AI Infrastructure to Accelerate AI Convergence and Catalyze U.S. Scientific Innovation

June 17-18, 2025

TUESDAY, JUNE 17, 2025

Purpose

As artificial intelligence (AI) is in a pivotal moment of rapid expansion and impact, building a robust future-proof national AI infrastructure is crucial for fueling the next wave of scientific breakthroughs and sustaining U.S. leadership. National success in a next-generation AI program will hinge on establishing testbeds, data-sharing frameworks, and collaboration networks that unite researchers and innovators across government, university, industry, and philanthropic institutions. By aligning these resources within an integrated AI ecosystem, the United States can catalyze breakthroughs, maintain global competitiveness, and address pressing societal needs. This workshop aims to foster a forward-looking vision for future AI infrastructure that enables the necessary convergence to propel discovery, promotes rapid commercialization, and positions the United States at the forefront of the AI revolution. Emphasizing urgency, speed, and scale in a rapidly evolving innovation environment, the discussions will outline ambitious objectives for over-the-horizon challenges and those scientific and technological advancements in AI that demand coordinated national effort.

2:00-2:10pm Opening Remarks, NAS 125

- **Walter Copan**, Vice President for Research and Technology Transfer, Colorado School of Mines

2:10-4:55pm Special Closed Session: Defining the Parameters of Success for A National Next-Gen AI Initiative

As artificial intelligence (AI) accelerates toward broader cognitive capabilities and the prospect of artificial general intelligence (AGI), the United States faces a defining opportunity to establish the infrastructure and frameworks needed for responsible, large-scale impact. High-performance computing, specialized hardware, and data center agility form the backbone of AGI research. Meanwhile, commercial investment and public-private partnerships can expedite innovations in energy infrastructure and the development of new concepts in efficient electronics, which are necessary for deployment.

Achieving a national next-gen AI framework with respect to an AI and AGI convergence will require cohesive national goals, flexible regulations, and policies that strike a balance between rapid innovation and ethical and security considerations. Operational readiness, cross-agency coordination, and measurable success metrics such as exaflops of computational capacity, economic growth, and advanced real-world applications will guide the journey from current AI capabilities to the horizon of AGI. Through strategic collaboration and bold investments, the nation can harness this convergence to drive scientific breakthroughs, strengthen U.S. competitiveness, and deliver transformative technology.

2:10-3:20pm Moderated Panel Discussion [Closed Session]

Moderator: Ana Trisovic, Research Scientist, FutureTech Lab, MIT

- **Lane Dilg**, Infrastructure Policy & Partnerships, OpenAI
- **Reed Sturtevant**, General Partner, The Engine Ventures
- **Animashree (Anima) Anandkumar**, Bren Professor of Computing and Mathematical Sciences, Caltech

- **Scott Stapp**, Chief Technology Officer and Chief Revenue Officer, DEFCON AI
- **Thomas Zacharia**, Senior Vice President of Strategic Technology Partnerships and Public Policy, AMD

3:20-3:30pm **Break**

3:30-4:10pm **Fireside Keynote [Closed Session]**

Moderator: Michael Nestor, Board Director, GUIPRR

- **Gideon Lichfield,** author of Futurepolis and former editor-in-chief of Wired magazine and MIT Technology Review

4:10-4:55pm **Ideas Lab: National Next-Gen AI Framework [Closed Session]**

5:00-6:00pm **Networking Reception. Great Hall**

6:00-8:00pm **Dinner and Dinner Fireside**

Moderator: Ben Rein, Chief Science Officer, Mind Science Foundation

- **Prineha Narang**, Professor, Physical Sciences and Electrical and Computer Engineering, University of California, Los Angeles

END OF DAY 1

WEDNESDAY, JUNE 18, 2025

8:30-9:00am **Breakfast & Check-in, West Court**

9:00-10:15 **The Convergence of AI, HPC, and Policy: Shaping the Future of Computing, Fred Kavli Auditorium**

This panel will explore how to unite the computing community around innovation partnerships that emphasize the rapid and scalable convergence of artificial intelligence (AI) with high-performance computing (HPC). Panelists will examine the critical components of an integrated national strategy that aligns national priorities, infrastructure investments, and advanced computing applications across sectors. Discussion topics will address the technical hurdles of scaling AI workloads on next-generation HPC architectures, as well as the policy levers needed to foster the rapid convergence of AI and HPC capabilities. These include new investments in research and development, funding mechanisms to expand HPC capabilities, and investments in the private sector to rapidly deploy breakthrough AI–HPC solutions. By bringing together voices from industry, government, and academia, this panel aims to illuminate a roadmap for building robust partnerships that can accelerate computing innovation and reinforce U.S. leadership in the convergence of AI and HPC.

