2015 CCR PROJECT REVIEW MEETING GRID

MONDAY APRIL 27

7:30 AM	REGISTRATION AND CONTINENTAL BREAKFAST								
8:30 AM	1	JOINT SESSION	8:30 - 9:00 am Dr. Grace M. Bochenek Director, National Energy Technology Laboratory			9:00- 9:30 am KEYNOTE SPEAKER 2 Representative from USDOE Office of Fossil Energy		9:30 - 10:00 AM KEYNOTE SPEAKER 3	
10:00 AM	MORNING BREAK								
TRACKS	HIGH PERFORMANCE MATERIALS					SENSORS &CONTROLS/SIMULATION-BASED ENGINEERING			
	Breakout Session Number	Breakout Session Title	Performer	Project Title		Breakout Session Number	Breakout Session Title	Performer	Project Title
10:30 AM	2	Advanced Manufacturing - Materials	University of Texas - El Paso	Mechanically Activated Combustion Synthesis of MOSi2-Based Composites		3	SIMULATION-BASED ENGINEERING	Ames National Laboratory	Engineering of Complex Systems
			University of Texas - El Paso	A Computational Experimental Study of the Plasma Processing of Carbides at High Temperatures				Ames National Laboratory	Sensors and Controls - Merged Environment for Simulation and Analysis (MESA)
11:30 AM	LUNCH								
1:00 PM	4	ADVANCED MANUFACTURING - MATERIALS	Energy Industries of Ohio Inc.	Benefits of Hot Isostatic Pressure/Powdered Metal (HIP/PM) and Additive Manufacturing (AM) to Fabricate Advanced Energy System Components		5	SIMULATION-BASED ENGINEERING	Ames National Laboratory	Kinetic Theory Modeling of Turbulent Multiphase Flow
			Ceralink, Inc.	Additive Manufacturing for Cost Efficient Production of Compact Ceramic Heat Exchangers and Recuperators				NETL - Office of Research & Development	IPT - Simulation-Based Engineering and Design
			University of Texas - El Paso	Design Optimization of Liquid Fueled High Velocity Oxy-Fuel Thermal Spraying Technique for Durable Coatings for Fossil Power Systems				NETL - Office of Research & Development	Carbon Capture Simulation Initiative (CCSI)
2:30 PM	AFTERNOON BREAK								
3:00 PM	6	COMPUTATIONAL MATERIALS	Purdue University	Predicting Microstructure-Creep Resistance Correlation in High Temperature Alloys Over Multiple Time Scales		7	SIMULATION-BASED ENGINEERING	NETL - Office of Research & Development	National Risk Assessment Partnership (NRAP)
			Southern University	Novel Nano-Size Oxide Dispersion Strengthened Steels Development Through Computational and Experimental Study				Sandia National Laboratory	Coal Combustion and Gasification Science
			Texas A&M Engineering Experiment Station	Synergistic Computational and Microstructural Design of Next-Generation High-Temperature Austenitic Stainless Steels				NETL - Office of Research & Development	IPT - Direct Power Extraction
			Southern University	An Integrated Study on a Novel High Temperature High Entropy Alloy					

