



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 and Announcements: Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway
8:30am HPC Market Update, Earl Joseph and Steve Conway:
 - Forecasts For HPC-based Machine Learning, Deep Learning, AI
 - New Storage Market Tracking – HPC Storage Forecasts by Industries
 - New ROI and HPC Results

Session Chair: Paul Muzio, City University of New York

- 8:45am **Exascale Initiatives Around the World**
 - Europe's HPC Strategy: Leonardo Flores (European Commission)
 - The DOE Exascale Computing Project: Doug Kothe, ORNL
 - Summary of Tracking Exascale Programs, Hyperion Research, Earl Joseph
- 10:15am Break
10:45am **Keynote: Technologies for Making Self-Driving Vehicles the Norm, Maarten Sierhuis, Nissan Research Centre**
11:15am **Findings: Worldwide Study of Best Practices in Partnership between HPC centers and Industrial Users**
 - Ed Walker, NSF and Bill Kramer, NCSA
- 12:00pm Networking Lunch
1:15pm **Study Findings: A Mapping of the Opportunities for Government, Academia, and Industry Engagement in HPC, Mark Sims, DoD**
2:00pm Intel Vendor Technology Update
Session Chair: Lori Diachin, Lawrence Livermore National Laboratory
2:15pm **HPC for Manufacturing**
 - Chair and First Speaker, Lori Diachin, HPC4mfg, LLNL
 - CFD Study of a New Cooling Technology for High-pressure Die Casting, Adrian Sabau, Oak Ridge National Laboratory
- 3:15pm Networking Break
3:45pm **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
 - Use of AI/Cognitive Analytics in the Manufacturing Industry, Mary Bunzel, Intel
- 5:15pm 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) present potentially disruptive technologies, Moderator: Earl Joseph
- 9:45am HPE Vendor Technology Update
- 10:00am Networking Break
- 10:30am **Innovation Award Winners Panel:** Short presentations of HPC-enabled innovations
- 10:45am Will HPC Move to the Cloud? Gabriel Broner, Rescale
- 11:00am Dell-EMC Technology Update
- 11:15am **Running HPC Jobs in the Cloud**
- Charliecloud, Reid Priedhorsky, Los Alamos National Laboratory
 - Talk by Major Cloud Services Provider (finalizing)
- 12:15pm Networking Lunch
- 1:15pm **Focus Area: 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
 - NASA Perspective on Deep Learning, Nikunj Oza, NASA Ames
 - Perspective on HPC-enabled AI, Tim Barr, Cray
- 3:15pm Networking Break
- 3:45pm **Focus Area: Machine Learning, Deep Learning, Early AI (continued)**
- AI Breakthroughs and Initiatives at the Pittsburgh Supercomputing Center, Nick Nystrom and Paola Buitrago
 - In Pursuit of Sustainable Healthcare through Personalized Medicine with HPC, Graham Anthony, BioVista
 - Characterization and Benchmarking of Deep Learning, Natalia Vassilieva, HP Labs
- 5:15pm Meeting Wrap-Up, Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway

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