HPC4EnergyInnovation Special Event

HPC4EI Virtual Event: Focus on Process Optimization

April 16, 2021
8:00 a.m. PDT (11:00 a.m. EDT)

Agenda

8:00 a.m. PDT (11:00 a.m. EDT)  Welcome

Robin Miles, HPC4EI Program Director, Lawrence Livermore National Laboratory

8:10 a.m. PDT (11:10 a.m. EDT)  HPC4EnergyInnovation Program Overview: National Laboratories Partner with U.S. Manufacturers to Increase Innovation and Energy Efficiency

Aaron Fisher, HPC4EI Project Manager, Lawrence Livermore National Laboratory

Session 1: Industrial Optimization A
Session Chair: David Martin, Argonne National Laboratory

8:30 a.m. PDT (11:30 a.m. EDT)  Design Optimization of Porous Flow Reactors

Victor Beck, Lawrence Livermore National Laboratory

8:45 a.m. PDT (11:45 a.m. EDT)  Design of Passive Coolers by Topology Optimization

Boyan Lazarov, Lawrence Livermore National Laboratory

9:00 a.m. PDT (12:00 p.m. EDT)  Computational Models of Polyurethane Foam Formation for Property Prediction

Rekha Rao, Sandia National Laboratories

9:15 a.m. PDT (12:15 p.m. EDT)  Round Table Discussion

9:30 a.m. PDT (12:15 p.m. EDT)  Break
Session 2: Industrial Optimization B  
Session Chair: Michael Martin, National Renewable Energy Laboratory

9:45 a.m. PDT  (12:45 p.m. EDT)  The Impact of High Performance Computing on Improved Metal Powder Production by Gas Atomization  
Iver Anderson, Ames Laboratory  
Andrew Heidloff, Praxair Surface Technologies, Inc. (A Linde Company)

10:05 a.m. PDT  (1:05 p.m. EDT)  Optimizing Additive Manufacturing via Multi-Scale HPC Simulations and Experimental Characterization  
Stan Marius, Argonne National Laboratory  
Jeremy Iten, Elementum 3D

10:25 a.m. PDT  (1:25 p.m. EDT)  Round Table Discussion

10:45 a.m. PDT  (1:45 p.m. EDT)  Break

Session 3: Focus on Machine Learning

11:00 a.m. PDT  (2:00 p.m. EDT)  Introduction to Machine Learning and Applications to Industrial Processes  
Brenda Ng and Victor Castillo, Lawrence Livermore National Laboratory

12:30 p.m. PDT  (3:30 p.m. EDT)  Closing Remarks