

June 2022 ORNL 79th HPC User Forum Agenda

Tuesday, June 21

(Session Leader: Chair, Paul Muzio, HPC User Forum Steering Committee)

7:30 – 8:30 am Breakfast and Badging

8:30 – 9:00 am Welcome and Meeting Overview

- Welcome to ORNL, Jeff Nichols
- Welcome & Logistics, Earl Joseph, Paul Muzio, and Steve Conway
- HPC Market Update, Earl Joseph, Hyperion Research

9:00 – 10:30 am What it Takes to Make Exascale Work

- ORNL and the Future of HPC, Jeff Nichols, ORNL
- SC Perspective: What it takes to get to Exascale, John Young, DOE
- OLCF Update: What It Takes to Build a Leadership Class Supercomputer, Justin Whitt, ORNL

10:30 am Break

10:45 – 11:45 pm What it Takes to Make Exascale Work (continued)

- OLCF Update: Powering and Cooling an Exascale Computer, Bart Hammontree, ORNL
- Designing and Creating an Exascale System, HPE & AMD
- El Capitan: Preparing for The Exascale System, Terri Quinn, LLNL

11:45 – 12:00 PM Vendor Update: Dell

12:00 – 1:00 pm Lunch

1:00 – 2:30 pm How Leadership HPC Sites Can Help Industry

- DOE Support for HPC in Industry, Today and in the Exascale Era, David Martin, ANL and Suzy Tichenor, ORNL
- Exascale Use in Industry, Dave Kepczynski, GE
- HPC and Industry, a European Approach, Hervé Mouren, Teratec

2:30 – 3:00 pm Vendor Updates: AMD and HPE

3:00 pm Break

3:15 – 5:15 pm What it Takes to Make Exascale Work (continued), ECP Updates, Moderated by Doug Kothe, ORNL

- ECP Updates (application software, facility integration, performance portability, programming models for accelerators, etc.), Doug Kothe, ORNL
- Performance Portability for Exascale Systems, Thomas Evans, ORNL
- Application Performance Portability on CPUs and GPUs, JaeHyuk Kwack, ANL
- Fundamental Challenges Posed by GPU Accelerators for Scientific Libraries and Approaches Adopted in the Portable, Extensible Toolkit for Scientific Computation (PETSc) to address them, Richard Tran Mills, ANL
- Update on HPC at GFDL, Seth Underwood, GFDL

5:15 – 5:30 pm Innovative Technologies Updates: IBM and Vast Data

5:30 – 6:00 pm The History of ORNL, David Keim, Director of Communications for ORNL

6:00 – 6:30 pm Tour of Frontier and Summit Supercomputers

6:30 – 8:30 pm Dinner

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June 2022 ORNL 79th HPC User Forum Agenda

Wednesday, June 22

(Session Leader: Earl Joseph, HPC User Forum Steering Committee)

- 7:30 – 8:30 am** Breakfast and Badging
- 8:25 – 8:30 am** Welcome and Logistics, Earl Joseph
- 8:30 – 9:00 am** HPC Future Directions at NASA and Work Force Needs, Tsengdar Lee, NASA
- 9:00 – 10:00 am** Exascale & Leadership Computing Updates
- EuroHPC Update, Leonardo Flores, European Commission
 - Using HPC to Support NASA's Overall Mission, Piyush Mehrotra, NASA Ames
- 10:00 am** Break
- 10:15 – 11:30 am** Exascale & Leadership Computing Updates
- Future of HPC; RIKEN Working with Sites Around World, Mitsuhsa Sato, Riken
 - DoD HPC Modernization Program (HPCMP), Benjamin Parsons, HPCMP
 - Argonne's Exascale-Era Systems, Kalyan Kumaran, ANL
 - NERSC Update: Perlmutter, Superfacility and Onward to NERSC 10, Richard Gerber, NERSC
- 11:30 – 11:45 am** Vendor Update: DDN
- 11:45 – 12:00 pm** SiPearl European Processor Update, Craig Prunty, SiPearl
- 12:00 – 1:00 pm** Lunch
- 1:00 – 2:00 pm** Quantum Computing Directions & Trends, Moderated by Travis Humble
- Travis Humble, ORNL
 - Bob Sorensen, Hyperion Research
 - Discussion on the Future of QC
- 2:00 – 2:15 pm** AWS and LLNL New Approach to HPC Software
- 2:15 – 2:30 pm** Innovative Technologies Updates: Penguin Solutions and Cornelis Networks
- 2:30 – 3:00 pm** Break
- 3:00 – 3:30 pm** The "S" in HPC Stands for Security, Ryan Adamson, ORNL
- 3:30 – 4:00 pm** Some Considerations for Future Architectures, Dimitri Kusnezov
- 4:00 – 4:30 pm** Invitation to Future HPC User Forum Meetings in France
- 4:30 – 5:00 pm** Invitation to Future HPC User Forum Meetings in Germany
- 5:00 – 5:15 pm** Conclusions, Paul Muzio, Steve Conway and Earl Joseph
- 5:30 – 6:30 pm** Tour of the Spallation Neutron Source (<https://sns.gov/virtual-tour>)
- 6:30 – 8:30 pm** Dinner

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