



HPC User Forum Agenda

66th HPC User Forum

September 5-7, 2017 – Milwaukee, Wisconsin

Tuesday, September 5, 2017

- 5:00pm Registration Starts
6:30pm Welcome and Special Dinner Reception Event

Wednesday, September 6, 2017

- 7:15am Networking Breakfast
8:15am Meeting Welcome: Paul Muzio, Rupak Biswas, Earl Joseph, and Steve Conway
8:20am HPC Market Update, Earl Joseph and Steve Conway (Hyperion Research):
 - Forecasts For HPC-based Machine Learning, Deep Learning, AI
 - New Storage Market Tracking – HPC Storage Forecasts by Industries8:40am Session Chair: Paul Muzio, City University of New York
Exascale Initiatives Around the World (Part 1)
 - Europe's HPC Strategy: Leonardo Flores (European Commission)
 - Summary of Tracking Exascale Programs, Bob Sorensen (Hyperion Research)9:30am Keynote: Technologies for Making Self-Driving Vehicles the Norm, Maarten Sierhuis (Nissan Research Center Silicon Valley)
10:00am Networking Break
10:30am Intel Vendor Technology Update
10:45am Study Findings: A Mapping of the Opportunities for Government, Academia, and Industry Engagement in HPC, Mark Sims (DoD) and Bob Sorensen (Hyperion Research)
11:15am Findings: Worldwide Study of Best Practices in Partnerships between HPC centers and Industrial Users
 - Ed Walker (NSF) and Bill Kramer (NCSA)11:45am Networking Lunch
12:45pm HPC for Manufacturing – Session Chair: Lori Diachin (LLNL)
 - Lori Diachin, HPC4mfg (LLNL)
 - Use of AI/Cognitive Analytics in the Manufacturing Industry, Mary Bunzel (Intel)
 - Direct Solver for Multiphysics Modeling on Petascale Architecture, Seid Koric (NCSA)2:15pm Will HPC Move to the Cloud? Gabriel Broner (Rescale)
2:30pm Exascale Initiatives Around the World (Part 2)
 - The DOE Exascale Computing Project: Doug Kothe (ORNL)3:00pm Networking Break
3:30pm Session: HPC for Manufacturing (continued)
 - Highly-Scalable Multi-Scale FEA Simulation for Efficient Paper Fiber Structure, Will Elmer (Lawrence Livermore National Laboratory)
 - High Pressure Casting for Structural Requirements and the Implications on Simulation, Hal Gerber (Shiloh Industries)
 - CFD Study of a New Cooling Technology for High-pressure Die Casting, Adrian Sabau (Oak Ridge National Laboratory)5:00pm Networking Break
6:30pm Special Dinner Event: Live music



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Thursday, September 7, 2017

- 7:15am Networking Breakfast
- 8:10am Welcome: Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway
- 8:15am Keynote: Toward a Leadership-Class Computer Facility, Ed Walker (NSF)
- 8:45am Disruptive Technologies Panel: Panelists will briefly (in 2-3 minutes) respond to questions pertaining to potentially disruptive technologies – Moderator: Rupak Biswas (NASA-Ames)
- Intel, Mellanox, Spectra Logic, and Rigetti
- 9:45am HPE Vendor Technology Update
- 10:00am Networking Break
- 10:15am Innovation Award Winners Panel: Short presentations of HPC-enabled innovations
- Paul Morin (The Polar Geospatial Center University of Minnesota)
 - Leigh Orf (University of Wisconsin at Madison)
 - Rupak Biswas (NASA-Ames)
- 11:00am Dell-EMC Technology Update
- 11:15am Running HPC Jobs in the Cloud
- Charliecloud, Reid Priedhorsky (Los Alamos National Laboratory)
 - R-Systems Update, Brian Kucic (R Systems)
- 12:00pm Networking Lunch
- 1:00pm Research in Deep Learning: A Perspective from NSF: Weng-keen Wong (National Science Foundation)
- 1:30pm Session: Machine Learning, Deep Learning, Early AI
- Machine & Deep Learning: Practical Deployments and Best Practices for the Next Two Years, Arno Kolster (Providentia Worldwide)
 - The National Science & Technology Council ML/AI Initiative, Michael Garris (NIST)
 - Perspective on HPC-enabled AI, Tim Barr (Cray)
 - NASA Perspective on Machine Learning, Nikunj Oza (NASA Ames)
- 3:30pm Networking Break
- 3:45pm Session: Machine Learning, Deep Learning, Early AI (continued)
- Characterization and Benchmarking of Deep Learning, Natalia Vassilieva (HP Labs)
 - AI Breakthroughs and Initiatives at the Pittsburgh Supercomputing Center, Nick Nystrom and Paola Buitrago (Pittsburgh Supercomputing Center)
 - In Pursuit of Sustainable Healthcare through Personalized Medicine with HPC, Graham Anthony (BioVista)
- 5:15pm Meeting Wrap-Up, Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway