



HPC4EnergyInnovation Special Event

National Manufacturing Day

October 4, 2019

9:00 a.m. PDT (12:00 p.m. EDT)

Agenda

9:00 a.m. PDT
12:00 a.m. EDT

Welcome

Aaron Fisher, Lawrence Livermore National Laboratory

9:10 a.m. PDT
12:10 p.m. EDT

HPC4EnergyInnovation Program Overview: National Laboratories Partner with U.S. Manufacturers to Increase Innovation and Energy Efficiency

Robin Miles, HPC4EI Program Director

Session 1: Macroscale CFD Modeling

9:30 a.m. PDT
12:30 p.m. EDT

PPG Industries, Inc.: Optimizing Rotary Bell Atomization

Xinyu Lu, PPG Industries, Inc.

Robert Saye, Lawrence Berkeley National Laboratory

9:50 a.m. PDT
12:50 p.m. EDT

United Technologies Corporation (UTRC): High Fidelity Physics-Based Model Driven Process Parameter Selection for Laser Powder Bed Additive Manufactured Metallic Aerospace Components

Andy Anderson, Lawrence Livermore National Laboratory

10:10 a.m. PDT
1:10 p.m. EDT

Vader Systems, LLC: Computational Modeling of MHD Liquid Metal 3D Printing

Daniel Moser, Sandia National Laboratory

10:30 a.m. PDT
1:30 a.m. EDT

Vacuum Process Engineering: Compact Diffusion Bonded Heat Exchanger Fatigue Life Simulations

Tim Koehler, Sandia National Laboratories

10:50 a.m. PDT
1:50 a.m. EDT

Break



ENERGY INNOVATION

Session 2: Data Science and Microscale Modeling

- 11:00 a.m. PDT
2:00 p.m. EDT
- GE Global Research: Power Spreading Process Maps for Metal Additive Manufacturing**
Srdjan Simunovic, Oak Ridge National Laboratory
- 11:20 a.m. PDT
2:20 p.m. EDT
- GRIDSMART: Reinforcement Learning-based Traffic Control to Optimize Energy Usage and Throughput**
Thomas Karnowski, Oak Ridge National Laboratory
- 11:40 p.m. PDT
2:40 p.m. EDT
- Arconic: Computational Modeling of Multi-Strand Al DC Vertical Casting Processes**
Vic Castillo, Lawrence Livermore National Laboratory
- 12:00 p.m. PDT
3:00 p.m. EDT
- Alliance for Pulp and Paper Technology Innovation (APPTI): Molecular modeling to Increase Kraft Pulp Yield**
Brandon Knott, National Renewable Energy Laboratory
- 12:20 p.m. PDT
3:20 p.m. EDT
- Arconic: Multiscale Modeling of Microstructure Evolution During Rapid Solidification for Additive Manufacturing**
Tomorr Haxhimali, Lawrence Livermore National Laboratory
- 12:40 p.m. PDT
3:40 p.m. EDT
- Closing Remarks**