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TUESDAY APRIL 28

7:30 AM	REGISTRATION AND CONTINENTAL BREAKFAST								
8:30 AM	8	JOINT SESSION	8:30 - 9:00 am Dr. William Peter Leader, Materials Processing Group Manufacturing Demonstration Facility - Oak Ridge National Lab			9:00 - 9:30 am KEYNOTE SPEAKER 5		9:30 - 10:00 am Erik Shuster NETL Office of Performance and Benefits Overview of Recent Benefits Analyses for the Crosscutting Technology Research Program	
10:00 AM	MORNING BREAK								
TRACKS	HIGH PERFORMANCE MATERIALS					SENSORS&CONTROLS/SIMULATION-BASED ENGINEERING			
	Breakout Session Number	Breakout Session Title	Performer	Project Title		Breakout Session Number	Breakout Session Title	Performer	Project Title
10:30 AM	9	STRUCTURAL MATERIALS	University of Tennessee	Experimental and Computational Investigation of High Entropy Alloys for Elevated High Temp Applications		10	S&C Harsh Environment	Palo Alto Research Center	Heat Sensor-Harsh Environment Adaptable Thermionic Sensor
			University of Illinois	Serration Behavior of High-Entropy Alloys				University of Maine	High-Temperature Wireless Sensor for Harsh Environment Conditon Monitoring
11:30 AM	LUNCH								
1:00 PM	11	FUNCTIONAL MATERIALS	Indiana University	Novel Functional-Gradient Thermal Barrier Coatings in Coal-Fired Power Plant Turbines		12	SENSORS & CONTROLS	Case Western Reserve University	An Information Theoretic Framework and Self-Organizing Agent-Based Sensor Network Architecture for Power Plant Condition Monitor
			Southern Illinois University	HVOF Thermal Spray TIC/TIB2 Coatings of Ausc Boiler/ Turbine Components for Enhanced Corrosion Protection				Texas Tech University	Model-Based Sensor Placement for Component Condition Monitoring and Fault Diagnosis in Fossil Energy
			Auburn University	Reduced Cost Bond Layers for Multi-Layer Thermal/Environmental Barrier Coatings				Oregon State University	Evolving Robust and Reconfigurable Multi-Objective Controllers for Advanced Power Systems
2:30 PM	AFTERNOON BREAK								
3:00 PM	13	FUNCTIONAL MATERIALS	Brown University	Advanced Thermal Barrier Coatings for Next Generation Gas Turbine Engines Fueled by Coal-Derived Syn		14	SENSORS & CONTROLS	University of Central Florida	Wireless, Passive Ceramic Strain Sensors for Turbine Engine Applications
			University of Tennessee	Developing Novel Multifunctional Materials for High-Efficiency Electrical Energy Storage				West Virginia University	Graphene-Based Composite Sensors for Energy Applications
			North Carolina State University	Rational Design of Mixed-Metal Oxides for Chemical Looping Combustion of Coal Via Computational Experimental Studies				Sporian Microsystems Inc.	Advanced Ceramic Materials and Packaging Technologies for Realizing Sensors Operable in Advanced Energy Generation Systems
			Howard University	Novel Low Cost Environmentally Friendly Synthetic Approaches toward Core Shell Structured Micro-Particles for Fossil Energy Applications				Tech4Imaging	Real-Time 3-D Volume Imaging and Mass-Gauging of High Temperasture Flows and Power System Components in a Fossil Fuel Reactor Using Electrical Capacitance Volume Tomography

2015 CCR PROJECT REVIEW MEETING GRID

WEDNESDAY APRIL 29

TRACKS	HIGH PERFORMANCE MATERIALS				SENSORS&CONTROLS/SIMULATION-BASED ENGINEERING			
	Breakout Session Number	Breakout Session Title	Performer	Project Title	Breakout Session Number	Breakout Session Title	Performer	Project Title
7:30 AM	REGISTRATION AND CONTINENTAL BREAKFAST							
8:30 AM	15	ADVANCED ULTRA SUPER CRITICAL	Energy Industries of Ohio	Steam Turbine Materials for Advanced Ultra Supercritical (AUSC) Coal Power Plants	16	SIMULATION-BASED ENGINEERING	University of Texas - San Antonio	Use of an Accurate DNS Method to Derive, Validate and Supply Constitutive Equations for the MFIX Code
			Energy Industries of Ohio	Boiler Materials for Ultrasupercritical Power Plants			Princeton University	Implementation and Refinement of a Comprehensive Model for Dense Granular Flows
			Oak Ridge National Laboratory	Materials for USC Steam Power Plants			Iowa State University	Multiphase Flow Research-Uncertainty Quantification Tools for Multiphase Gas-Solid Flow Simuls using MFIX
10:00 AM	MORNING BREAK							
10:30 AM	17	ADVANCED ULTRA SUPER CRITICAL	Oak Ridge National Laboratory	Ultrasupercritical Steam Cycle Turbine Materials	18	S&C Harsh Environment	State University of New York	Heat Activated Plasmonics Based Harsh Environment Chemical Sensors
			NETL - Office of Research & Development	Superalloy Design & Development			University of Utah	In-Situ Acoustic Measurements of Temperature Profile in Extreme Environments
11:30 AM	LUNCH							
1:00 PM	19	ADVANCED ULTRA SUPER CRITICAL	Babcock & Wilcox	Component Test Facility (COMTEST) Phase 1 Engineering for 760OC (1400 Deg F) A-USC Steam Generator Development	20	SENSORS & CONTROLS	Oregon State University	Intelligent Coordination of Heterogeneous Sensors in Advanced Power Systems
			Alstom Power, Inc.	Advanced Ultrasupercritical (AUSC) Tube Membrane Panel Development			University of Illinois - Chicago	Multi-Objective Optimal Sensor Deployment under Uncertainty for Advanced Power Systems
			NETL - Office of Research & Development	Advanced Ferritic Alloys			West Virginia University	Development of Integrated Biomimetic Framework with Intelligent Monitoring, Cognition and Decision Capabilities for Control of Advanced Energy Plants
2:30 PM	AFTERNOON BREAK							
3:00 PM	21	COMPUTATIONAL MATERIALS	QuesTek Innovations LLC	Computational Design of Weldable, High-Cr Ferritic Steel	22	SENSORS & CONTROLS	University of Connecticut	Metal Oxide/Nitride Heterostructured Nanowire Arrays for Ultra-Sensitive and Selective Multi-Mode High Temperature Gas Detection
			Ames National Laboratory	Computational and Experimental Development of Novel High Temperature Alloys			Virginia Tech	Distributed Fiber Optic Sensor for On-line Monitoring of Coal Gasifier Refractory Health
			Ames National Laboratory	Design of Multiscale Systems			Virginia Tech	Reduced Mode Sapphire Optical Fiber and Sensing System
			Tennessee State University	Large Scale Screening of Low Cost Ferritic Steels Designs for Adv USC Boiler Using First Principles Methods			West Virginia University	Development of Self-Powered Wireless-Ready High Temperature Electrochemical Sensors of In-Situ Corrosion

