

## America COMPETES Act (H.R. 4521) and U.S. Innovation and Competition Act (S. 1260) Side-by-Side Bill Comparison of Provisions of Interest with AAU Comments

SCIENCE	
House Committee on Science, Space, and Technology	
Senate Committee on Science, Commerce, and Transportation	
Senate Committee on Energy and Natural Resources	
America COMPETES Act (H.R. 4521)	U.S. Innovation and Competition Act (S. 1260)
Sections 10001-2. Creating Helpful Incentives to Produce Semiconductors "CHIPS" for America Fund. Funding and semiconductor incentives totaling \$52B.	Section 1002. Creating Helpful Incentives to Produce Semiconductors "CHIPS" for America Fund. Funding and semiconductor incentives totaling \$52B.
Sections 10228-29. Protecting Research from Cyber Theft. Similar to Senate bill.	Section 2305. Protecting Research from Cyber Theft. Requires NIST to consider the needs of institutions of higher education when creating cybersecurity guidance and requires the agency to offer resources and technical assistance to research intensive universities to help them mitigate their cyber risks.
Sections 10102-13. Department of Energy Science for the Future Act Reauthorization (H.R. 3593). Reauthorization for the Basic Energy Sciences program; Biological and Environmental Research; Advanced scientific computing research program; Fusion Energy Research; High energy physics program; Nuclear physics program; Accelerator Research and development; Isotope development and production for research applications; Science laboratories infrastructure program; Increased collaboration with teachers and scientists; High intensity laser research initiative; \$8.7B for FY22 rising to \$11B in FY26.	Section 2117. Authorization of Appropriations for the Department of Energy. \$17B over five years for participation in the key technology focus areas.

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<b>Section 10302. NSF Authorization.</b> \$78B FY22-26 for NSF total as follows: FY22 - \$12.5B; FY23 - \$14.6B; FY24 - \$15.9B; FY25 - \$17.0B; FY26 - \$17.9B.	<b>Section 2116. NSF Authorization.</b> \$81B FY22-26 for NSF total as follows: FY22 - \$10.8B; FY23 - \$12.8B; FY24 - \$16.6B; FY25 - \$19.5B; FY26 - \$21.3B.
Section 10305. NSF Broadening Participation. (c) Codifies INCLUDES; (e) Partnerships with Emerging Research Institutions; (h) Continuing Support for EPSCOR; (i) Fostering STEM Research Diversity and Capacity Program; (j) Capacity Building Program for Developing Universities; (k) Chief Diversity Officer of the NSF. See page 5 of this table for more details.	Section 2201. Chief Diversity Officer of the NSF. Section 2203. Emerging Research Institution Pilot Program.  Section 2209. Geographic Diversity. Sets aside 20 percent of NSF funds to improve geographic diversity through EPSCoR program. See page 5 of this table for more details.
Section 10306(d)(1). Office of Research Security and Policy. Establishes a Research Security and Policy Office within the NSF Director's office. Requires the appointment of a Chief of Research Security and a report to Congress on required resources and staff.	Section 2301(a). Research Security and Policy Office. Establishes a Research Security and Policy Office within the NSF Director's office.
Section 10306(d)(2). Chief of Research Security. Requires the NSF Director to appoint a senior agency official as Chief of Research Security.	Section 2301(b). Chief of Research Security. Identical to House provision.
Section 10306(d)(3). Report to Congress. Requires NSF to report in no later than 180 days on the resources and number of full-time employees need to carry out the functions of the newly established office.	Section 2301(c). Report to Congress. Identical to House provision.
<b>Section 10306(d)(4). Online Resource.</b> Requires NSF to develop an online resource for both institutions and researchers on NSF security policies, potential security risks and mitigation strategies, and examples of positive international collaborations vs. foreign government interference efforts.	Section 2301(d). Online Resource. Identical to House provision.
Section 10731. Ad-Hoc Committee on Research Security. Directs the National Academies to study the feasibility of providing enhanced research security services to further protect the United States research enterprise against foreign interference, theft, and espionage.	Section 2302. Research security and integrity information sharing analysis organization. Establishes a research security and integrity information sharing analysis organization (RSI-ISAO) to serve as a clearinghouse for information on identifying improper or illegal efforts by foreign entities to obtain research results, know how, materials, and IP and for other purposes.
Section 10306(d)(5). Risk Assessment Center. Creates an NSF-supported, independent risk assessment center to develop online resources and help awardees assess and identify issues relating to disclosure, foreign partnerships, and other matters.	No similar provision in Senate bill.

