

AGENDA

Hilton San Diego Bayfront Hotel, San Diego, Ca
March 2-3, 2017

Thursday, March 2, 2017

5:00 p.m. **Registration** (Location: Aqua Foyer)

5:30 p.m. **Welcome Reception and Poster Session** (Location: Aqua D-E-F)

Srikanth Allu, Oak Ridge National Laboratory

Development of mathematical model and simulation for the high capacity production of carbon fiber

Sylvie Aubry, Lawrence Livermore National Laboratory

Integrated Computational Materials Engineering Tools for Optimizing Strength of Forged Al-Li Turbine Blades for Aircraft Engines

Deborah J. Bard, Lawrence Berkeley National Laboratory

Accelerating Industrial Application of Energy-Efficient Chemical Separation

Victor A. Beck, Lawrence Livermore National Laboratory

Computer Aided Drying Process Engineering using High Performance Computing

Vic Castillo, Lawrence Livermore National Laboratory

Development of Reduced Glass Furnace Model to Optimize Process Operation

Marcus Day, Lawrence Berkeley National Laboratory

Improving Gas Reactor Design with Complex Non-Standard Reaction Mechanisms in a Reactive Flow Model

Zhili Feng, Oak Ridge National Laboratory

High Performance Computing Tools to Advancing Materials Joining Technology

Aaron C. Fisher, Lawrence Livermore National Laboratory

Utilizing simulations to guide furnace designs for the E-Iron Nugget process

Yue Hao, Lawrence Livermore National Laboratory

Development of an integrated modeling framework for simulating water removal at the press section in paper making

Ryne C. Johnston, Oak Ridge National Laboratory

Catalytic Pulping of Wood

Wayne E. King, Lawrence Livermore National Laboratory

Lowering the Energy Cost of Titanium Parts through Microstructural Modeling and Control in Laser-Powder Bed Additive Manufacturing

Balasubramianiam (Rad) Radhakrishnan, Oak Ridge National Laboratory

Integrated Predictive Tools for Customizing Microstructure and Material Properties of Additively Manufactured Aerospace Components

Adrian Sabau, Oak Ridge National Laboratory

Process Maps for Tailoring Microstructure in Laser Powder Bed Fusion Additive Manufacturing

Ramanan Sankaran, Oak Ridge National Laboratory

Level-set Modeling Simulations of Chemical Vapor Infiltration for Ceramic Matrix Composites Manufacturing; Large Eddy Simulations of a Fully Integrated Aircraft Engine Combustor and High Pressure Vane

7:30 p.m.

Adjourn

Friday, March 3, 2017

- 7:30 a.m. Working Breakfast** (Location: Aqua A-B-C)
John Turner (*Host*), Oak Ridge National Laboratory
Enhancing Collaboration Between Industry and National Laboratories
- 8:00 a.m. Welcome** (Location: Aqua D-E-F)
Lori Diachin, Lawrence Livermore National Laboratory
Sid Voorakkara, California Governor’s Office of Business and Economic Development
- 8:15 a.m. Keynote – A Curious Case History from Things to Bits**
Thomas Lange, Technology Optimization & Management LLC
The Unfinished Journey from the Industrial Revolution to the Digital Age
A description of how modeling and simulation has revolutionized our everyday lives and how the adoption of computing by “makers of things” can make or break an industry/company.
- 9:00 a.m. Executive Panel Session – The Global State of Computing in Manufacturing**
Chad Evans (*Panel Chair*), Executive Vice President of U.S. Council of Competitiveness, will discuss trends in computing in manufacturing and the effects on economic competitiveness.
Mario Longhi, President & Chief Executive Officer of United States Steel Corporation, will discuss the decision to move deeply into HPC and how to get there.
Richard Arthur, Director of Advanced Computing, GE Research, will discuss the impact of HPC from a company with deep expertise, and how GE reaches beyond their walls for cutting edge capabilities.
Barbara Helland, Office of Advanced Scientific Computing Research Director, will discuss the Government’s priorities, opportunities, and challenges in the HPC space, and how they link to the nation’s manufacturing industry.
- 10:30 a.m. Break**
- 10:45 a.m. Advanced Manufacturing Office Capabilities Enable Innovation in Manufacturing**
(Location: Aqua D-E-F)
Mark Johnson, Advanced Manufacturing Office, Energy Efficiency & Renewable Energy at the U.S. Department of Energy
Advanced Manufacturing Office vision, capabilities, and partnerships provide innovation from advanced technologies adoption
- 11:15 a.m. Introducing the HPC4Mfg Program**
Lori Diachin, Lawrence Livermore National Laboratory
Overview of the program and opportunities to participate.
- 11:40 a.m. Fossil Energy Applications for HPC**
Darren Mollot, Office of Fossil Energy at the U.S. Department of Energy
Leveraging the HPC4Mfg Program.
- 11:45 a.m. Announcement of HPC4Mfg Awardees and Spring 2017 Solicitation**
Mark Johnson, Advanced Manufacturing Office, Energy Efficiency & Renewable Energy at the U.S. Department of Energy
Announcing the awardees from the Fall 2016 HPC4Mfg solicitation and the call for proposals for Spring 2017.
- 12:00 p.m. Networking Lunch** (Location: Aqua A-B-C)

- 1:00 p.m.** **Panel Session – Impact of HPC4Mfg Projects** (Location: Aqua D-E-F)
Robin Miles (*Panel Chair*), Lawrence Livermore National Laboratory
Chenn Q. Zhou, Purdue University Northwest, will discuss Steel Blast Furnace simulation for performance optimization.
Christopher A. Herbst, Eaton, will discuss predicting microstructure in additively manufactured metal parts.
Barron Bichon, Southwest Research Institute/LIFT, will discuss model validation to predict mechanical properties of Al-Li forged alloy.
Daniele Gallardo, Actasys Inc., will discuss modeling of synthetic jet actuators for reduced fuel consumption in the trucking industry.
- 2:00 p.m.** **Panel Session – Challenges to Industry HPC Adoption**
Peter Nugent (*Panel Co-Chair*), Lawrence Berkeley National Laboratory
Jeff Roberts (*Panel Co-Chair*), Lawrence Livermore National Laboratory
Manufacturing insights into the challenges faced in adoption of HPC.
Thomas W. Wideman, Actasys, Inc., will represent the small business point-of-view of the value and challenges of HPC4Mfg.
Wayne E. King, Lawrence Livermore National Laboratory, will highlight challenges faced by industry and solutions to those challenges from the national lab point of view.
David Turpin, Agenda2020, will present the benefits and challenges of the program when the technical challenges are shared by members of a consortium.
Prasad S. Apte, Harper International, will provide challenges and opportunities facing thermal modeling and simulations
- 3:00 p.m.** **Opportunities to Engage**
Mark Johnson, Advanced Manufacturing Office, Energy Efficiency & Renewable Energy at the U.S. Department of Energy
- 3:15 p.m.** **Break**
- 3:30 p.m.** **Lessons Learned for Solicitation Success**
John Turner, Oak Ridge National Laboratory
An insider perspective on how to optimize success within the HPC4Mfg Program.
- 3:45 p.m.** **Industry/HPC4Mfg Idea Exchange** (Scheduled 1:1 Time)
(Location: Break Out Rooms)
David Skinner, Lawrence Berkeley National Laboratory
Manufacturing industry members sign up to talk to an HPC4Mfg Program representative on how HPC could be used to address challenges specific to their company or industry sector
- 4:45 p.m.** **Adjourn**

Conference Contact Information

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Attire: Business Casual