



HPC User Forum Agenda

45th HPC User Forum

April 16-18, 2012 -- Richmond, Virginia

"Using HPC to Drive Economic and Scientific Competitiveness"

Advances and Potential Disruptions in HPC

Monday, April 16, 2012

5:00pm Registration starts

6:30pm Welcome Dinner Reception and Short Vendor Technology Updates

Tuesday, April 17, 2012

7:15am Networking Breakfast

8:00am Welcome, Steve Finn, Rupak Biswas and Earl Joseph

Morning Session Chair: Steve Finn

8:15am HPC Market Update, Earl Joseph and Steve Conway

8:30am Data-Intensive Computing – Redefining HPC? (Moderator: Paul Muzio)

- Massive-scale Graph Analytics, David Bader, Georgia Tech
 - "Stampede": Intel MIC And Data-Intensive Computing, Jay Boisseau, Texas Advanced Computing Center
 - Big Data in Cancer Research, Jack Collins, National Cancer Center-ABCC
- 10:00am - 10:30am Break
- Data-intensive Computing Research At PNNL, John Feo, Pacific Northwest National Laboratory
 - Big Data and PLFS: A Checkpoint Filesystem For Parallel Applications, John Bent, EMC

11:30am Invited Vendor Technology Updates: Intel and HP

12:00pm Networking Lunch

Afternoon Session Chair: Rupak Biswas

1:00pm Data-Intensive Computing – Redefining HPC? (Part two)

- Data Analytics In Health Care, Colin Hill (invited), GNS Biotech
- Cray Technical Perspective On Data-Intensive Computing, Amar Shan, Cray
- Technical discussion of data-intensive computing user requirements

2:30pm Performance Modeling – Better Understanding Future System Performance

- HPCMP Benchmarking and Performance Analysis, Mark Cowan, USACE ERDC ITL
- Performance Modeling, Adolfo Hoisie, Pacific Northwest National Laboratory

Performance Optimization, Phil Mucci Samara Technology Group

- Modeling Performance, Energy Metrics And Reliability, Allan Snavelly, San Diego Supercomputer Center

4:00pm Break

4:15pm DOD HPCMP Update, John West, Director, HPCMP

4:45pm Update on HPC at HLRS, Michael Resch, HLRS/University of Stuttgart

5:15pm Networking Break and Time for 1-on-1 Meetings

6:30pm Reception and Dinner Event. Keynote Speaker: Roger Hunter, NASA Kepler Mission Manager, The Search for Exoplanets



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Wednesday, April 18, 2012

7:15am Networking Breakfast

8:10am Welcome, Earl Joseph and Steve Finn

Morning Session Chair: Vince Scarafino

8:15am Potential Disruptive Technologies Panel: We have added a new HPC User Forum focus area to explore emerging technologies that have the potential to redefine the HPC market (or at least add new useful capabilities) (Moderator: Earl Joseph):

- The use of ARM-based processors: Phil Mucci, Samara Technology Group
- The use of ARM-based processors: HP
- The use of DSP technology (Arnond Friedman, TI invited)
- David Luebke, NVIDIA
- New Aspects of VPI, Virtualization and Co-Design, Mellanox
- Vendor 1: LexisNexis
- Vendor 2

10:15am - 10:30am Break

10:30am **HPC User site Update: Moscow State University, Vladimir Voevodin**

11:00am The DOD PETTT Program: Leveraging National HPC Assets, Michael Mikuta, HPTi

12:00pm Networking Lunch

Afternoon Session Chair:

1:00pm Panel: Government HPC Funding Approaches and New Ideas (Moderator: Vince Scarafino)

Panel Members:

- Barbara Helland, DOE ASCR Program (invited)
- Bob Meisner, DOE-NNSA (invited)
- Michael Resch, HLRS/University of Stuttgart
- Mike Little, NASA
- John West, DoD HPCMP

2:00pm A New NSF Initiative, The Earth Cube, Almadena Chtchelkanova, NSF

2:30pm Industrial Access to HPC:

- Blue Waters, Merle Giles, NCSA
- INCITE program update, Julia White, ORNL
- ORNL industrial outreach program, Suzy Tichenor, ORNL
- Industrial Advisory Council on HPC South Africa, Happy Sithole

3:45pm Break
4:00pm RENCI Update, Stan Ahalt, RENCI
4:30pm Center for Applied High Performance Computing (Danville, VA), Gil Miller, Noblis
5:00pm Meeting Wrap-Up, Steve Finn, Steve Conway and Earl Joseph