

March 8, 2022

The Honorable U.S. Sen. Maria Cantwell,
Chair, Committee on Commerce,
Science, and Transportation

The Honorable U.S. Rep. Eddie Bernice
Johnson, Chair, Committee on Science,
Space, and Technology

The Honorable U.S. Sen. Roger Wicker,
Ranking Member, Committee on
Commerce, Science, and Transportation

The Honorable Frank Lucas, Ranking
Members, Committee on Science, Space,
and Technology

Dear Competitiveness Bill Leaders:

The STEM Education Coalition is an alliance of education, business, and professional organizations nationwide that works to inform federal, state, and local decision makers about the critical role that science, technology, engineering, and mathematics (STEM) education plays in enabling the American competitiveness in the global economy.

Advancing STEM education must be a central element of a broad-based agenda to promote U.S. prosperity and innovation in an increasingly competitive, technology-driven world. We appreciate your work to finalize a bipartisan and ambitious innovation and competitiveness package that merges the best ideas of the respective House and Senate legislation to prioritize education in the critical STEM subjects.

Our Coalition appreciates the strong focus on STEM education – especially through programs conducted by the National Science Foundation -- evident in both the House and Senate bills now under consideration for a final conference agreement. The National Science Foundation's Education and Human Resources (EHR) Directorate in particular plays a critical role in expanding the STEM education knowledge base from Pre-K through college, career, graduate, and undergraduate education, innovation and fellowships, enabling a skilled technical workforce, informal and afterschool education, and broadening participation in STEM careers and learning opportunities. We recommend that any final legislation continue to place the EHR Directorate as a co-equal partner with NSF's other critical research and discovery missions.

Below, we outline various legislative provisions included in House and Senate proposals that reflect the views of our diverse alliance of education, business, and professional organizations and our shared interests in science, technology, engineering, and mathematics (STEM) education and urge Congress to include all of these provisions in any conference agreement.

The Coalition supports including the following provisions from the U.S. Innovation and Competition Act (USICA):

- **Sec. 114 Hands-on learning programs:** Authorizes a new grant program for supporting hands-on learning opportunities in STEM education, including via after-school activities and innovative learning opportunities such as robotics competitions.
- **Sec. 2110. Capacity-building program for developing universities:** Provides technical assistance, mentorship, and targeted outreach to institutions of higher education, including HBCU's, MSI's, and TCU's, to support STEM capacity building and competitiveness for federal research grants.
- **Sec. 2208. AI Scholarship-for-Service Act:** Establishes a Federal artificial intelligence scholarship-for-service program to recruit and train artificial intelligence professionals to lead and support the application of artificial intelligence to the missions of Federal, State, local, and Tribal governments.
- **Sec. 2522. National Science Corps:** Establishes the National Science Corps to identify outstanding STEM teachers and create career paths to which all STEM teachers can aspire, both to prepare future STEM researchers and to create a scientifically literate public.
- **Sec. 4302. Reskilling Federal employees:** Establishes programs at federal agencies to provide employees with technical skills development or expertise that would qualify to serve in a different position in the competitive services, particularly those in the STEM fields.
- **Sec. 6111. Postsecondary STEM pathways grants:** Authorizes a new grant program to promote equitable access to postsecondary STEM pathways by increasing the number of students exposed to high-quality STEM advanced coursework, supporting students in reducing college costs, and improving postsecondary credit transfers.
- **Sec. 6112 Improving access to elementary and secondary computer science education:** Authorizes a new competitive grant for states to expand access to computer science education, including, for marginalized students who have less access to computer science coursework in their schools.

The Coalition supports including the following provisions from H.R. 4521, The America COMPETES Act:

- **Sec. 10304 (a): Pre K-12 STEM Education:** Supports a decadal survey to be carried out by the National Academies to identify research priorities in PreK-12 STEM education and an additional study on barriers to the widespread implementation of STEM education innovations. Establishes a program to fund multidisciplinary research and translation centers to scale STEM education innovations in both formal and informal learning settings.
- **Sec. 10304 (b): Undergraduate STEM Education:** Supports research and development to improve the alignment of undergraduate STEM education and training with workforce needs. Updates the Advanced Technological Education program to establish a network of centers for science and technical education.

- **Sec. 10304 (d): Graduate STEM Education:** Expands requirement for funding proposals to include a mentoring plan to graduate students. Supports activities to facilitate career exploration for graduate students and postdoctoral researchers. Creates a requirement for funding proposals to include individual development plans for graduate students and postdoctoral researchers and provides supplemental funding to facilitate professional development activities. Supports research on the graduate education system. Updates the Graduate Research Fellowship Program to address workforce demand, increase the cost of education allowance, and recruit a more diverse pool of applicants. Requires an evaluation of mechanisms for supporting graduate student education and training.
- **Sec. 10304 (e): STEM Workforce Data:** Requires a portfolio analysis of Foundation investments in the skilled technical workforce. Requires an assessment of the feasibility and benefits of adding rotating questions/topic modules to existing National Center for Science and Engineering Statistics (NCSES) surveys.
- **Sec. 10305 (a): Presidential Awards for Excellence in Mathematics and Science Teaching:** Updates the program to allow for the selection of at least one teacher each from the Commonwealth of the Northern Mariana Islands, American Samoa, the Virgin Islands of the United States, and Guam.
- **Sec. 10305 (b): Robert Noyce Teacher Scholarship Program Update:** Requires outreach to historically Black colleges and universities, minority institutions, higher education programs that serve veterans and rural communities, and emerging research institutions.
- **Sec. 10305 (g): Diversity in Tech Research:** Supports organizational research, including research on diversity, equity, and inclusion in the technology sector
- **Sec. 10305 (i): Fostering STEM Research Diversity and Capacity Program:** Supports research capacity building for research institutions not in the top 100 of Federal research funding, including support for developing and expanding research programs, faculty professional development, stipends for students, acquisition of research instrumentation, and administrative research support.
- **Sec. 10306. (b) Broader Impacts:** Directs an assessment of the application of the Broader Impacts review criterion across the Foundation and provides support for activities to improve its implementation, including the specific impacts on training and education outcomes.
- **Sec. 10527. National Science Foundation rural STEM Research activities:** Authorizes the National Science Foundation (NSF) to support research to improve STEM teaching in rural schools and improve participation and advancement of rural students in STEM studies.
- **Subtitle D, Sec. 10541-10548: Combatting sexual harassment in science** Establishes competitive grants to expand research efforts to better understand the factors contributing to sexual harassment in STEM fields and to examine best practices to reduce and eliminate these incidents moving forward.
- **Sec. 10306. (b) Broader Impacts:** Directs an assessment of the application of the Broader Impacts review criterion across the Foundation and provides support for activities to improve its implementation, including education and training

- **Sec. 80303 Advanced Degree STEM Graduates:** Allows certain international students who have earned an advanced STEM degree to be exempt from numerical limits on immigration visas. The \$1,000 supplemental fee that accompanies the visa will be utilized to provide STEM scholarships for low-income domestic students.
- **Sec. 90201. Postsecondary STEM pathways grants:** This section authorizes a new competitive grant program operated by the U.S. Department of Education to support equitable access to postsecondary STEM pathways that expose students to high-quality STEM coursework, reduce college costs, and improve postsecondary credit transfers.
- **Sec. 90202. Improving access to elementary and secondary computer science education.** This section authorizes a new competitive grant program operated by the U.S. Department of Education to improve the United States' global competitiveness by increasing equitable access to computer science education and computational thinking skills. (Same as Senate bill)

We also strongly support the inclusion of two bipartisan, thoughtful, and relevant additional pieces of STEM legislation in the final bill:

- **H.R. 2784/S.1297: STEM RESTART Act:** Establishes a new national program to support mid-career workers in reentering the STEM workforce, including workers from underrepresented or rural populations, by awarding grants to certain small- and medium-sized businesses to assist such workers in reentering the workforce at positions above entry level.
- **S. 3636 Strengthening STEM Ecosystems Act:** Establishes a new NSF grant program to support community-based state and local STEM organizations and to empower them to increase their participation state and regional economic development processes.

We appreciate the opportunity to share our views and we look forward to working with you and your staff closely during the consideration of the reconciliation bill. For further information please contact James Brown, Executive Director, STEM Education Coalition, at (202) 400-2192 or jfbrown@stemedcoalition.org.

Respectfully,

STEM Education Coalition
 Semiconductor Industry Association
 Battelle
 STEMx
 National Instruments
 American Society of Landscape Architects
 American Society for Engineering Education
 American Chemical Society
 American Association for Colleges of Teacher Education

Society of Hispanic Professional Engineers
Afterschool Alliance
American Society for Biochemistry and Molecular Biology
American Nuclear Society
Universal Technical Institute

Vernier Software & Technology
National Center for Women & Information Technology
American Council of Engineering Companies
National Association of Biology Teachers (NABT)
Campaign for Environmental Literacy

100Kin10
AmSTEAM - The American Science and Technology Education Association
American Institutes for Research
National STEM Honor Society
Purdue University/I-STEM Resource Network

Indian River School District
Learning Blade
OregonASK
ENGINE of Central, PA
Altshuller Institute For Triz Studies Inc

Technical Innovation Center, Inc.
STEM Learning Design, LLC
Ohio Technology and Engineering Educators Association
South Carolina's Coalition for Mathematics & Science
The Academy of Science - St. Louis
C-STEM Teacher and Student Support Services, Inc.