

MONDAY MAY 19

TRACK A			TRACK B	
SESSION TITLE	PROJECT	TIME	SESSION TITLE	PROJECT
Simulation Based Engineering (SBE)	Crosscutting Research (XC) Carbon Capture Simulation Initiative (CCSI) -- NETL-ORD	10:30	High Performance Materials (HPM)	Synthesis of Core-Shell Structured Micro-Particles for Fossil Energy -- Howard University
SBE	National Risk Assessment Program (NRAP) -- NETL-ORD	11:00	HPM	Large Scale Screening of Low Cost Ferritic Steels Designs for Advanced Ultra Supercritical -- Tennessee State University
LUNCH		11:30	LUNCH	
Innovative Technologies (SBE)	Innovative Process Technologies -- NETL-ORD	1:00	HPM	A Computational Experimental Study of the Plasma Processing of Carbides at High Temperatures -- University of Texas at El Paso
SBE	Coal Combustion and Gasification Science -- SNL - Sandia National Laboratory - CA	1:30	HPM	Mechanically Activated Combustion Synthesis of MOSi ₂ -Based Composites -- UTEP
SBE	Addressing Model Integration Challenges in Energy Systems -- Ames National Laboratory	2:00	HPM	Design Optimization of Liquid Fueled High Velocity Oxy-Fuel Thermal Spraying Technique for Durable Coatings for Fossil Power Systems -- UTEP
BREAK		2:30	BREAK	
SBE	Uncertainty Quantification Tools for Multiphase Gas-Solid Flow Simulations using MFIX -- Iowa State University	3:00	HPM	Advanced Thermal Barrier Coatings for Next Generation Gas Turbine Engines Fueled by Coal-Derived Syn -- Brown University
SBE	Implementation and Refinement of a Comprehensive Model for Dense Granular Flows -- Princeton University	3:30	HPM	Effective Exploration of New 760 Degrees Celsius-Capability Steels for Coal Energy -- The Ohio State University
SBE	Development of a 2-Fluid Drag Law for Clustered Particles using Direct Numerical Simulation & Validation through Experiments -- Florida International University	4:00	HPM	HVOF Thermal Spray TIC/TIB ₂ Coatings of Ausc Boiler/Turbine Components for Enhanced Corrosion Protection -- Southern Illinois University
SBE	Study of Particle Rotation Effect in Gas-Solid Flows Using Direct Numerical Simulation with a Lattice Boltzmann Method -- Tuskegee University	4:30	HPM	Synergistic Computational & Microstructural Design of Next-Generation High-Temperature Austenitic St -- Texas Engineering Experiment Station

TUESDAY MAY 20

TRACK A			TRACK B		
SESSION TITLE	PROJECT	TIME	SESSION TITLE	PROJECT	
SBE	Computational Fluid Dynamic Simulations of a Regenerative Process for Carbon Dioxide Capture in Advanced Gasification Based Power Systems -- Illinois Institute of Technology	10:30	S&C	Development of Metal Oxide Nanostructure-Based Optical Sensors for Fossil Fuel Derived Gases Measurement at High Temperature -- University of Pittsburgh	
SBE	Quantifying the Uncertainty of Kinetic-theory Predictions of Clustering -- University of Colorado	11:00	HPM	Experimental and Computational Investigation of High Entropy Alloys for Elevated High Temp. Applications -- University of Tennessee	
LUNCH		11:30	LUNCH		
Sensors and Controls (S&C)	Ultrasound Measurements of Temperature Profile in Extreme Environ. -- University of Utah	1:00	HPM	Computational Microstructural Optimization Design Tool for High Temperature Structural Materials -- University of North Texas	
S&C	Plasmonics Based Emission Gas Sensors -- The Research Foundation of SUNY	1:30	HPM	Novel Functional-Gradient Thermal Barrier Coatings in Coal-Fired Power Plant Turbines -- Indiana University	
S&C	Gallium Oxide Nanostructures for High-Temperature Sensors -- University of Texas at El Paso	2:00	HPM	Laves Phase-Strengthened Austenitic Steels for Coal-Fired Power Systems -- Dartmouth College	
BREAK		2:30	BREAK		
S&C	Intelligent Coordination of Heterogeneous Sensors in Advanced Power Systems -- Oregon State University	3:00	HPM	Multi-Scale Computational Design and Synthesis of Protective Smart Coatings for Refractory Metal Alloys --University of Wisconsin	
S&C	Wireless, Passive Ceramic Strain Sensors for Turbine Engine Applications -- University of Central Florida	3:30	HPM	Novel Nano-Size Oxide Dispersion Strengthened Steels Development Through Computational and Experimental Study -- Southern University and A&M College	
S&C	Graphene-Based Composite Sensors for Energy Applications --- WVU Research Corporation	4:00	HPM	An Integrated Study of a Novel Thermal Barrier Coating for Niobium Based High Temperature Alloy -- Southern University and A&M College	
S&C	High-Temperature Nano-Derived Micro-H ₂ and H ₂ S Sensors -- WVU Research Corporation	4:30	HPM	An Integrated Study on a Novel High Temperature High Entropy Alloy -- Southern University and A&M College	

WEDNESDAY MAY 21

TRACK A			TRACK B	
SESSION TITLE	PROJECT	TIME	SESSION TITLE	PROJECT
S&C	Self-Powered Wireless Sensor to monitor Coal Ash Corrosion in a USC Boiler -- WVU Research Corporation	10:30	HPM	High Temperature Thermoelectric Oxides Engineered at Multiple Length Scales for Energy Harvesting -- University of Washington
S&C	Condition-Based Monitoring of Turbine Blades Demonstrated in H-Class or Equivalent Engine -- Siemens Energy Inc.	11:00	HPM	Structure and Property Correlation in MAX Phases -- University of Missouri System (Kansas City)
LUNCH		11:30	LUNCH	
S&C	Merged Environment for Simulation and Analysis: Building and Extensible Framework for Testing New Engineering Concepts -- Ames National Laboratory	1:00	HPM	Computational Design of Creep-Resistant Alloys and Experimental Validation in Ferritic Superalloys -- University of Tennessee
Innovative Technologies (S&C)	Optical Thin Films for High temperature Sensing in Advanced Fossil Energy Applications - - NETL ORD	1:30	HPM	Further Understanding of Furnace Wall Corrosion in Coal-Fired Boliers -- Babcock & Wilcox Power
S&C	Development of a CO2 Chemical Sensor for Downhole CO2 Monitoring in Carbon Sequestration -- New Mexico Institute of Mining & Technology	2:00	HPM	Influence of Processing on Microstructure and Properties of Iron Aluminides and Coatings -- INL - Idaho National Laboratory
BREAK		2:30	BREAK	
S&C	Wireless Battery-Free Harsh Environment Sensor System for Energy and Computer Engineering -- University of Maine	3:00	Innovative Technologies (HPM)	Predicting Microstructural Stability For Advanced FE Systems -- NETL-ORD
S&C	Development of a Ceramic Coaxial Cable Sensor-based System for Long-Term Down-Hole CO2 Sequestration Monitoring -- Missouri University of Science & Technology	3:30	Innovative Technologies (HPM)	An Integrated Computational Approach to Predicting the Protective Oxide Scale Formation in Alloys in FE Relevant Environments -- NETL-ORD
S&C	Micro-Structured Sapphire Fiber Sensors for Harsh Environments -- Missouri University of Science & Technology	4:00	HPM	Bespoke Materials Surfaces -- ORNL - Oak Ridge National Laboratory
S&C	TDL Syngas for In-Situ monitoring of CO, CH4, CO2, and H2O in an Engineering-Scale High-Pressure Coal Gasifier -- Stanford University	4:30	HPM	Understanding Corrosion Mechanisms in Advanced Coal-Fired Boilers -- ORNL - Oak Ridge National Laboratory

THURSDAY MAY 22

TRACK A			TRACK B		
SESSION TITLE	PROJECT	TIME	SESSION TITLE	PROJECT	
S&C	Ultra-High Temperature Thermionic Sensor - Palo Alto Research Center	10:30	HPM	Steam Turbine Materials for Advanced Ultra Supercritical (AUSC) Coal Power Plants -- Energy Industries of Ohio Inc.	
S&C	Multi-Point Pressure Sensing Fiber Optic for Monitoring CO2 Sequestration -- General Electric Company	11:00	HPM	Development of Advanced Materials for Ultrasupercritical Boiler Systems -- Energy Industries of Ohio Inc.	
LUNCH		11:30	LUNCH		
S&C	Intrinsic Fiber Optic Chemical Sensors for Subsurface Detection of Carbon Dioxide -- Intelligent Optical Systems Inc.	1:00	HPM	Advanced Processing of Metallic Powders for Fossil Energy Applicants -- Ames National Laboratory	
S&C	Model-Based Sensor Placement for Component Condition Monitoring and Fault Diagnosis in Fossil Energy -- Texas Tech University	1:30	HPM	Computational and Experimental Development of Novel High Temperature Alloys -- Ames National Laboratory	
S&C	An Information Theoretic Framework and Self-Organizing Agent-Based Sensor Network Architecture for Power Plant Condition Monitor -- Case Western Reserve University	2:00	HPM	Design of Multiscale Systems -- Ames National Laboratory	
BREAK		2:30	BREAK		
S&C	Embedded Active Fiber Optic Sensing Network for Structural Health Monitoring in Harsh Environments -- Va Tech	3:00	HPM	Corrosion Performance of Structural Alloys in Simulated Oxy-Fuel Environments -- ANL - Argonne National Laboratory	
S&C	Distributed Fiber Optic Sensor for On-line Monitoring of Coal Gasifier Refractory Health -- Va Tech	3:30	HPM	Development of NDE Methods for Ceramic Coatings -- ANL - Argonne National Laboratory	
S&C	Novel Modified Optical Fibers for High Temperature In-Situ Miniaturized Gas Sensors in Advanced Fossil Energy Systems -- Va Tech	4:00	HPM	Ni-Based Alloys for Advanced Ultra-Supercritical Steam Boilers -- ORNL - Oak Ridge National Laboratory	
S&C	Single-Crystal Sapphire Optical Fiber Sensor Instrumentation -- Va Tech	4:30	HPM	Materials Testing for Advanced Ultra-Supercritical System Turbines -- ORNL - Oak Ridge National Laboratory	

FRIDAY MAY 23

SESSION TITLE	PROJECT	TIME
HPM	Joining of Advanced High-Temperature Materials -- PNNL	8:00
HPM	Low Cost Fabrication of ODS Materials -- PNNL	8:30
HPM	Development of an Improved Creep Resistant Fe-9Cr Steel -- NETL-ORD	9:00
BREAK		9:30
HPM	Addressing Materials Processing Issues for Steam Turbines -- NETL-ORD	10:00
HPM	Improving the Performance of Creep Strength-Enhanced Ferritic Steels -- ORNL	10:30
HPM	Oxy-Combustion Environmental Characterization: Fire- and Steam-Side Corrosion -- NETL-ORD	11:00
HPM	Qualification of New, Commercial ODS Alloy -- ORNL	11:30
MEETING CONCLUDES		