



# HPC User Forum Agenda

## 65<sup>th</sup> HPC User Forum

April 17-19, 2017 – La Fonda on the Plaza, Santa Fe, New Mexico

### Monday, April 17, 2017

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

### Tuesday, April 18, 2017

- 7:15am Networking Breakfast
- 8:00am Meeting Welcome and Announcements: Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway
- 8:05am An Overview of Hyperion Research – the New Home of the IDC HPC Team
- 8:15am **Exascale Developments. Session Chair: Paul Messina, ECP**
  - Update on The Exascale Computing Project (ECP), Paul Messina
  - The ECP Industry Council, Suzy Tichenor, ORNL and Dave Martin, ANL
  - The EU ExaNeSt Project to Develop and Prototype Exascale Solutions, Peter Hopton, Iceotope
- 9:45am Networking Break
- 10:00am **Partnerships Between HPC Centers and Industry. Session Chair, Irene Qualters, NSF**
  - Introduction, Irene Qualters
  - Preliminary findings: Bill Kramer, NCSA and Steve Conway, Hyperion Research
- 11:00am Disruptive Technologies Session. Moderator, Earl Joseph, Hyperion Research
  - Process: Short Presentations and Panel Discussion: Exploring emerging technologies that have the potential to redefine the HPC market
  - Dell, D-Wave, IBM, Lenovo, Mellanox, Ryft, Seagate
- 12:15pm HPC Technology Trends, Eng Lim Goh, HP Enterprise
- 12:30pm Networking Lunch
- 1:30pm **Accelerating Advanced Combustion Engine Design. Session Chair: Doug Kothe**
  - HPC Accelerating Combustion Engine Design, Sibendu Som, ANL
  - Advances in Combustion Research With Big Data, Pete Bradley, Pratt Whitney
  - Large Scale Modeling of Turbomachinery Combustors for Power Generation, GE
- 3:00pm Vendor Update: Bill Mannel, HP Enterprise
- 3:15pm Networking Break
- 3:30pm Emerging Opportunities in HPC Cloud & Collocation Services, Joseph Lombardo, Executive Director, University of Nevada, Las Vegas
- 4:30pm Vendor Technology Update: Trish Damkroger, Intel
- 4:15pm **HPC in Industry. Session Chair: Paul Muzio, HPC Industry Expert**
  - Industry Relations at TACC, Melyssa Fratkin
  - Industrial Engagement Highlights at the San Diego Supercomputer Center, Ron Hawkins
  - Industrial Applications of in situ Post-Processing to Enable HPC-Scale CFD, Steve Legensky, Intelligent Light
- 5:45pm End of Sessions
- 6:30pm Special Dinner Event



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### Wednesday, April 19, 2017

7:15am Networking Breakfast

8:10am Welcome: Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway

8:15am HPC Market Update and New ROI with HPC Results: Earl Joseph

8:45am **Future HPC Directions. Session Chair: Rupak Biswas**

- Coupled Monte Carlo Neutronics and Fluid Flow Simulation of Small Modular Reactors, Thom Evans, ORNL
- The Molecular Sciences Software Institute, Daniel Crawford, Virginia Tech

9:45am **HPC Software Stacks and Tools. Chair: Paul Muzio**

- The OpenHPC Collaborative, Robert Wisniewski, Intel

10:15am Networking Break

10:45am **HPC Software Stacks and Tools. Chair: Paul Muzio**

- HPC System Software and Tools, Karen Tomko, OSC
- The Globus Alliance, Lee Liming, University of Chicago

11:45am Vendor Technology Update: Ed Turkel, Dell/EMC

12:00pm Networking Lunch

1:30pm **HPC Software Stacks and Tools (continued)**

- Tackling Chemical, Materials and Biomolecular Challenges in the Exascale Era, Robert Harrison, Stony Brook University
- Transforming Additive Manufacturing through Exascale Simulation, John Turner, ORNL
- OpenPOWER, Yoonho Park, IBM Research
- From CFT to Gen-Z to HAL: Reflections and Predictions of HPC Software Stacks, Sunny Sundstrom, HP Enterprise

3:30pm Networking Break

4:00pm **Future HPC Directions (continued)**

- Leveraging HPC for the Real-Time Quantitative MRI, Joe Allen, TACC
- Code Profiling and KNL Performance, Ananta Tiwari, EP Analytics

5:00pm Meeting Wrap-Up, Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway