

ADVANCED MANUFACTURING OFFICE PEER REVIEW JUNE 14-15, 2016



Key Bridge Marriott, Rosslyn, Virginia

AGENDA

Day 1 (June 14) Potomac Salon ABC				
8:00 – 8:45 am	Peer Reviewer Briefing Breakfast Mark Johnson, Isaac Chan, Valri Lightner, and Jay Wrobel, DOE-AMO			
8:45 – 9:00 am	BREAK			
8:00 – 9:00 am	REGISTRATION FOR ATTENDEES			
9:00 – 9:30 am	Welcome and AMO Overview	Mark Johnson AMO Director		
9:30 – 10:00 am	Overview of the AMO Multiyear Program Plan	Valri Lightner Senior Advisor		
10:00 – 10:30 am	Summary of Technical Assistance Activities	Jay Wrobel Technical Assistance Supervisor		
10:30 – 10:45 am	BREAK			
TRACK A Potomac Salon ABC			TRACK B Potomac Salon D	
Research and Development Projects Review			Analysis Review	
10:45 – 11:25 am	Panel on Covetic Materials	David Forrest DOE-AMO	10:45 – 10:55 am	Overview of AMO Analysis Activities Joe Cresko – DOE/AMO
	High Performance Electrical and Thermal Conductors Synthesis and Characterization of Covetic Nanomaterial Melt Processing of Covetic Materials	Balu Balachandran Argonne NL Xinghua Yu Oak Ridge NL Paul Jablonski National Energy Technology Lab, Albany, OR	10:55 – 11:25	Panel on Advanced Manufacturing Technology Analysis Joe Cresko – DOE/AMO Alberta Carpenter – NREL William Morrow – LBNL Sachin Nimbalkar - ORNL
11:25 am – 12:00 noon	Panel on HPC4Mfg Advanced Innovation in Manufacturing	Peg Folta , Lawrence Livermore NL • Jun Zu , Xerium • Rajeev Pakalapati , Soraa • Peg Folta , LLNL	11:25 – 12:00 noon	Panel on Resource Efficiency and Supply Chain/Value Chain Joe Cresko – DOE/AMO William Morrow – LBNL Sujit Das – ORNI Diane Graziano - ANL

Day 1 (June 14) Continued

TRACK A Potomac Salon ABC

TRACK B Potomac Salon D

12:00 – 1:00 pm		LUNCH (Private Lunch for Reviewers)		
Research and Development Projects Review			R&D Facilities Review	
1:00 – 1:20 pm	Wear-Resistant Surface Technologies for Low-Leakage NG Compressors	Argonne National Laboratory	1:00 – 2:00 pm	Critical Materials Institute Rod Eggert Colorado School of Mines
1:20 – 1:40 pm	Coatings and Process Development Reduced Energy Automotive OEM Manufacturing	PPG Industries, Inc.		
1:40 – 2:00 pm	Development of Integrated Die Casting Process For Large Thin-Wall Magnesium Applications	General Motors LLC		
2:00 – 2:20 pm	Rapid Freeform Sheet Metal Forming: Technology Development and System Verification	Ford Motor Company	2:00 – 3:00 pm	Manufacturing Demonstration Facility Bill Peter Oak Ridge NL
2:20 – 2:40 pm	Quenching and Partitioning Process Development to Replace Hot Stamping of High Strength Automotive Steel	Colorado School of Mines		
2:40 – 3:00 pm	High Metal Removal Rate Process for Machining Difficult Materials	Microlution LLC		
3:00 – 3:20 pm		BREAK		
3:20 – 3:40 pm	Sustainable Manufacturing via Multi-Scale Physics-Based Process Modeling and Manufacturing-Informed Design	Third Wave Systems Inc.	3:20 – 4:10 pm	PowerAmerica Nick Justice North Carolina State University

Day 1 (June 14) Continued

TRACK A Potomac Salon ABC

TRACK B Potomac Salon D

**Research and Development
Projects Review**

R&D Facilities Review

3:40 – 4:00 pm	A New Method of Low Cost Production of Ti Alloys to Reduce Energy Consumption of Mechanical Systems	The University of Utah	4:10 – 5:00 pm	Institute for Advanced Composite Materials Innovation Craig Blue CCS Corporation
4:00 – 5:00 pm	<p>SBIR Phase II Poster Preview Panel</p> <p>Integrated DC-DC Converters Using Thin-Film Magnetic Power Inductors</p> <p>In-Line Quality and Process Control in Solar and Fuel Cell Manufacturing</p> <p>Ultra-Low Energy, Low Cost Industrial Nanomembrane Manufacturing for Desalination, Water Purification, and Remediation II</p>	<p>David Forrest DOE-AMO</p> <p>Ferric Semiconductor, Inc.</p> <p>Ultrasonic Technologies, Inc.</p> <p>Covalent</p>		
5:00 – 6:00 pm	BREAK			
5:00 – 6:00 pm	Private Dinner and Discussion for Reviewers			

