

Magneto hydrodynamic Power Generation Workshop Agenda

Wednesday, October 01, 2014

7:00 am to 8:00 am | Registration – Arlington 1 and 2 Foyer

Session 1: Introduction – Salon 1

8:00 am to 8:05 am	1.1: Workshop Welcome <i>Susan Maley</i> ; Technology Manager for Crosscutting Research at United States Department of Energy National Energy Technology Laboratory
8:05 am to 8:20 am	1.2: Introduction to DOE Programs and Interests <i>Dr. Darren Molloy</i> ; Director, Office of Advanced Fossil Technology Systems at United States Department of Energy
8:20 am to 9:05 am	1.3: Emerging Technology and the Changing Nature of Power Generation <i>Dr. James Black</i> ; Lead Researcher, Thermal Sciences Division at United States Department of Energy National Energy Technology Laboratory
9:05 am to 9:20 am	Break – Salon Foyer 1
9:20 am to 10:05 am	1.4: Retrospective and Prospective Aspects of MHD Power Generation <i>Dr. Rigel Woodside</i> ; Researcher, Thermal Sciences Division at United States Department of Energy National Energy Technology Laboratory
10:05 am to 12:00 pm	1.5: Instructions and Breakout Session – Salon 1 and Salon 2
12:00 pm to 1:30 pm	Lunch (on your own)

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Session 2: Related Research in Other Agencies and Parts of DOE – Salon 1

1:30 pm to 2:00 pm	2.1: The MHD-Controlled Turbojet Engine: an Alternate Powerplant for Access to Space <i>Dr. Isaiah Blankson</i> ; Senior Technologist for Hypersonics, National Aeronautic and Space Administration Glenn Research Center
2:00 pm to 2:30 pm	2.2: Potential Exploitation of Dusty Plasma Physics to PDE Small Scale MHD <i>Dr. Alan Garscadden</i> ; Adjunct Professor/Researcher, Air Force Institute of Technology at Wright-Patterson Air Force Base
2:30 pm to 3:00 pm	2.3: Research relevant to MHD power generation in the Naval Research Laboratory's Plasma Physics Division <i>Dr. Stuart Jackson</i> ; Research Physicist, Plasma Physics Division at the United States Naval Research Laboratory
3:00 pm to 3:15 pm	Break – Salon Foyer 1
3:15 pm to 3:45 pm	2.4: Overview of NSF's Combustion and Fire Systems Program <i>Dr. Ruey-Hung Chen</i> ; Program Director, Combustion and Fire Systems Program at National Science Foundation
3:45 pm to 4:15 pm	2.5: MHD: Enabling the Pursuit of Fusion Energy (and Much More) <i>Dr. Sean Finnegan</i> ; Program Manager, Department of Energy Office of Fusion Energy Sciences
4:15 pm to 4:45 pm	2.6: MHD Power Generation Based on Pressure Gain Combustion Systems <i>Greg Meholic</i> ; Senior Project Engineer, Spacelift Systems and Concepts at The Aerospace Corporation
4:45 pm	Adjourn for Wednesday

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Session 3: Power and Other Applications – Salon 1

8:00 am to 8:30 am	3.1: Oxy-Fuel Combustion Components Relative to a Future MHD Concept <i>Justin Strock</i> ; Consulting Engineer – Advanced Combustion Systems, Leonardo Technologies, Inc.
8:30 am to 9:15 am	3.2: Oxy-fuel Power Cycles and Magnetohydrodynamics <i>Dr. Vic Der</i> , President, VKDER, Inc.
9:15 am to 9:30 am	Break – Salon 1 Foyer
9:30 am to 11:30 am	3.3: Poster Presentations – Salon 1 followed by Salon 2 <ul style="list-style-type: none">▪ Ad Astra Rocket Company▪ JP Aerospace▪ Lawrence Livermore National Laboratory▪ Massachusetts Institute of Technology Plasma Science and Fusion Center▪ National Energy Technology Laboratory Office of Research and Development▪ National Energy Technology Laboratory Office of Performance and Benefits▪ Oregon State University▪ Pennsylvania State University▪ Princeton University & Princeton Plasma Physics Laboratory▪ Sandia National Laboratories▪ University of Wisconsin-Madison
11:30 am to 1:00 pm	Lunch (on your own)

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Session 4: Facilitated Discussions – Salon 1 and Salon 2

1:00 pm to 1:30 pm	4.1 Instructions to Participants and Technology Goals
1:30 pm to 2:30 pm	4.3: Research Scenarios
2:30 pm to 3:00 pm	4.4: Open Discussion and Comments – Salon 1
3:00 pm	Adjourn Workshop

Additional Poster Information

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Poster Titles and Presenters

Ad Astra Rocket Company	3.3-1: Fossil Based Energy Conversion Using Radio Frequency Plasma-Catalyzed Magnetohydrodynamics <i>Dr. Mark Carter</i>
JP Aerospace	3.3-2: MHD at JP Aerospace <i>John Powell</i>
Lawrence Livermore National Laboratory	3.3-3: MHD Generators & ALE3D <i>Dr. Aaron Fisher</i>
Massachusetts Institute of Technology Plasma Science and Fusion Center	3.3-4: Large Scale Superconducting Magnet Technology for MHD Power Generation <i>Dr. Joseph Minervini</i>
National Energy Technology Laboratory Office of Research and Development	3.3-5: Magnetohydrodynamic Energy Conversion R&D <i>Dr. Rigel Woodside</i>

National Energy Technology Laboratory Office of Performance and Benefits	3.3-6: Direct Power Extraction Techno-Economic Analysis <i>Dr. Robert Stevens</i>
Oregon State University	3.3-7: Estimating Current Densities in Equilibrium Magnetohydrodynamic Generator Channels <i>Dr. Duncan McGregor</i>
Pennsylvania State University	3.3-8: Processing of Metals, Ceramics and Composites by Field Assisted Sintering Technology (FAST) for MHD Power <i>Dr. Jogender Singh</i>
Princeton Plasma Physics Laboratory	3.3-9: Liquid Electrodes for Harsh Environments and Kinetic Theory for Plasma Discharge Control <i>Dr. Michael Jaworski</i>
Princeton University & Princeton Plasma Physics Laboratory	3.3-10: New Capabilities for MHD Power Generation Enabled by Nanosecond High-Voltage Pulses and Electron Beam Methods <i>Dr. Mikhail Shneider (Princeton University)</i>
Sandia National Laboratories	3.3-11: Understanding the Complexities of Enhanced Oxygen, High Temperature Pulverized Coal Char Combustion <i>Dr. Ethan Hecht</i>
University of Wisconsin-Madison	3.3-12: Overview of MHD Computation for Magnetic Confinement Fusion <i>Dr. Carl Sovinec</i>