HPC User Forum Preliminary Agenda
76th HPC User Forum
March 30-April 1, 2020—Marriott at Forrestal Hotel, Princeton, New Jersey

Monday, March 30, 2020
5:00 PM Registration Starts
6:30 PM Welcome and Special Dinner Reception Event with a talk on History of the Princeton Plasma Physics Laboratory (PPPL): S. Cowley/M. Zarnstorff, PPPL

Tuesday, March 31, 2020
7:15 AM Networking Breakfast
8:00 AM Welcome and HPC Market Update: Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway

Morning Session Chair:
8:15 AM Update on the Exascale Computing Project, Lori Diachin
8:45 AM United Kingdom (UK) Exascale and the Catalyst UK Programme, Mark Parsons and Michele Weiland, Edinburgh Parallel Computing Centre
9:15 AM Vendor Technology Update
9:30 AM Stimulating the Innovation Potential of Small and Medium Enterprises – Fortissimo within EuroHPC, Bastian Koller, High Performance Computing Center - Stuttgart
10:00 AM Networking Break
10:30 AM Vendor Technology Update
10:45 AM HPC at Princeton University, Curt Hillegas, Princeton University
11:15 AM Update and Plans for the NERSC-9 Supercomputer (“Perlmutter”), Tina Declerck, National Energy Science Research Computing Center
11:45 AM HPC for Cancer Research, Jack Collins, National Cancer Institute
12:15 PM Networking Lunch

Afternoon Session Chair: Paul Muzio

SESSION ON HPC FOR FUSION ENERGY RESEARCH
1:15 PM How HPC Is Enabling Fusion and ITER Science, C. S. Chang, PPPL
1:45 PM Artificial Intelligence — An Exciting New Way To Speed Development of Fusion Energy, Michael Churchill, PPPL
2:15 PM Performance Portability on Various GPUs and CPU Machines Utilizing Kokkos, A. Scheinberg, PPPL
2:45 PM Status of the Exascale Computing Project on High-Fidelity Whole Device Modeling of Magnetically Confined Fusion Plasma, A. Bhattacharjee, PPPL
3:15 PM Networking Break
3:45 PM HPC and The Flatiron Institute/Simons Foundation, Ian Fisk
4:15 PM Data Management and Workflow Challenges for Exascale Seismology, Jeroen Tromp, Princeton University
5:00 PM Meeting Ends
5:30 PM Transportation to Special Dinner Event at the Gardens for Sculpture. (Buses depart hotel 5:30pm. Roam sculpture grounds 6:00-7:00pm. Dinner 7:00-9:00pm. Buses return to hotel 9:00pm)

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Wednesday, April 1, 2020

7:15 AM  Networking Breakfast
8:00 AM  Welcome: Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway

Morning Session Chair:
8:15 AM  Using HPC-enabled AI to Guide Investment Strategies for Finding and Funding Startups, Thomas Thurston, WR Hambrecht & Company
8:45 AM  HPC Needs at JP Morgan Chase, Brad Spiers
9:15 AM  Vendor Technology Update:
9:30 AM  From Architecture Guided Applications to Application Guided Architectures, Gary Grider, Los Alamos National Laboratory
10:00 AM Networking Break
10:30 AM Proving History: The Role of Graph and Digital Ledger For Exascale AI and HPC, Arno Kolster and Ryan Quick, Providentia Worldwide, LLC
11:00 AM Exascale Machine Learning Technologies, Frank Alexander, Brookhaven National Laboratory
11:30 AM Vendor Technology Updates
12:00 PM Networking Lunch

Afternoon Session Chair:
1:00 PM  Massive Scale Analytics for Real-World Applications, David Bader, New Jersey Institute of Technology
1:30 PM  Panel Session: Innovative Technologies for HPC. Moderator: Earl Joseph, Hyperion Research
2:15 PM  Vendor Technology Update:
2:30 PM  Networking Break
3:00 PM  Graph Analytics and AI, John Feo, Pacific Northwest National Laboratory
3:30 PM  AI and Cyber Operations, John Quigg, Johns Hopkins University APL
4:00 PM  How NOAA-GFDL Integrated and Optimized the GFSv15 System, Rusty Benson
4:30 PM  Recent Research Findings on AI, Quantum Computing, Cloud: Hyperion Research Analysts
5:00 PM  Meeting Wrap-Up, Paul Muzio, Rupak Biswas, Earl Joseph and Steve Conway