 – 2:50 pm	**Closing Remarks & Adjourn**