



# 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, Darren Cepoulis, 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)
  - ARMv8, Darren Cepulis, ARM Holdings
  - Intel (awaiting confirmation)
  - AMD, Jay Owen
  - Power 9 plus Open CAPI, Jeff Stuecheli, IBM
  - 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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### Wednesday, April 18, 2018

- 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
  - 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
  - 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
  - Final speaker (awaiting confirmation)
- 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