Tuesday 4/21	Session A - Conference Room: Ballroom			
	MATERIALS			
	Organization	PI	Title	Moderator
7:00 AM	REGISTRATION AND BREAKFAST			
7:30 AM				
	KEYNOTES			
8:00 AM	Welcome: Brian Anderson, Director, National Energy Technology Laboratory			
8:30 AM	Keynote: Steven Winberg, Assistant Secretary for Fossil Energy, U.S. Department of Energy			
9:00 AM	Panel: Fossil Energy Program Update			
9:30 AM	Update: Historically Black Colleges and Universities (TBD) Success Story: Tech4Imaging, Doing Business with NETL/DOE			
10:00 AM	BREAK			
	Existing Fossil Fleet Materials Challenges I			
10:30 AM	National Energy Technology Laboratory	Irene Spitsberg	Existing Fleet Materials Analysis	Jeff Hawk
11:00 AM	Strategic Power systems, Inc (NETL)	Salvatore DellaVilla Jr	An Investigation of the Effect of Cyclic Operation on HRSG and Coal-fired Boiler Tubes - Failures Induced by High Thermal Stress and Component Fatigue	
11:30 AM	Strategic Power Systems, Inc (ORNL)	Salvatore DellaVilla Jr	Utilizing High Performance Computational Analysis to Characterize the Operating Envelop of Various NGCC Operating Technologies	
NOON	LUNCH			
	Existing Fossil Fleet Materials Challenges II			
1:00 PM	Oak Ridge National Laboratory	Sebastien Dryepondt	Probabilistic Life Assessment and Aged Materials Testing for Service Feedback of Gas Turbine Components	Jeff Hawk
1:30 PM	High Performance Materials	Briggs White	Facilitated Discussion	
2:00 PM	Oak Ridge National Laboratory	Rishi Pillai	Steamside Oxidation Issues in Current Coal-Fired Boilers	
2:30 PM	United Technologies Research Center (LLNL)	Kenneth Smith	Understanding Complex, Coupled Mechanisms of Oxidation and Hot Corrosion Degradation with Computational Models	
3:00 PM	BREAK			
	Existing Fossil Fleet Materials Challenges III			
3:30 PM	Pratt & Whitney (ORNL)	William Joost	Predicting Limit Rub Response in Advanced Gas Turbine Engines	Jeff Hawk
4:00 PM	Electric Power Research Institute, Inc.	Steve Kung	Characterization of Long-Term Service Coal Combustion Power Plant Extreme Environment Materials	
4:30 PM	Michigan Technological University	Walter Milligan	Development of a Physically-Based Creep Model Incorporating ETA Phase Evolution for Nickel-Base Superalloys	
5:00 - 7:30 PM	POSTER SESSION			