Moderator: Ceren Susut, Associate Director, Advanced Scientific Computing Research, Office of Science, Department of Energy

- **Mina Narayanan**, Research Analyst, Center for Security and Emerging Technology, Georgetown University
- **Andrey V. Kanaev**, Program Director, Office of Advanced Cyberinfrastructure, Computer and Information Science and Engineering Directorate, National Science Foundation
- **Mark Arnone**, Global Executive Relations, Energy Innovation and Defense, Amazon Web Services
- **Richard Arthur**, Senior Principal Engineer, Advanced Computational Methods Research, GE Aerospace Research

10:15-10:45 **Break, West Court**

10:45–12:15 **Developing Robust Commercialization Pathways for Emerging Technologies in AI and HPC, Fred Kavli Auditorium**

As artificial intelligence (AI) and high-performance computing (HPC) capabilities rapidly advance, establishing effective commercialization pipelines is key to transforming groundbreaking research into viable market solutions. This panel will explore how industry-driven partnerships, targeted funding strategies, and streamlined technology transfer processes can bridge the gap between lab-based innovation and full-scale deployment.

Panelists will share insights on structuring collaborations to accelerate proof-of-concept projects, optimize product development timelines, and secure early adopters in high-impact sectors, including healthcare, manufacturing, and defense. They will also discuss how to navigate regulatory frameworks, de-risk investments, and foster ecosystem-wide adoption of emerging AI–HPC technologies. By focusing on pragmatic approaches to partnership building and scaling, this panel will highlight pathways for transforming disruptive innovations into commercially successful solutions that drive economic growth and foster technological leadership.

Moderator: Christina Lomasney, Chief Commercialization Officer, Pacific Northwest National Laboratory

- **Austin Carson**, Founder & CEO, SeedAI
- **Kevin R. Dixon**, Applied Information Sciences Center, Sandia National Laboratories
- **Edlyn Levine**, Research Associate, Department of Physics, Harvard University
- **Zachary Lawrence**, CEO, KlyneAI
- **Justin C. Sanchez**, Tech Fellow, Battelle

12:15-1:15pm **Networking Lunch, West Court**

1:15-2:30 **AI Agents: Opportunities and Challenges, Fred Kavli Auditorium**

This panel examines the potential, challenges, and pathways for AI agent systems, which refers to AI systems capable of making decisions and acting on them within environments to achieve specific goals. Panelists will address the current state and future direction of AI agent systems across various sectors, including research automation, robotics, and manufacturing. Discussion topics will include the realistic capabilities and limitations of current AI agent systems, particularly regarding accuracy, reliability, and safe deployment, alongside strategies for mitigating known risks, such as model hallucinations and errors.

The discussion will also examine the relationship between AI agent systems and artificial general intelligence (AGI). Panelists will highlight how advancements in AI agent systems may inform or diverge from AGI research, emphasizing the importance of clear definitions of these concepts. The conversation will further underscore necessary technical strategies, human-AI collaborative frameworks, and regulatory landscapes essential for the safe and effective deployment of AI agent systems at scale.

Moderator: Yolanda Gil, Research Professor of Computer Science and Spatial Sciences and Principal Scientist at USC Information Sciences Institute

- **Erica Finkle**, AI Policy Director, Meta
- **Ylli Bajraktari**, President and CEO, Special Competitive Studies Project
- **Deji Coker**, Principal and Director, Booz Allen Hamilton
- **Peter Stone**, Professor of Computer Science at UT Austin, Chief Scientist at SonyAI

2:30-3:00 **Break, West Court**

3:00-4:15 **Building National Infrastructure to Support the Convergence of AI and Quantum Technologies, Fred Kavli Auditorium**

This session will examine the critical role national infrastructure plays in integrating advanced AI and quantum technologies, with an emphasis on securing reliable supplies of essential minerals and rare earth elements, as well as leveraging quantum systems to accelerate AI capabilities. Panelists will explore how innovations in quantum hardware, including superconducting technologies, can enhance AI computing performance and meet the growing demands of next-generation applications.

The discussion will also highlight how policy can support the development of cutting-edge hardware essential for AI and quantum platforms. Participants will consider strategic approaches to sustain long-term access to critical materials, strengthen innovation pipelines, and advance U.S. competitiveness in this rapidly evolving space. By integrating perspectives, this panel aims to outline how a unified national infrastructure can drive technological progress and ensure global leadership in the convergence of AI and quantum fields.

Moderator: Prachi Vakharia, Co-Founder, Womanium Foundation

- **Geetha Senthil**, Deputy Director, Office of Special Initiatives, National Center for Advancing Translational Sciences, NIH
- **Zachary Dutton**, Vice President of Defense Technology, RTX Corporation
- **Travis Scholten**, Technical Lead, Public Sector, IBM Quantum
- **Robert Visser**, Vice President, Engineering, Office of the CTO, Applied Materials, Inc.

4:15-4:40 **End of Panel Programming & Closing Remarks**

- **Darryll Pines**, GUIPRR Council Co-Chair, President, University of Maryland

MEETING ADJOURNS