NATIONAL ACADEMIES Sciences Engineering Medicine

ACTION COLLABORATIVE ON EDUCATION AND WORKFORCE TRAJECTORIES IN TECH

The Impact of Artificial Intelligence on Education and Workforce Trajectories in Tech

MONDAY, MARCH 30, 2026

Purpose

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- Examine how education and workforce preparation pathways in computing, engineering, and mathematics are responding to advances in artificial intelligence (AI) and the resulting talent demand for new and evolving technologies.
- Consider the perspectives and experiences of those affected by AI adoption, including learners, educators, workers, and organizational leaders.
- Surface promising strategies, practices, and organizational models for responding to and shaping the education-to-workforce trajectory changes resulting from AI integration.
- Highlight cross-sector collaborations, partnerships, and engagements that strengthen recruitment, retention, and advancement in the evolving tech ecosystem.

9:00 – 9:15AM **Welcoming Remarks**

Chair of the workshop planning committee, Dr. Talitha Washington, will open the event by outlining its purpose and framing the central questions guiding the day's discussion. The remarks will situate the conversation within the broader context of how artificial intelligence is reshaping technical expertise, workforce structures, and career pathways, and underscore the need for coordinated organizational adaptation across education and industry.

9:15-10:15AM **Opening Session**

Session Description:

This opening session will frame the workshop's focus on how AI is reshaping workforce demand for computing, engineering, and mathematics expertise. Speakers will discuss how AI is driving changes in the design and development of software, hardware, and enabling technologies—and how these shifts are prompting education providers, training organizations, and employers to reassess program structures, talent development strategies, and institutional capacity. The discussion will examine how AI-driven changes are reshaping ethical, technical, and analytical preparation across education and training systems, and how organizations must adapt and align across K–12, post-secondary education, workforce development, and industry to meet evolving tech workforce demands.

Speakers:

- Dr. Victor McCrary (moderator), Chairman, National Science Board; Vice Provost, Catholic University
- Mr. Adam Browning, Director, Academic Innovation and Implementation, Washington Leadership Academy Public Charter School
- Dr. Kristin Lauter, Senior Director, FAIR Labs North America, Meta
- Mr. Shabbir Qutbuddin, Assistant Vice President, School of IT and Entrepreneurship, Ivy Tech Community College

10:15-10:30AM **Break**

10:30-12:00PM **The Impact of AI on K-12 Tech Education**

Session Description:
This session examines how K–12 education systems are adapting organizationally to prepare students for future roles in an AI-enabled tech workforce grounded in computing, engineering, and mathematics. Speakers will explore how AI is influencing expectations for foundational ethical, technical, and analytical knowledge in these disciplines, shaping early exposure to computing and engineering pathways, and prompting districts and states to reassess how AI-related content is incorporated across programs. The session will also address how school systems are building institutional capacity to support these evolving skill demands, and how organizational decisions at the K–12 level influence long-term participation in AI-related technical careers.

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Speakers:

- Dr. Valerie Bennett (moderator), Program Director, Graduate Teacher Education, Clark Atlanta University
- Dr. Maya Israel, Professor, University of Florida; Director, CSEveryone and the Creative Technology Research Lab
- Ms. Katy Knight, Executive Director and President, Siegel Family Endowment
- Mr. Bryan Twarek, Vice President, Education and Research, Computer Science Teachers Association

12:00-1:00PM **Lunch Break**

1:00-2:30PM **The Impact of AI on Post-Secondary Tech Education**

Session Description:
This session focuses on how post-secondary institutions are responding organizationally to AI-driven changes in tech workforce demand. Speakers will examine how programs in computing, engineering, and mathematics are evolving to reflect the ethical, technical, and analytical skills needed to develop, deploy, use, and maintain AI-enabled technologies, including software, hardware, and supporting infrastructure. The session will explore how institutions are rethinking program structures, faculty expertise, research integration, and experiential learning models to better align with industry expectations. Discussion will also consider how universities and colleges are building institutional capacity—through interdisciplinary collaboration, industry partnerships, and strategic investments—to prepare graduates for AI-integrated technical roles and evolving career pathways.

