



HPC User Forum Agenda

69th HPC User Forum

April 16-18, 2018 -- Tucson, Arizona

Monday, April 16, 2018

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

Tuesday, April 17, 2018

- 7:15am Networking Breakfast
8:15am Meeting Welcome and Announcements: Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway
8:25am HPC Market Update, Earl Joseph and Steve Conway:
 - Updated HPC Market Forecast
 - The AI Transparency Issue8:45am Addressing Key Science Challenges With Adversarial Neural Networks, Wahid Bhimji, NERSC
9:15am Session: HPC and the Environment. Chair: Paul Muzio, HPC User Forum Steering Committee
 - HPC Use for Earthquake Research, Christine Goulet, Southern California Earthquake Center
 - Exploiting Exascale Platforms for Regional-Scale Earthquake Hazard and Risk Assessment, David McCallen, Lawrence Berkeley National Laboratory10:15am Break
10:45am HPC and the Environment (continued)
 - The Use of HPC to Model the California Wildfires, Ilkay Altintas, San Diego Supercomputer Center
 - Using ORNL Titan to Develop 50,000 Years of Flood Risk Scenarios for the National Flood Insurance Program, Dag Lohmann, KatRisk11:45am HPE Vendor Technology Update
12:00pm Networking Lunch
1:00pm End User Site Update: University of Bristol, Simon Burbidge, University of Bristol
1:15pm Update on AMRv8, Srinath Vadlamani, ARM Holdings
1:30pm HPC and the Environment (continued)
 - Weather Prediction Using the K Computer and Himwari-B Satellite, Miyoshi Takemasa, RIKEN
 - The Julia Programming Language for Cosmological Research, Alan Edelman, MIT
 - The Galactos Project: Using HPC To Run One of Cosmology's Hardest Challenges, Deborah Bard, NERSC3:00pm Intel Technology Update
3:15pm Networking Break
3:45pm Session: Technical Updates on Processors (15-minute updates)
 - AMD, Jay Owen
 - ARM, ARMv8, Srinath Vadlamani
 - IBM, Power 9 plus Open CAPI, Jeff Stuecheli
 - Intel, Mark Kachmarek
 - NVIDIA, (awaiting confirmation)5:00pm Networking Break
6:30pm Special Dinner Event and Speaker: "The Threat of Asteroids and What We Are Doing About It", by Dr. Donovan Mathias, acting deputy chief of NASA's NAS Division



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- 7:15am Networking Breakfast
- 8:00am Welcome: Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway
- 8:05am HPC in Canada's Largest Province: Chris Locken, Compute Ontario
- 8:35am Session: Quantum Computing. Chair: Bob Sorensen, Hyperion Research
- John Martinis, Google
 - T.R. Govindan, NASA
 - Jim Held, Intel
- 10:00am Networking Break
- 10:15am Session: Quantum Computing (continued)
- Jay Gambetta, IBM
 - Steve Reinhardt, Dwave
- 11:00am Understanding AI for HPC and HPC for AI: Lessons, Gaps and Challenges, Rangan Sukumar, Cray
- 11:15am Innovative Technologies Panel: Short 4 minute presentations of HPC-enabled innovations
- Robert Brumfield, Liquid Inc.
 - Ian Campbell, OnScale
 - Sid Mair, Penguin Computing
 - Curtis Anderson, Panasas
 - Strageworks
 - Cray
- 12:00pm Dell EMC Technology Update
- 12:15pm Networking Lunch
- 1:00pm Session: Quantum Computing (continued)
- Matthias Troyer, Microsoft
 - Chad Rigetti, Rigetti Computing
 - Carl Williams, NIST
 - Will Oliver or Jaime Kerman, MIT Lincoln Laboratory
 - Xiaobo Zhu, Division of Quantum Physics and Quantum Information at China's University of Science and Technology
- 3:30pm Networking Break
- 3:45pm Panel: HPC and Quantum Computing. Chair: Bob Sorensen, Hyperion Research
- 4:45pm HPC Innovation Excellence Winner: HPC Simulations of the Impact of Drug-induced Arrhythmias in Living Hearts, Wolfgang Gentzsch, UberCloud
- 5:15pm Meeting Wrap-Up, Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway