Crosscutting Research and Advanced Energy Systems Project Review Meeting
Sensor Technologies for Fossil Energy Virtual Session Agenda

All times designated in Eastern Daylight Time

Thursday, May 20, 2021

8:45 AM  Welcome and Opening Remarks
           Dave Lyons, Transformative Power Generation and
           Sydni Credle, Crosscutting Research Sensors & Controls, National Energy Technology Laboratory

9:00 AM   DOE Perspectives - An Overview of Sponsoring Programs
           Sotirios (Sam) Thomas, U.S. Department of Energy

9:30 AM   Highlighting: Distributed Temperature Measurements (Optical Fiber), Laser LOS Measurement (Laser), Fluorescent Particles for Boiler Application (FWP-NETL)
           Ben Chorpening, National Energy Technology Laboratory

Coal Fly Ash Speciation

Moderator: Rick Dunst

10:00 AM  Elucidating Arsenic and Selenium Speciation in Coal Fly Ashes (FE0031739)
           Yuanzhi Tang, Georgia Tech Research Corporation

10:30 AM  Characterization of Arsenic and Selenium in Coal Fly Ash to Improve Evaluations for Disposal and Reuse Potential (FE0031748)
           Heileen Hsu-Kim, Duke University

11:00 AM  BREAK

Plant Improvements via Advanced Sensor Technologies

Moderator: Rick Dunst

11:15 AM  Mid Infra-Red Laser Sensor for Continuous Sulfur Trioxide Monitoring to Improve Coal-Fired Power Plant Performance During Flexible Operations (FE0031560)
           Jason Kriesel, Opto-Knowledge Systems, Inc.

11:45 AM  Wireless High Temperature Sensor Network for Smart Boiler Systems. (FE0031895)
           Xuejun Lu, University of Massachusetts
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12:15 PM BREAK

Plant Improvements via Advanced Sensor Technologies

Moderator: Jessica Mullen

12:45 PM Online System ID for Predicting Power Plant Performance Throughout Cycling Operations (FWP-1022461 - Task 4)
Larry Shadle, National Energy Technology Laboratory
(Sponsored by Transformative Power Generation Program)

1:15 PM Ultrasonic Measurements of Temperature Profile and Heat Fluxes in Coal-Fired Power Plants (FE0031559)
Mikhail Skliar, University of Utah
(Sponsored by Transformative Power Generation Program)

1:45 PM Combustion Performance and Emissions Optimization Through Integration of a Miniaturized High-Temperature Multi Process Monitoring System (FE0031680)
Zhonghua Zhan, Reaction Engineering International
(Sponsored by Transformative Power Generation Program)

2:15 PM Development of Miniaturized High-Temperature Multi-Process Monitoring System (FE0031682)
Hong-Shig Shim, Reaction Engineering International
(Sponsored by Transformative Power Generation Program)

2:45 PM BREAK

3:00 PM Demonstration of Multi-Gamma Based Sensor Technology for As-Fired Coal Property Measurement(FE0031750)
Shuchita Patwardhan, Microbeam Technologies, Inc.
(Sponsored by Transformative Power Generation Program)

3:30 PM Test and Validate Distributed Coaxial Cable Sensors for In Situ Condition Monitoring of Coal-Fired Boiler Tubes (FE0031765)
Tanju Karanfil, Clemson University
(Sponsored by Transformative Power Generation Program)
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4:00 PM    Real-time, Close-Coupled, Multi-Species Gas Analyzer (SC0020879)
            Jason Kriesel, Opto-Knowledge Systems, Inc.

4:30 PM    High Temperature Electrochemical Sensors for In-Situ Corrosion Monitoring in Coal-Based Power Generation Boilers (FE0031548)
            Xingbo Liu, West Virginia University Research Corporation