Speakers:

- Dr. Raheem Beyah (moderator), Provost and Executive Vice President for Academic Affairs, Georgia Institute of Technology
- Dr. Antonio Delgado Fornaguera, Vice President of Innovation and Technology Partnerships, Miami Dade College
- Dr. Barbara Grosz, Higgins Professor of Natural Sciences (emerita), Harvard University
- Dr. Margie Vela, AI Expansion-Global Head of Academic Partnerships, Machine Learning University, Amazon Web Services

2:30-2:50PM **Break**

2:50-4:20PM **How AI is Influencing the Tech Workforce**

Session Description:
This session examines how AI is reshaping technical roles, workflows, and organizational structures within the tech workforce. Speakers from industry, workforce development programs, and training organizations will discuss how AI is redefining expectations for software engineers, hardware engineers, data scientists, and other

technical professionals with computing, engineering, and mathematics backgrounds. The session will explore how organizations are redesigning roles, redefining core competencies, and restructuring teams to integrate AI-enabled tools and systems into daily operations. Discussion will also focus on how employers are building internal learning ecosystems—through upskilling initiatives, credentialing strategies, and cross-sector partnerships—to support continuous adaptation. Finally, speakers will consider how organizations are aligning education efforts, talent strategy, performance expectations, and workforce development investments to sustain innovation in an AI-integrated environment.

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Speakers:

- Mr. Mark Papermaster (moderator), Chief Technology Officer and Executive Vice President of Technology and Engineering, Advanced Micro Devices
- Dr. Kari L. Jordan, Executive Director, The Carpentries
- Ms. Marachel Knight, Director, Ericsson AB (Enterprise Business and Technology Committee Member); Director, Marvell Technology, Inc. (Nominating and Governance Committee Chair)
- Dr. Micaela Parker, Founder and Executive Director, Academic Data Science Alliance
- Dr. Andrew Puryear, CEO and Co-founder, Stealth Technology Company

4:20-4:30PM **Break**

4:30-5:00PM **Closing Session: Cross-Trajectory Synthesis**

Session Description:
The workshop planning committee will synthesize insights across K–12, post-secondary education, and workforce development discussions, with a focus on identifying shared ethical, technical, and analytical skill priorities and the organizational conditions required to support them across the education-to-workforce trajectory. Participants will reflect on how computing, engineering, and mathematics education and training systems must evolve—structurally, operationally, and strategically—to align with AI-driven workforce expectations and demands. Closing session reflections will highlight cross-sector coordination needs, institutional change levers, and priority areas where additional evidence, partnership, or policy alignment could strengthen preparation for AI-related technical roles.

5:00-6:00PM **Reception**

This workshop is sponsored by the members and core sponsors of the Action Collaborative on Education and Workforce Trajectories in Tech. Below are several of the sponsoring organizations.

Action Collaborative on
Education and Workforce Trajectories in Tech

Objective

The Tech Action Collaborative brings organizations together to facilitate collaboration and partnerships, explore evidence-based practices, and share on-the-ground experience with the goal of strengthening tech education and workforce pathways–supporting a thriving tech ecosystem. Together, members work to improve recruitment, retention, and advancement across tech education and careers.

Background and Rationale

Demand for talent across the tech enterprise continues to grow, yet the United States faces a critical shortage of skilled workers—threatening innovation and global competitiveness. National Academies reports have consistently identified challenges across education and workforce systems, including limited access to high-quality learning, insufficient mentorship, and unclear career pathways.

Launched in December 2023, the Tech Action Collaborative coordinates cross-sector efforts to strengthen education and workforce pathways, enabling individuals to succeed and institutions to adapt in a rapidly evolving technological landscape.

Strategic Priorities

Guided by research and consensus, the Tech Action Collaborative focuses on:

- Understanding workforce trends to inform education and employment strategies
- Strengthening education and career pathways into and through tech careers
- Identifying and scaling effective practices across institutions and sectors
- Building partnerships that enable systems to adapt to rapid technological change

Activities of the Tech Action Collaborative are designed to advance these priorities and include: hosting convenings; collecting and disseminating annual member reports of actions taken and planned; and facilitating networking and collaboration with experts and leaders across the tech ecosystem to help organizations keep pace with rapid technological change.

Key Convenings

The Action Collaborative hosts a series of hybrid engagements:

- **Annual Members Meeting:** Private forum for progress sharing and strategic alignment
- **Annual Summit:** Broad convening to highlight insights, elevate solutions, and shape future directions
- **Working Groups:** Ongoing collaboration focused on priority areas such as recruitment, advancement, training, and systems-level change

Contact

For more information on engagement opportunities, contact: Jeena Thomas | jmthomas@nas.edu