2015 CCR PROJECT REVIEW MEETING GRID

THURSDAY APRIL 30

TRACKS	HIGH PERFORMANCE MATERIALS				SENSORS&CONTROLS/SIMULATION-BASED ENGINEERING			
	Breakout Session Number	Breakout Session Title	Performer	Project Title	Breakout Session Number	Breakout Session Title	Performer	Project Title
7:30 AM	REGISTRATION AND CONTINENTAL BREAKFAST							
8:30 AM	23	STRUCTURAL MATERIALS	Oak Ridge National Laboratory	Corrosion Issues in Advanced Coal Fired Boilers	24	DOWNHOLE CO_2 SENSORS	New Mexico Institute of Mining & Technology	Development of a CO2 Chemical Sensor for Downhole CO2 Monitoring in Carbon Sequestration
			Oak Ridge National Laboratory	Advanced Alloy Design Concepts for High Temperature Fossil Energy Applications			University of Missouri System	Robust Ceramic Coaxial Cable Down-Hole Sensors for Long-Term In Situ Monitoring of Geologic CO2 Injection
			Argonne National Laboratory	Gas Turbine Materials Life Assessment and Non-Destructive Evaluation			Intelligent Optical Systems Inc.	Intrinsic Fiber Optic Chemical Sensors for Subsurface Detection of Carbon Dioxide
10:00 AM	MORNING BREAK							
10:30 AM	25	Advanced Manufacturing - Materials	Pacific Northwest National Laboratory	Solid State Joining of Creep Enhanced Ferritic Steels	26	SENSORS & CONTROLS	NETL - Office of Research & Development	IPT - Sensors and Controls
			Pacific Northwest National Laboratory	Low Cost Fabrication of ODS Materials			University of Texas - El Paso	Investigation on Pyroelectric Ceramic Temperature Sensors for Energy System Applications
11:30 AM	LUNCH							
1:00 PM	27	COMPUTATIONAL MATERIALS	NETL - Office of Research & Development	Computational Aspects of Alloy Design & Life Prediction	28	S & C -- ADVANCED MANUFACTURING	University of Texas - El Paso	Gallium Oxide Nanostructures for High-Temperature Sensors
			Oak Ridge National Laboratory	Creep-Fatigue-Oxidation Interactions: Predicting Alloy Lifetimes under Fossil Energy Service Conditions			UTC	Additive Topology Optimized Manufacturing with Embedded Sensing
			Oak Ridge National Laboratory	Weldability of Creep Resistant Alloys for Advanced Power Plants			University of Missouri System	Additive Manufacture of Smart Parts with Embedded Sensors for In-Situ Monitoring in Advanced Energy Systems
2:30 PM	AFTERNOON BREAK							
3:00 PM	29	STRUCTURAL MATERIALS	NETL - Office of Research & Development	Advanced Fossil Energy Alloy Concepts	30	S & C -- ADVANCED MANUFACTURING	Virgina Tech	Embedded Active Fiber Optic Sensing Network for Structural Health Monitoring in Harsh Environments
			Ohio State University	Effective Exploration of New 760 Degrees Celsius-Capability Steels for Coal Energy			University of Texas - El Paso	Investigation of "Smart Parts" with Embedded Sensors for Energy System Applications
			Dartmouth College	Laves Phase-Strengthened Austenitic Steels for Coal-Fired Power Systems			West Virginia University	Smart Refractory Sensor Systems for Wireless Monitoring of Temperature, Health and Degradation of Slagging Gasifiers
							University of Florida	High-Temperature Sapphire Pressure Sensors for Harsh Environments