



September 3rd and 4th Reston, Virginia 89th HPC User Forum Agenda



Wednesday, September 3rd

7:00 - 8:00 am Registration and Breakfast

8:00 - 8:30 am Welcome/Introductions

- Piyush Mehrotra, Rupak Biswas and Earl Joseph
- HPC Market Update, Earl Joseph, Hyperion Research

(Session Leader: Piyush Mehrotra)

8:30 - 9:00 am Enhancing the Cybersecurity Posture of Commercial Critical Infrastructure, John Garstka, Director, Cyber Warfare Office of the Deputy Assistant Secretary of Defense

9:00 - 10:00 am How AI & HPC Workloads are Driving Industrial Data Centers, Part I

- **Journey From an On-Prem HPC Environment Into the Cloud**, Alex Loddock, High Performance Computing Strategist, Chevron Corporation
- **HPC/AI Trajectories at GE Aerospace**, Richard Arthur, Sr. Principal, GE Aerospace Research

10:00 - 10:15 am From Petabytes to Insight: How AI-Powered Digital Twins Are Transforming Grid Resilience, Chris Beaufait, Sharper Shape

10:15 - 10:30 am Break

10:30 - 11:00 am Portable Scalability and Performance at Exascale Using Asynchronous Tasking, Martin Berzins, Associate Director and Faculty Member, SCI at the University of Utah

11:00 - 11:15 am Vendor Update: Hammerspace

11:15 - 11:45 am Hype on Hyperscalers? The Rapidly Evolving Landscape of Energy for High-Performance Computing, Bryan Willson, Executive Director of the Energy Institute, Colorado State University

11:45 - 12:00 pm Vendor Update: Intel

12:00 - 1:00 pm Lunch

(Session Leader: David Martin, Lawrence Berkeley National Laboratory)

1:00 - 2:00 pm How AI & HPC Workloads are Driving Industrial Data Centers, Part II

- **Addressing the Facilities Requirements for Industrial HPC**, Keith Gray, VP Computational Science and Engineering, TotalEnergies
- **Cybersecurity in HPC/AI Data Centers**, Joe Swartz, CSCF Program/Chief Architect, Lockheed Martin

2:00 - 2:15 pm Vendor Update: Bill Mannel, HPE

2:15 - 2:30 pm Data Center Design and Construction at Scale at AWS, Speaker TBD

2:30 - 3:30 pm Present and Future HPC Trends, Forecast, and Implications Within Data Centers, Matt Vincent, Editor in Chief, Data Center Frontier

3:30 - 4:00 pm Break

4:00 - 4:45 pm Trends and New Solutions in the Use of Clouds to Run HPC/AI Workloads

- **Programmable Cloud Laboratories**, Dr. Alex Vadati, Program Director, NSF
- **Google Cloud for Science: Supercomputing and Agentic AI for Scientific Discover, Innovation, and Productivity**, Jay Boisseau, Advanced Computing Strategist, Google

4:45 - 6:00 pm Break

6:00 - 8:30 pm Dinner Presentation: Buddy Rizer, Executive Director, Loudoun County, Virginia, Department of Economic Development

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Thursday, September 4th

7:00 - 8:00 am Registration and Breakfast

8:00 - 8:10 am Welcome/Introductions

(Session Leader: Rupak Biswas, NASA)

8:10 - 8:30 am **Latest Market Perspective on Running HPC-AI Workloads in the Cloud: Now for Some Quid Pro Quo**, Mark Nossokoff, Research Director, Lead Analyst for Cloud & Storage, Hyperion Research

8:30 - 9:50 am **Quantum Computing, Part I**

- **Quantum Computing and Applications at DOE's SQMS Quantum Research Center**, Silvia Zorzetti, Principal Engineer and Head of Quantum Computing Co-Design and Communication, Fermilab
- **Algorithms for Quantum Computers**, Andrew Childs, Professor and Fellow in the Department of Computer Science, University of Maryland
- **5th Annual Global QC Market Survey: Continued Progress But Changes in the Air**, Bob Sorensen, Senior VP of Research and Chief Analyst for Quantum Computing, Hyperion Research

9:50 - 10:05 am Vendor Update: Weka

10:05 - 10:30 am Break

10:30 - 11:00 am **Energy Management for AI and HPC Data Centers**, Ray Juneja, DOE Fellow, AI & Energy

11:00 - 12:00 pm **Quantum Computing, Part II**

- **Full-stack Quantum Computers and Their Co-design**, Christopher Monroe, Gilhuly Family Presidential Distinguished Professor of ECE and Physics, Duke University
- **Quantum Computing at Google**, Salvatore Mandrà, Research Scientist at Google Quantum AI, Google

12:00 - 1:00 pm **Lunch**

(Session Leader: Elizabeth L'Heureux, BP)

1:00 - 1:45 pm **Technologies Showcase: Alice + Bob**, CTG Federal, DDN, FedData, Hitachi Vantara, IBM, QuEra and Supermicro

1:45 - 2:15 pm **An Update on NNSA HPC and AI Activities**, Thuc Hoang, Deputy Assistant Deputy Administrator, NNSA

2:15 - 2:30 pm **Vendor Update: Matthew Shaxted**, Parallel Works

2:30 - 3:00 pm Break

3:00 - 3:30 pm **From Code to Cosmos: High-End Computing Enables NASA Exploration, Science, and Engineering**, Kevin Murphy, Chief Science Data Officer, NASA

3:30 - 4:00 pm **Quantum Internet: What Is It, Why Do We Need It, and How Do We Engineer It?**, Dr. Prem Kumar, AT&T Professor of Information Technology/Joint with Electrical Engineering, Northwestern University

4:00 - 4:30 pm **Advanced Scientific Computing at DOE**, Ceren Susut, DOE ASCR Associate Director

4:30 - 4:45 pm **Closing Remarks and Invitations to Our Future HPC User Forum Events**

4:45 - 5:00 pm Break

5:00 - 7:00 pm **Special Event: Networking Time & Cocktail Reception**

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