Tuesday 4/21	Session B - Conference Room: Monongahela			
	SENSORS AND CONTROLS			
	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			
	Advanced Sensors and Controls for FE Power Generation			
10:30 AM	National Energy Technology Laboratory	Ben Chorpening	Advanced Sensors and Controls - Overview	Jessica Mullen
11:00 AM	National Energy Technology Laboratory	Dustin McIntyre	Advanced Sensors and Controls - LIBS Sensors Development for FE	
11:30 AM	National Energy Technology Laboratory	Michael Buric	Advanced Sensors and Controls - Optical Fiber Sensors	
NOON	LUNCH			
	Artificial Intelligence for Improved Plant Operation and Performance			
1:00 PM	National Rural Electric Cooperative Association (NRECA)	Daniel Walsh	Generation Plant Cost of Operations and Cycling Optimization Model	Robie Lewis
1:30 PM	Expert Microsystems, Inc.	Randall Lee Bickford	Hybrid Analytics Solution to Improve Coal Power Plant Operations	
2:00 PM	General Electric Company	Feng Xue	Deep Analysis Net with Casual Embedding for Coal Fired Power Plant Fault Detection and Diagnosis	
2:30 PM	West Virginia University Research Corporation	Debangsu Bhattacharyya	Boiler Health Monitoring using a Hybrid First Principles-Artificial Intelligence Model	
3:00 PM	BREAK			
	Monitoring & Diagnostics for Gas Turbine Application			
3:30 PM	Siemens Corporation	Anand Kulkarni	Novel Temperature Sensors and Wireless Telemetry for Active Condition Monitoring of Advanced Gas Turbines	Barbara Carney
4:00 PM	University of Central Florida	Seetha Raghavan	In-Situ Optical Monitoring of Operating Gas Turbine Blade Coatings Under Extreme Environments	
4:30 PM	Intelligent Fiber Optic Systems Corporation	William Price	Embedded Multiplexed Fiber-Optic Sensing for Turbine Control and PHM	
5:00 - 7:30 PM	POSTER SESSION			

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Wednesday 4/22	Session B - Conference Room: Monongahela			
	SENSORS AND CONTROLS			
	Organization	PI	Title	Moderator
7:00 AM	REGISTRATION AND BREAKFAST			
7:30 AM				
	Cybersecurity and Advanced Digital Tools I			
8:00 AM	Electric Power Research Institute, Inc.	Jason Hollern	Cyber Security Risk Reduction Framework for Generation I&C Technology	Robie Lewis
8:30 AM	Southern Company Services, Inc.	Patrick Crossley	Operational Technology Behavioral Analytics	
9:00 AM	Siemens Corporation	Benjamin Justus	Cyber Secure Sensor Network for Fossil Fuel Power Generation Assets Monitoring	
9:30 AM	General Electric Company	Daniel Holzhauer	Physical Domain Approaches to Reduce Cybersecurity Risks Associated with Control Systems	
10:00 AM	BREAK			
	Cybersecurity and Advanced Digital Tools II			
10:30 AM	Sonalysts, Inc.	Scott Brunza	Metaphortress: A Situational Awareness Platform	Jason Hissam
11:00 AM	GRID7, LLC	David Cohen	E-Blockchain: A Scalable Platform for Secure Energy Transactions and Control	
11:30 AM	Ames National Laboratory	Mark Bryden	Advanced Tool for Cyber Physical Systems and Digital Twins	
NOON	LUNCH			
12:30 PM				
	Robotics for Non-Destructive Evaluation and Repair			
1:00 PM	Florida International University	Dwayne McDaniel	Development of a Pipe Crawler Inspection Tool for Fossil Energy Power Plants	Maria Reidpath
1:30 PM	University of Missouri	Jian Lin	A Robotics Enabled Eddy Current Testing System for Autonomous Inspection of Heat Exchanger Tubes	
2:00 PM	New Mexico State University	Ehsan Dehghan-Niri	A Lizard-Inspired Tube Inspector (LTI) Robot	
2:30 PM	Colorado School of Mines	Hao Zhang	AI Enabled Robots for Automated Nondestructive Evaluation and Repair of Power Plant Boilers	
3:00 PM	BREAK			
	Robotics + Materials and Manufacturing Development for Sensing Applications			
3:30 PM	University of Texas at El Paso	Angel Flores Abad	Autonomous Aerial Power Plant Inspection in GPS-Denied Environments	Omer Bakshi
4:00 PM	University of Texas at El Paso	Yirong Lin	Additive Manufacturing of Energy Harvesting Material System for Active Wireless Microelectromechanical Systems (MEMS) Sensors	
4:30 PM	West Virginia University	Kavin Sivaneri Varadharajan Idhaiam (Student Researcher)	Passive Wireless Sensors Fabricated by Direct-Writing for Temperature and Health Monitoring of Energy Systems in Harsh-Environments	

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POSTER SESSION

Program	Number	Organization	PI	Title	Agreement #
SENSORS & CONTROLS	SC-1	Clemson University	Hai Xiao	Additive Manufacturing of Circumferentially Embedded Optical Sensor Modules for In Situ Monitoring of Coal-Fueled Steam Turbines	FE0031826
	SC-2	National Energy Technology Laboratory	Jeff Wuenschell	Advanced Sensors and Controls - Experimental Development of Functional Materials for Sensing	FWP-1022433
	SC-3	Siemens Corporation	Anand Kulkarni	Embedded Sensors Integrated into Critical Components for In Situ Health Monitoring of Steam Turbines	FE0031832
	SC-4	West Virginia University	Edward Sabolsky	Advanced Manufacturing of Ceramic Anchors with Embedded Sensors for Process and Health Monitoring of Coal Boilers	FE0031825
	SC-5	National Energy Technology Laboratory	Ting Jia	Advanced Sensors and Controls - Modeling of Functional Materials for Sensing	FWP-1022427
	SC-6	University of Pittsburgh	Peng Chen	Engineering Metal Oxide Nanomaterials for Fiber Optical Sensor Platforms	FE0028992
	SC-7	Georgia Tech Research Corporation	Yuanzhi Tang	Elucidating Arsenic and Selenium Speciation in Coal Fly Ashes	FE0031739
	SC-8	Duke University	Heileen Hsu-Kim	Characterization of Arsenic and Selenium in Coal Fly Ash to Improve Evaluations for Disposal and Reuse Potential	FE0031748
	SC-9	Florida International University	Leonel Lagos	Secure Data Logging and Processing with Blockchain and Machine Learning	FE0031745
	SC-10	Old Dominion University	Sachin Shetty	Blockchain Empowered Provenance Framework for Sensor Identity Management and Data Flow Security in Fossil-Based Power Plants	FE0031744
	SC-11	University of North Dakota Energy and Environmental Research Center	Jun Liu	Incorporating Blockchain/P2P Technology into an SDN-Enabled Cybersecurity System to Safeguard Fossil Fuel Power Generation Systems	FE0031742
	SC-12	Carnegie Mellon University	Rahul Panat	A Novel Access Control Blockchain Paradigm to Realize a Cybersecure Sensor Infrastructure in Fossil Power Generation Systems	FE0031770
	SC-13	National Energy Technology Laboratory	Farida Harun	Advanced Sensors and Controls - Agent-Based Controls Applied to FE application	FWP-1022434
	SC-14	National Energy Technology Laboratory	Eric Liese	Development of Control Strategies for Dynamic Control of a 10 MW Supersritical CO2 Power System	FWP-1022430
	SC-15	Georgia Tech Research Corporation	Comas Haynes	Expedited Real Time Processing for the NETL Hyper Cyber-Physical System	FE0030600