5:30 – 7:30 pm

POSTER SESSION AND NO-HOST RECEPTION (12 Posters)
Georgetown Ballroom

Project Title	Performer
Crosscutting Manufacturing R&D	Argonne National Laboratory
Combined Heat and Power R&D	Oak Ridge National Laboratory
HPC4Mfg: A Hi-fidelity model for coupling flow and mechanical deformation of the porous paper web in papermaking	Lawrence Livermore National Laboratory/LBNL/Agenda 2020
HPC4Mfg: The Virtual Steel Blast Furnace	LLNL/Purdue U. Calumet
HPC4Mfg: Study of Fluid Behavior Inside an Ammonothermal Gallium Nitride Reactor Using Computational Fluid dynamics	LLNL/Soraa
Flash Processed Steel for Automotive Applications	SFP Works
Phase II SBIR: Integrated DC-DC Converters Using Thin-Film Magnetic Power Inductors	Ferric Semiconductor, Inc.
Phase II SBIR: In-Line Quality and Process Control in Solar and Fuel Cell Manufacturing	Ultrasonic Technologies, Inc.
Phase II SBIR: Ultrahigh-Efficiency Capacitive Devices for Continuous Water Desalination	Mainstream Engineering Corp.
Phase II SBIR: CORE: Capability of Rolling Efficiency for 100mm High Speed Rails	OG Technologies, Inc.
Phase II SBIR: Ultra Low Energy, Low Cost Industrial Nanomembrane Manufacturing for Desalination, Water Purification, and Remediation II	Covalent

Day 2 (June 15)
Research and Development Projects

TRACK A Potomac Salon ABC

TRACK B Potomac Salon D

8:00 – 9:00 am	REGISTRATION FOR ATTENDEES			
9:00 – 9:05 am	Welcome, AMO R&D Staff		Welcome, AMO R&D Staff	
9:05 – 9:25 am	Advanced, Energy-Efficient Hybrid Membrane System for Industrial Water Reuse	Research Triangle Institute	Carbon Fiber Technology Facility	Oak Ridge National Laboratory
9:25 – 9:45 am	Novel Membranes and Systems for Industrial and Municipal Water Purification and Reuse	GE Global Research	Low-Cost Bio-Based Carbon Fiber for High Temperature Processing	GrafTech International Holdings Inc.
9:45 – 10:05 am	Sacrificial Protective Coating Materials that can be Regenerated In-Situ to Enable High Performance Membranes	Teledyne Scientific and Imaging	No Heat Spray Drying Technology	ZoomEssence
10:05 – 10:20 am	BREAK			
10:20 – 10:40 am	Bio-Oxo Technology	Easel Bio-technologies	Energy Efficient Thermoplastic Composite Manufacturing	The Boeing Company
10:40 – 11:00 am	A Novel Unit Operation to Remove Hydrophobic Contaminants	Doshi & Associates	Novel Flash Ironmaking Process	American Iron and Steel Institute
11:00 – 11:20 am	Low-Energy, Low Cost Production of Ethylene by Low Temperature Oxidative Coupling of Methane	Siluria	Waste Heat-to-Power Using Scroll Expander for Organic Rankine Bottoming Cycle	TIAX

**Day 2 (June 15) Continued
Research and Development Projects**

TRACK A Potomac Salon ABC

TRACK B Potomac Salon D

11:20 – 11:40 am	New Design Methods and Algorithms for Energy Efficient Distillation Trains	Purdue University	Industrial Scale Demonstration of Smart Manufacturing Achieving Transformational Energy Productivity Gains	University of Texas at Austin
11:40 – 12:00 pm	One Step Hydrogen Generation through Sorption Enhanced Reforming	Gas Technology Institute	Continuous Processing of High Thermal Conductivity Polyethylene Fibers and Sheets	Massachusetts Institute of Technology
12:00 – 12:20 pm	Development of an Automatic Continuous Online Monitoring and Control Platform for Polymerization Reactions	Tulane University	High Thermal Conductivity Polymer Composites for Low Cost Heat Exchangers	UTRC
12:20 – 12:40 pm	Conversion of Waste CO ₂ and Shale Gas to High Value Chemicals	Novomer		
12:40 pm	PEER REVIEW MEETING ADJOURNS			
12:40 – 1:30 pm	LUNCH FOR PARTICIPANTS PRIVATE LUNCH FOR REVIEW PANEL			
1:30 – 4:00 pm	PRIVATE MEETING OF REVIEW PANEL <i>(including time with AMO management to address outstanding questions)</i> Potomac Salon ABC			