



# HPC User Forum

## Agenda

### 56th HPC User Forum

April 13-15, 2015 – Norfolk, Virginia

*Meeting Sponsors: Altair, Bright Computing, HP, Intel,  
Mellanox, Panasas, Ryft, and Seagate*

#### Monday, April 13, 2015

5:00pm Registration Starts

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

#### Tuesday, April 14, 2015

7:15am Networking Breakfast

8:00am Meeting Welcome and Announcements

- Chairman's and Co-chairman's Welcome, Paul Muzio and Rupak Biswas
- HPC Market Update, Earl Joseph, Steve Conway and Bob Sorensen

#### Session Chair: Jack Collins

8:15am **Focus Area: HPC in the Life Sciences**

- Computational Challenges from New Instruments and Initiatives, Raul Cachau, National Cancer Institute (NCI)
- Rock Science to Cancer – Turning DOE Research into Social Impact Projects, Dani Ushizima, Lawrence Berkeley National Laboratory
- The National Consortium for Data Science and iRODS, David Knowles, Renaissance Computing Institute (RENCI)

9:45am Break

10:15am **Focus Area: HPC in the Life Sciences (Continued)**

- HPC Requirements for Bioscience, Ari Berman, BioTeam
- Clinical Genomics and the RENCi Genomics Pipeline, Charles Schmitt, RENCi
- Finding New Ways to Solve the Ebola Problem, Dimitri Kusnezov, DOE/NNSA

11:45pm Vendor Technical Update: IBM R&D Plans for HPC

12:00pm Networking Lunch

#### Session Chair: Jim Kasdorf

1:00pm **Focus Area: HPC in the Life Sciences (Continued)**

- Ebola Research Using HPC, Kevin Shinpaugh, Virginia Bioinformatics Institute
- HPC and Alzheimer's Research, Joseph Lombardo, University of Nevada
- NCI Pilot Program: Cancer Genomics Cloud, Devin Locke, Seven Bridges Genomics

2:30pm Vendor Technology Update: HP R&D plans for HPC

2:45pm Break

3:15pm **Technology Focus Area: HPC Storage/Data Management and High Performance Data Analysis**

- Building Data Sharing Infrastructure at a Global Scale – the Research Data Alliance, Fran Berman, Rensselaer Polytechnic Institute
- Next-Generation Commercial Analytics: How the HPC Community Can Help, Arno Kolster and Ryan Quick, PayPal
- NASA Earth Exchange, Rama Nemani, NASA Ames Research Center

4:45pm A New MLS Initiative, Sarah Storms, Lockheed Martin

5:00pm Networking Break

6:00pm Special Dinner Event: 6:00 PM -- 7:00pm -- Tour Battleship Wisconsin & Nautilus Museum (Bar opens at 6:45pm) -- 7:30pm - Dinner



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#### Wednesday, April 15, 2015

7:15am Networking Breakfast

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

#### Session Chair: Rupak Biswas

8:15am **Focus Area #2: Government HPC Updates And New Uses Of HPC**

- HPC Usage And Future HPC Needs For Army Rotorcraft Problems, Roger Strawn, U.S. Army Research, Development and Engineering Command
- DARPA's Work To Spur The Creation Of Scalable Software, Doug Gelbach, DARPA
- The Wrangler System At TACC, Dan Stanzione, Texas Advanced Computing Center

9:45am Break

10:15am **Focus Area #2: Government HPC Updates And New Uses Of HPC (Continued)**

- Complex Data Integration in Biomedical Research, Kenneth Buetow, Arizona State University
- Bridges and the DXC, James Kasdorf, Pittsburgh Supercomputing Center
- Jetstream: A Self-Provisioned, Scalable Science and Engineering Cloud Environment, Dave Hancock, Indiana University

11:45am Vendor Technology Update: Intel R&D plans for HPC going forward

12:00pm Networking Lunch

#### Session Chair: Suzy Tichenor

1:00pm Panel: The Who-What-When of Getting Applications Ready to Run On, And Across, Office of Science Next-Gen Leadership Computing Systems

- OLCF Center for Accelerated Application Readiness (CAAR), Tjerk Straatsma, Oak Ridge Leadership Computing Facility
- NERSC Exascale Science Applications Program (NESAP), Katie Antypas, NERSC
- ALCF Early Science Program, Tim Williams, Argonne Leadership Computing Facility

2:45pm Vendor Technical Update: User Centered Innovation and HPC, Gabriel Broner, SGI  
*An innovation method evolved from the world of design based on uncovering unmet customer needs, generating ideas, and fast prototyping. New innovations emerged in the areas of system management, flash memory uses, enabling desktop users, and curbing the spread of ebola.*

3:00pm Break

3:30pm Exascale As An In Silico Enabler For Grand Challenge Problems In Chemistry, Materials Science, And Biology, Sadasivan Shankar, Harvard University

4:00pm HPC in the Cloud: Subsea Jumper Vortex Induced Vibration, Mustafa Kara, DNV GL Group ([www.dnvgl.com](http://www.dnvgl.com))

4:30pm CFD 2030 Project, Mujeeb Malik, NASA Langley Research Center

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