



# HPC User Forum Agenda

## 72<sup>nd</sup> HPC User Forum

April 1-3, 2019 – Santa Fe, New Mexico

### Monday, April 1, 2019

- 5:00 PM Registration Starts  
6:30 PM Welcome and Special Dinner Reception Event, A history of Santa Fe, Peter Weiss

### Tuesday, April 2, 2019

- 7:15 AM Networking Breakfast  
8:15 AM Welcome: Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway  
8:20 AM HPC Global Market Update, Earl Joseph and Bob Sorensen  
**Morning Session Chair: Rupak Biswas**  
8:30 AM Thermodynamics of Computation: Far More Than Counting Bit Erasure, David Wolpert, Santa Fe Institute  
9:00 AM **Session: Exascale Computing**
  - Exascale Computing in Europe, Leonardo Flores, European Commission
  - Exascale Computing Project Software Activities, Mike Heroux, Sandia National Laboratories10:00 AM Networking Break  
10:30 AM **Session: Exascale Computing**
  - CoMet Comparative Genomics Code: Gordon Bell Prize Winner, Wayne Joubert, Oak Ridge National Laboratory
  - Exascale Computing in the Life Sciences: Gordon Bell Prize Winner, Daniel Jacobson, Oak Ridge National Laboratory11:30 AM Vendor Technical Update: HPE  
11:45 AM Vendor Technical Update: Intel  
12:00 PM Networking Lunch  
1:00 PM **Session: Exascale Computing**
  - ECP Co-Design Center for Machine Learning, Frank Alexander, Brookhaven National Laboratory
  - Accelerating Therapeutics for Opportunities in Medicine (ATOM), Amanda Minnich, Lawrence Livermore National Laboratory**Session Chair: Paul Muzio and Henry Newman**  
2:00 PM **Session: Metadata and Archiving at Scale: User Perspectives**
  - Security of Data at Rest, NIST standards, and NIAP/Common Criteria, Henry Newman, Seagate Government Solutions
  - Moving from Extreme Scale Data to Extreme Scale Metadata Concerns: It's About Time! Gary Grider, Los Alamos National Laboratory3:00 PM Vendor Technical Update: Penguin Computing  
3:15 PM Vendor Technical Update: Dell  
3:30 PM Networking Break  
3:45 PM **Session: Metadata and Archiving at Scale: User Perspectives**
  - Amanda Tumminello, Navy DoD Shared Resource Center4:15 PM Quantum Computing Research at ORNL, Travis Humble, Oak Ridge National Laboratory  
4:45 PM Innovative Technologies Panel #1 (5 minute presentations on new technologies)
  - Red Hat, Xtreme-D, AMD, Cray, Altair and DDC/ScaleMatrix5:15 PM Meeting Ends  
6:30 PM Special Dinner Event, A history of LANL Terry Wallace, Director Emeritus for Los Alamos National



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### Wednesday, April 3, 2019

- 7:15 AM Networking Breakfast
- 8:10 AM Welcome: Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway
- 8:15 AM New AI Hardware Products and Trends, Alex Norton
- Morning Session Chair: Paul Muzio and Henry Newman**
- 8:30 AM Personalized Healthcare with High Performance Computing in the Cloud, Wolfgang Gentzsch, UberCloud
- 8:45 AM **Session: Metadata and Archiving at Scale: User Perspectives**
- Evolving NASA's Data and Information Systems for Earth Science, Rahul Ramachandran, NASA
- 9:15 AM Vendor Technical Update: AMD
- 9:30 AM Networking Break
- 10:00 AM **Session: Metadata and Archiving at Scale: Technology providers (15 minutes each)**
- Data Movement and Tiering with DMF 7, Kirill Malkin, HPE
  - MetaOcean: Handling Massive and Sensitive Metadata from Precision Medicine, Frank Lee, IBM
  - iRODS Open Source Data Management Software, Terrell Russell, RENCi
  - Dealing with Extreme Requirements in HPC, Frank Herold, Thinkparq/BeeGFS
- 11:00 AM Panel Session: Metadata and Archiving at Scale: Users will discuss vendor strategies and plans
- 11:30 AM Vendor Technical Update: ARM
- 11:45 AM Future High End Computing in Japan, Satoshi Matsuoka
- 12:15 PM Networking Lunch
- Afternoon Session Chair: Keith Gray**
- 1:15 PM Innovative Technologies Panel #2 (5 minute presentations on new technologies)
- CPC, D-Wave, Tachyum (the first universal processor), ARM, IBM, and Panasas
- 2:15 PM **Session: Finding and Developing the Future HPC Workforce: STEM and HPC Workforce Issues**
- Education and Training for HPC, Keith Gray, BP and Melyssa Fratkin, Texas Advanced Computing Center
  - The Computing4Change Program, Kelly Gaither, Texas Advanced Computing Center
- 3:15 PM Networking Break
- 3:30 PM **Session: STEM and HPC Workforce Issues**
- Computational Sciences and Educational Initiatives at the University of New Mexico, Patrick Bridges
  - DoD STEM Activities Kevin Newmeyer, DoD HPCMP
- 4:30 PM **Panel Discussion: STEM and HPC Workforce Issues**
- 5:15 PM Meeting Wrap-Up, Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway