

NATIONAL SCIENCE BOARD



VISION 2030: DEVELOPING STEM TALENT FOR AMERICA

NATIONAL SCIENCE BOARD MEETING
AUGUST 2023

FOUR PRIORITY AREAS



Deliver Benefits From Research



Develop STEM Talent for America

NSB Vision 2030 Roadmap



Expand the Geography of Innovation



Foster a Global S&E Community

U.S. STEM TALENT SHORTAGE

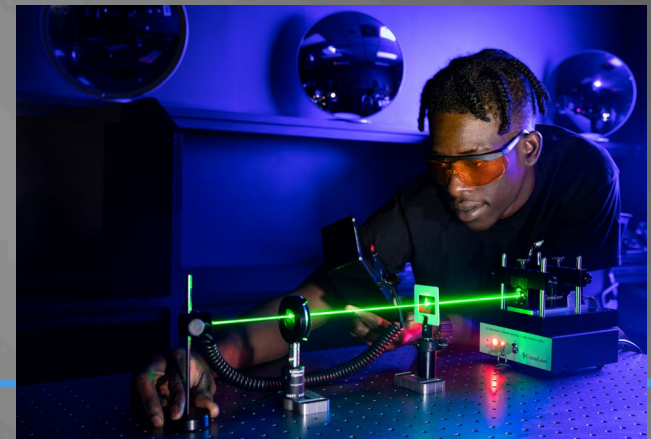
Cybersecurity: 600,000 job openings currently

AI: 3 million additional workers needed by 2026

Semiconductor: 280,000 skilled technical workers needed

Manufacturing: nearly 700,000 job openings currently

Quantum computing: fewer than 50% of jobs will be filled by 2025



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U.S. IS LEAVING TALENT ON THE BENCH

Missing Millions: Faster Progress in Increasing Diversity Needed to Reduce Significant Talent Gap

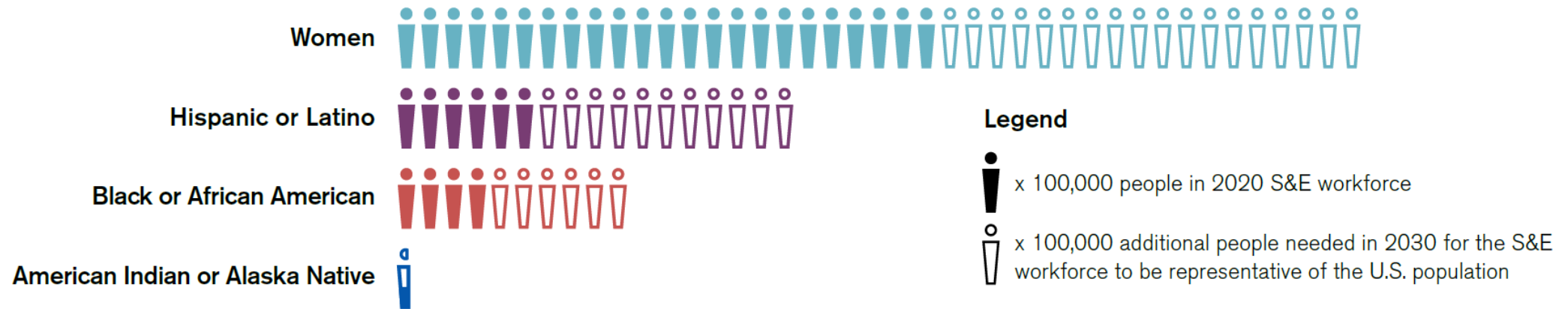


Figure 1: While the number of people from under-represented groups in the S&E workforce has grown over the past decade, much faster increases will be needed for the S&E workforce to be representative of the U.S. population in 2030. To achieve that goal, the NSB estimates that the number of women must nearly double, Hispanic or Latinos must triple, Black or African Americans must more than double, and the number of American Indian or Alaska Native S&E workers needs to quadruple (from 15,000 to 60,000). The NSB estimates that the number of Native Hawaiian or Other Pacific Islanders will be slightly overrepresented in the S&E workforce in 2030. These estimates are based on projections from the U.S. Census and Bureau of Labor Statistics, together with data from the 2021 Women, Minorities, and Persons with Disabilities in Science and Engineering report published by the National Center for Science and Engineering Statistics and assume that participation of these groups in the S&E workforce increases at current rates.

U.S. STUDENTS LAG IN MATH

- U.S. students rank 25th out of 37 OECD countries in math literacy
- Stagnant performance for 13 years
- Performance gaps *within* U.S. worsened during the pandemic



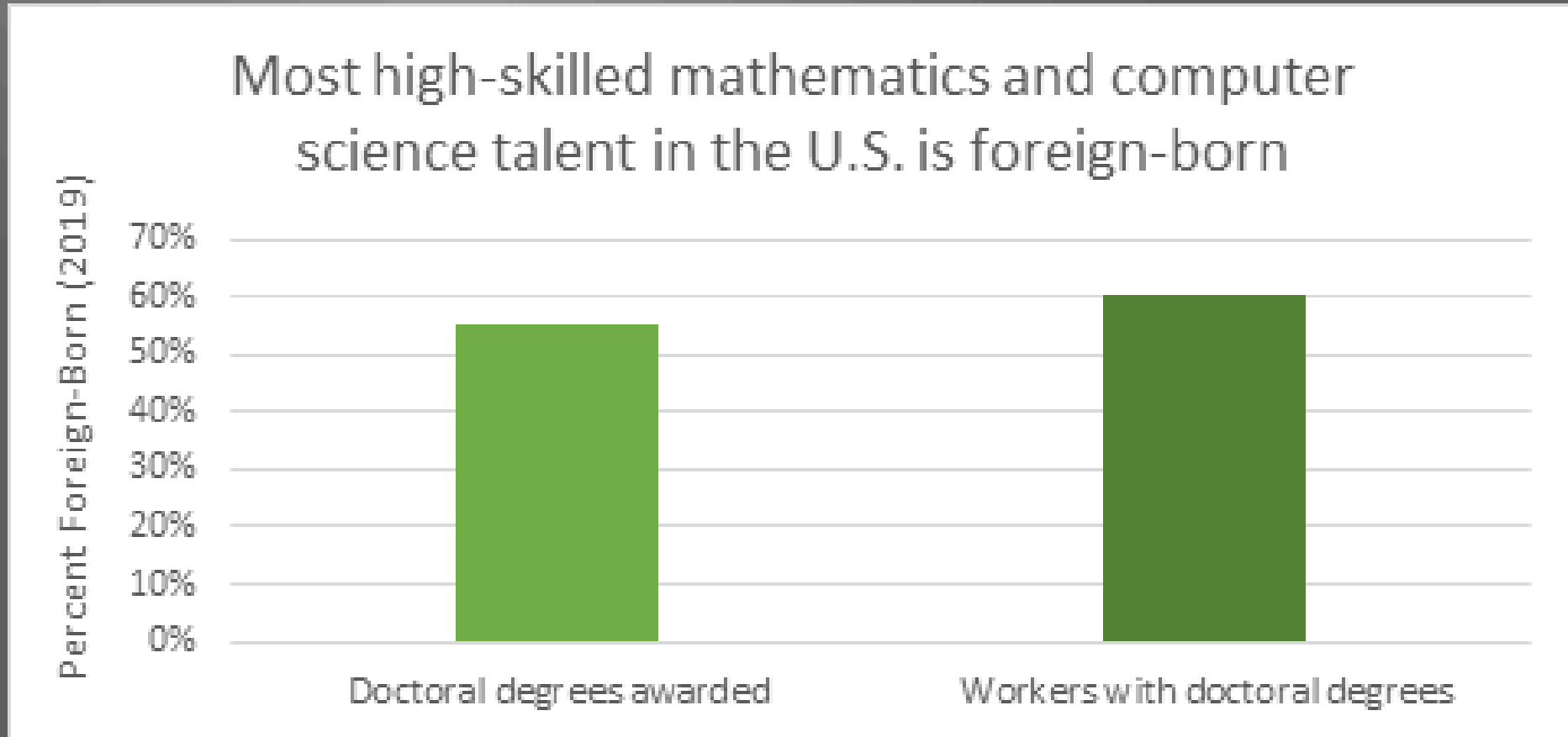
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FINANCIAL BARRIERS

- Financial hurdles discourage entry into STEM PhD programs
- STEM bachelor's degree holders earn more than STEM PhD students
- Earnings disparity greatest in math, computer science, and engineering



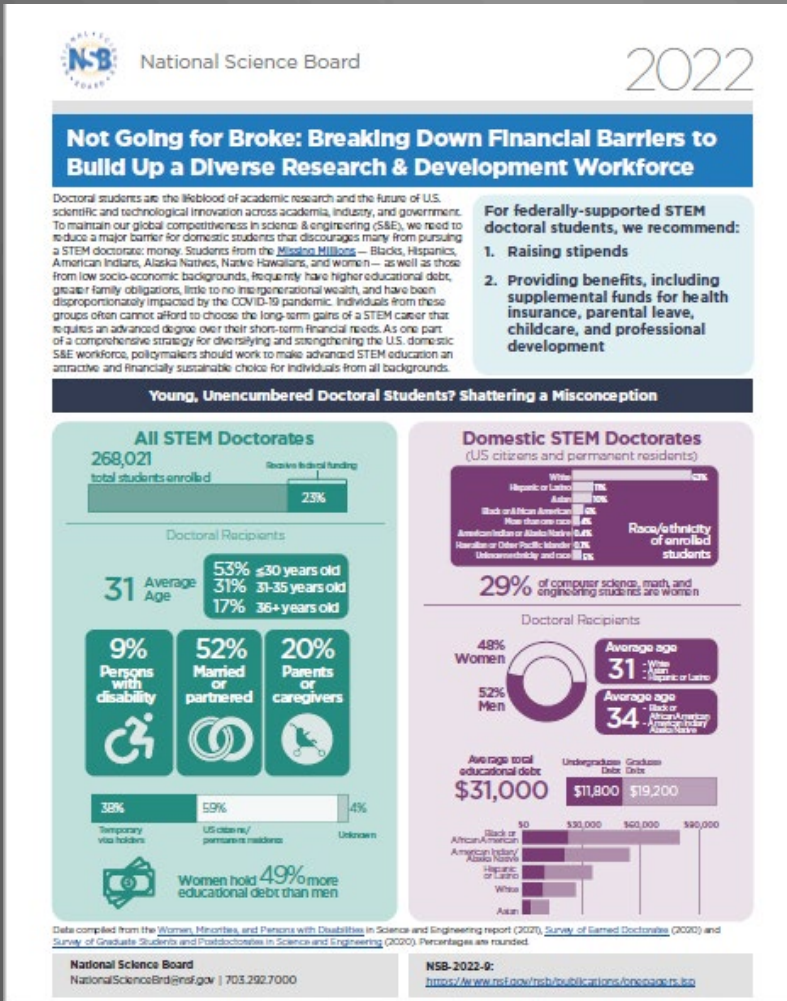
U.S RELIES ON FOREIGN-BORN TALENT



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MESSAGING SUCCESS



OPINION > TECHNOLOGY

THE VIEWS EXPRESSED BY CONTRIBUTORS ARE THEIR OWN AND NOT THE VIEW OF THE HILL

Insufficient NSF funding could doom the Chips and Science Act

BY DAN REED AND DARIO GIL, OPINION CONTRIBUTORS - 10/13/22 4:30 PM ET

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Home > Elsevier Connect > For science and society, the future begins with better dreams

For science and society, the future begins with better dreams

The Chair of the National Science Board outlines 4 steps the US can take to remain an innovation leader capable of addressing today's manifest challenges

By Dan Reed, PhD - October 14, 2022

8 mins



POLICY PROGRESS



Public Law 117-167
117th Congress

An Act

Aug. 9, 2022
[H.R. 4346]

Making appropriations for Legislative Branch for the fiscal year ending September 30, 2022, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. TABLE OF CONTENTS.

The table of contents for this Act is as follows:

Sec. 1. Table of contents.
Sec. 2. References.

DIVISION A—CHIPS ACT OF 2022

Sec. 101. Short title.
Sec. 102. Creating helpful incentives to produce semiconductors (CHIPS) for America fund.
Sec. 103. Semiconductor incentives.
Sec. 104. Opportunity and inclusion.
Sec. 105. Additional GAO reporting requirements.
Sec. 106. Appropriations for wireless supply chain innovation.
Sec. 107. Advanced manufacturing investment credit.

DIVISION B—RESEARCH AND INNOVATION

Sec. 10000. Table of contents.
Sec. 10001. Short title.
Sec. 10002. Definitions.
Sec. 10003. Budgetary effects.

Chips and Science Act

Calendar No. 132

118TH CONGRESS }
1st Session } SENATE { REPORT
118-62

DEPARTMENTS OF COMMERCE AND JUSTICE, SCIENCE,
AND RELATED AGENCIES APPROPRIATIONS BILL, 2024

JULY 13, 2023.—Ordered to be printed

Mrs. SHAHEEN, from the Committee on Appropriations,
submitted the following

REPORT

[To accompany S. 2321]

The Committee on Appropriations reports an original bill (S. 2321) making appropriations for the Departments of Commerce and Justice, Science, and Related Agencies for the fiscal year ending September 30, 2024, and for other purposes, reports favorably thereon without amendment and recommends that the bill do pass.

FY 2024 Budget



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PATH FORWARD



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THANK YOU



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