3/6/2020 10:00

Wednesday 4/22	Session A - Conference Room: Ballroom			
	MATERIALS			
	Organization	PI	Title	Moderator
7:00 AM	REGISTRATION AND BREAKFAST			
7:30 AM				
	Alloy Manufacturing I			
8:00 AM	Energy Industries of Ohio, Inc.	Horst Hack	Advanced Ultra-Supercritical Component Testing	Vito Cedro
8:30 AM	Oak Ridge National Laboratory	Xiang (Frank) Chen	Evaluating Ni-Based Alloys for A-USC Component Manufacturing and Use	
9:00 AM	Idaho National Laboratory	Thomas Lillo	Physics-based Creep Simulation of Thick Section Welds in High Temperature and Pressure Applications	
9:30 AM	Oak Ridge National Laboratory	Zhili Feng	Weldability of Creep Resistant Alloys for Advanced Power Plants	
10:00 AM	BREAK			
	Alloy Manufacturing II			
10:30 AM	Siemens Energy Inc (LANL)	Kai Kadau	High Performance Particle Based Modeling of Damage Nucleation from Forging Flaws in Fossil Power Generation Rotor Components	Rick Dunst
11:00 AM	Pacific Northwest National Laboratory	Christopher Smith	Integrated Process Improvement using Laser and Friction Stir Processing for Nickel Alloys used in Fossil Energy Power Plant Applications	
11:30 AM	Vacuum Process Engineering (Sandia National Laboratory)	Carl Schalansky	Compact Diffusion Bonded Heat Exchanger Fatigue Life Simulations	
NOON	LUNCH			
12:30 PM				
	Alloy Development and Advanced Manufacturing			
1:00 PM	Oak Ridge National Laboratory	Xiang (Frank) Chen	Low Cost High Performance Austenitic Stainless Steels for A-USC	Michael Fasouletos
1:30 PM	Arconic (ORNL)	Tyler Bochers (Arconic)	Multiscale Modelling of Microstructure Evolution during Rapid Solidification for Additive Manufacturing	
2:00 PM	Oak Ridge National Laboratory	Sebastien Dryepondt	Additive Manufacturing of High Gamma Prime Alloys	
2:30 PM	Oak Ridge National Laboratory	Sebastien Dryepondt	Components Fabricated by Additive Manufacturing	
3:00 PM	BREAK			
	Modeling and Alloy Development			
3:30 PM	Carnegie Mellon University	Elizabeth Holm	Computer Vision and Machine Learning making the Processing-Microstructure-Property connection in Heat Resistant Alloys	Vito Cedro
4:00 PM	Ames National Laboratory	Matthew Kramer	Predictive Design of Novel Ni-based Alloys	
4:30 PM	University of California - Riverside	Bryan Wong Anshuman Kumar (Student Researcher)	Large-Scale, GPU-Enhanced DFTB Approaches for Probing Multi-Component Alloys	

3/6/2020 10:00

THURSDAY 4/23	Session A - Conference Room: Ballroom MATERIALS			
	Organization	**PI**	**Title**	**Moderator**
7:00 AM	**REGISTRATION AND BREAKFAST**			
7:30 AM				
	Alloy Development and Life Prediction			
8:00 AM	National Energy Technology Laboratory	Eric Lewis	Nickel Superalloy Cost Sensitivities for Conceptual Designs of Advanced Ultra-supercritical Pulverized Coal Plants	David Alman
8:30 AM	eXtremeMAT National Laboratory Consortium, LANL	Laurent Capolungo	Computational Modeling and Simulation for Alloy Design and Performance Prediction for Fossil Energy Applications	
9:00 AM	eXtremeMAT National Laboratory Consortium, PNNL	Ram Devanathan	Data Science and Analytics for Alloy Design and Performance Prediction for Fossil Energy Applications	
9:30 AM	eXtremeMAT National Laboratory Consortium, ORNL	Y. Yamamoto / Edgar Lara-Curzio	Experimental Validation & New Alloy Development	
10:00 AM	**BREAK**			
	Supercritical CO2			
10:30 AM	National Energy Technology Laboratory	Omer Dogan	Manufacturing Compact Heat-Exchangers for Supercritical CO2 Power Cycles	Jeff Hawk
11:00 AM	National Energy Technology Laboratory	Richard Oleksak	Materials Performance in Direct Supercritical CO2 Power Cycles	
11:30 AM	Oak Ridge National Laboratory	Rishi Pillai	Effect of Impurities on Supercritical Carbon Dioxide Compatibility	
NOON	**LUNCH**			
	Materials Modeling			
1:00 PM	Florida International University	Jiuhua Chen	The Fundamental Creep Behavior Model of GR.91 Alloy by Integrated Computational Materials Engineering (ICME) Approach	Michael Fasouletos
1:30 PM	Missouri State University	Ridwan Sakidja	Multi-modal Approach to Modeling Creep Deformation In Ni-Base Superalloys	
2:00 PM	Pennsylvania State University	Zi-Kui Liu	High Throughput Computational Framework of Materials Properties for Extreme Environments	
2:30 PM	University of Texas at El Paso	Calvin Stewart Student Researcher - Md Abir Hossain and Robert Mach	An Accelerated Creep Testing Program for Advanced Creep Resistant Alloys for High Temperature Fossil Energy Applications	
3:00 PM	**BREAK**			
	Alloy Development, Ceramics, and Turbine Combustors			
3:30 PM	National Energy Technology Laboratory	Martin Detrois	High Entropy Superalloy Development	Omer Dugan
4:00 PM	VAST Power Systems, Inc.	David Hagen	Ultra-Clean Transient Turbine Combustor	
4:30 PM				