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Section 10306(d)(6). Research Grants. Identical to Senate bill.	<b>Section 2301(e). Research Grants.</b> Supports NSF research grants to better understand issues pertaining to research security and protecting research integrity from foreign threats.
Section 10306(d)(7). Authorities. Provides the NSF Office of Research Security and Policy the authority to conduct risk assessments and to request the submission of supporting documentation, including copies of contracts, grants, or any other agreement specific to foreign appointments, employment with a foreign institution, participation in a foreign talent program and other information and various mechanisms for enforcement of related NSF policies.	Section 2526. Supporting Documents. Mandates NSF collect final copies of any contracts, agreements, or documentation of financial transactions between universities, their foundations, and related organizations and any educational, cultural, or language entity that is directly or indirectly funded by the Government of the People's Republic of China. Also requires NSF to collect a detailed description of any financial contributions from the Government of the People's Republic of China or its affiliates to the institution, a foundation of the institution, or related entities.
Section 10306(d)(8). Malign Foreign Talent Recruitment Program Prohibition. Requires NSF applicants to certify they are not an active participant of a malign foreign talent recruitment program from a foreign country of concern and will not be a participant for the duration of the NSF award. Requires institutions applying for an award to certify that each covered individual who is employed by the institution has been made aware of the requirement. Includes language to not limit scholarly presentations, participation in international conferences or other international exchanges/partnerships/ programs that involve open and reciprocal exchange of scientific information, and other activities. The new policy would not be applied retroactively.	
Section 10306(d)(9). Security Training Modules. Requires NSF, in collaboration with NIH and other relevant agencies, to develop an online research security training module for NSF awardees.	Section 2304. Additional Requirements for Directorate Research Security.  Requires NSF to establish an initiative to work with IHEs to support protection of intellectual property, limit undue influence, including through talent recruitment programs, and support efforts toward development of domestic talent in relevant science and engineering fields. One of the requirements includes the development of training developed and delivered in consultation with IHEs.

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Section 10306(d)(10). Responsible Conduct in Research Training. Adds new requirement for NSF RCR training to include faculty and other senior grant personnel (in addition to students).	Section 2301(f). Responsible Conduct in Research Training. Similar to House bill.
Section 10306(d)(11). National Academies Guide to Responsible Conduct in Research. Requires the National Academies to update their report "On Being a Scientist: A Guide to Responsible Conduct in Research."	No similar provision in Senate bill.
<b>Section 10306(e). Research Ethics.</b> Requires NSF to amend award proposal instructions to include a requirement for an ethics statement as part of any funding proposal.	No similar provision in Senate bill.
Section 10307(e). NSF Research Infrastructure. Establishes a Computing Enclave Pilot Program (\$38M authorized FY22-24); Authorizes a National Secure Data Service demonstration project (\$9M FY22-26).	No similar provisions in Senate bill.
Section 10308. NSF Directorate for science and engineering solutions.  Establishes a new directorate to accelerate use-inspired and translational research and development to advance solutions to pressing societal challenges. See <a href="this table">this table</a> for more details.	Section 2102. and following; NSF Directorate for technology and innovation. Establishes a Directorate for Technology and Innovation within NSF to strengthen U.S. leadership in critical technologies, accelerate technology commercialization, and engage more students. See this table for more details.
Section. 10308. Continued Among other items, listed purpose of new directorate includes: "accelerate the translation of Foundation-supported fundamental research and to advance technologies, facilitate commercialization and use of federally funded research".  Subsection (i) also amends the Partnerships for Innovation program to authorize \$40 million/yr in grants for technology transfer capacity building for smaller research institutions, including support for technology transfer expert staff, private sector partnerships, and education and training of students and researchers. Eligible institutions must not be in the top 100 institutions. Grant floor is \$500k and 3 years.	Sec, 2109. Academic Technology Transfer through the new directorate, requires NSF Director to make technology development and commercialization grants and for related activities to build capacity for technology transfer (in partnership with NIST). Requires NSF to develop metrics for commercialization goals, and for funding to be in additional to existing efforts (supplement, not supplant). Authorizes \$4B over 5 years.

