



# 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 David 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

11:00pm Observations: Future HPC Technology Trends, Eng Lim Goh

11:30am Disruptive Technologies Session. Moderator, Bob Sorensen, 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, and Seagate

12:30pm Networking Lunch

1:30pm Vendor Update: Bill Mannel, HP Enterprise

1:40pm **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, Joe Citenio, GE

3:15pm Networking Break

3:30pm Emerging Opportunities in HPC Cloud & Collocation Services, Joseph Lombardo, Executive Director, University of Nevada, Las Vegas

4:00pm 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
- Globus, 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
- NASA HPC Update and Directions, Rupak Biswas, NASA

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