3/6/2020 10:00

POSTER SESSION

Program	Number	Organization	PI	Title	Agreement #
MATERIALS	MAT-1	General Electric Company	Shenyan Huang	Low-Cost Hip Fabrication of Advanced Power Cycle Components and PM/Wrought in740h Weld Development	FE0031818
	MAT-2	Idaho National Laboratory	Thomas Lillo	Multi-pass Hybrid Laser Arc Welding of Alloy 740H	FWP-B100-19010
	MAT-3	Oak Ridge National Laboratory	Rishi Pillai	Materials Qualification and Deployment for High Efficiency Coal Fired Boilers	FWP-FEAA117
	MAT-4	Siemens Corporation	Sudhir Rajagopalan	Welding of Haynes 282 to Steels to Enable Modular Rotors for Advanced Ultra Super-Critical Steam Turbines	FE0031824
	MAT-5	Tennessee Technological University	Ying Zhang	Development of Corrosion- and Erosion-Resistant Coatings for Advanced Ultra-Supercritical Materials	FE0031820
	MAT-6	United Technologies Research Center	Alexander Staroselsk	Optimization of Wire Arc Additive Manufacturing (WAAM) Process to Produce Advanced Ultra-Supercritical Components (AUSC) Components with Increased Service Life	FE0031821
	MAT-7	West Virginia University	Xingbo Liu	Additively Manufactured Graded Composite Transition Joints for Dissimilar Metal Weldments in Ultra-Supercritical Power Plant	FE0031819
	MAT-8	Oak Ridge National Laboratory	Peeyush Nandwana	Development of Functionally Graded Transition Joints to Enable Dissimilar Metal Welds	FWP-FEAA151
	MAT-9	Oak Ridge National Laboratory	Kashif Nawaz	High-Temperature/High-Pressure Heat Exchanger for Natural Gas-Based Modular Power Generation	TCF-19-17765
	MAT-10	University of North Dakota Energy and Environmental Research Center	Gautham Krishnamoorthy	An Integrated Approach to Predicting Ash Deposition and Heat Transfer in Coal-Fired Boilers	FE0031741
	MAT-11	Electric Power Research Institute, Inc.	Tom Sambor	Advanced Thermal-Hydraulic Model of Heat Recovery Steam Generator	HPC4Materials
	MAT-12	Florida International University	Zhe Cheng	Novel High Temperature Carbide and Boride Ceramics for Direct Power Extraction Electrode Applications	FE0026325
	MAT-13	National Energy Technology Laboratory	Madison Wenzlick	eXtremeMAT: Data Assessment Method to Support the Development of Creep-Resistant Alloys	
	MAT-14	Pacific Northwest National Laboratory	Osman Mamun	eXtremeMAT: Data Analysis for Predicting the Performance of Creep Resistant Alloys	
	MAT-15	Los Alamos National Laboratory	Laurent Capolungo	eXtremeMAT: Reduced Order Model for Predicting Creep Performance	
	MAT-16	National Energy Technology Laboratory	David Alman	eXtremeMAT: Overview National Laboratory Collaboration Accelerating the Development of Extreme Environment Materials for Fossil Energy Applications	
	MAT-17	National Energy Technology Laboratory	Michael Gao	NETL-RIC: Applying Machine Learning to Microstructure Optimization	