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<b>Sections 10401-08. Bioeconomy Research and Development.</b> Establishes an interagency engineering biology R&D Initiative, coordinated by OSTP.	Section 2217. Bioeconomy R&D Act of 2021. Similar to House bill.
Sections 10501-13. STEM Opportunities Act (HR 204). Authorizes activities across federal agencies (including demographic data collection) to improve participation of underrepresented groups in STEM. Authorizes a total of \$23M for various activities.	No similar provision in Senate bill.
Sections 10521-28. Rural STEM Education Research (HR 210). Authorizes NIST, NSF, and OSTP activities to improve access to STEM in rural communities. Includes \$20M to NSF FY22-27.	Section 2210. Rural STEM Education Act (S. 1374). Authorizes NIST, NSF, and OSTP activities to improve access to STEM in rural communities (no authorization of appropriations).
Sections 10531-34. MSI STEM Achievement Act (HR 2027). Authorizes activities to improve outreach to MSIs and access to federal funding opportunities.	No similar provision in Senate bill.
Sections 10541-48. Combatting Sexual Harassment in Science (HR 2695).  Authorizes \$17.5M to NSF for activities to reduce sexual harassment in research environments.	Section 2521. Combatting Sexual Harassment in Science. Includes parallel provisions with several changes to definitions, reporting requirements, etc. (no authorization of appropriations).
Sections 10601-03. Supporting Early Career Researchers (HR 144). Authorizes \$500M at NSF to create a pilot program for 2-year fellowships to highly qualified early career investigators.	Section 2212. Supporting Early Career Researchers Act ( <u>S. 637</u> ). No authorization of appropriations.
Sections 10611-12. National S&T Strategy (HR 3858). Requires OSTP to create a 4-year national S&T strategy.	Section 2501. Strategy and report on economic security, science, research, and innovation to support the national security strategy. Requires the Directors of OSTP, NSTC, NEC, and other heads of agencies to review strategy programs and resources pertaining to national competitiveness and develop or revise a national strategy to improve national competitiveness.
Sections 10623-10631. Energizing Technology Transfer. Authorizes the Secretary of Energy to support coordination of relevant technology programs within the Department of Energy.	No similar provision in Senate bill.

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<b>Sections 10632-37. Department of Energy Modernization.</b> Extends the cost-share waiver pilot program for non-profit institutions and institutions of higher education granted in Sec. 108 of the Department of Energy Research and Innovation Act by two years.	No similar provision in Senate bill.
Section 10671. Foundation for Energy Security and Innovation. Directs DOE to establish a nonprofit corporation – the "Foundation for Energy Security and Innovation" to advance collaboration with energy researchers, institutions of higher ed, industry, and nonprofit and philanthropic organizations to accelerate the commercialization of energy technologies.	Section 2528. Foundation for Energy Security and Innovation. Directs DOE to establish a nonprofit corporation – the "Foundation for Energy Security and Innovation" to advance collaboration with energy researchers, institutions of higher ed, industry, and nonprofit and philanthropic organizations to accelerate the commercialization of energy technologies.
Sections 10663-65. Microelectronics Research for Energy Innovation (HR 6291). Directs the Secretary of Energy to carry out cross-cutting programs in microelectronics research, development, and demonstration and the establishment of Microelectronics Science Research Centers.	No similar provision in Senate bill.
<b>Section 10641. Regional Innovation Capacity</b> (HR 4588). Authorizes \$7B FY22-26 to Dept. of Commerce to establish a regional technology and innovation hub program to make competitive awards to eligible consortia.	<b>Section 2401. Regional Technology Hubs.</b> Authorizes \$10B FY22-26 for regional hub program; at least 3 hubs in each EDA region and require 1/3 hubs are in rural region and 1/3 in EPSCoR jurisdictions.
Section 10651. Malign Foreign Talent Recruitment Program Prohibition (HR 5265). Requires Federal research agencies to establish policies to prohibit awards to individuals party to a malign foreign talent recruitment program, subject to certain existing laws and go through a notice and comment process to establish a policy. Requires applicants to federal research agencies (with an annual extramural research expenditure over \$100M) to certify they are not an active participant of a malign foreign talent recruitment program from a foreign country of concern and will not be a participant for the duration of the NSF award. Requires institutions applying for an award to certify that each covered individual who is employed by the institution has been made aware of the requirement. Includes language to not limit scholarly presentations, participation in international conferences or other international exchanges/ partnerships/ programs that involve open and reciprocal exchange of scientific information, and other activities. The new policy would not be applied retroactively.	Section 2303. Foreign government talent recruitment program prohibition.  Prohibits federal research awards from being awarded for any proposal where the principal investigator or other individuals directly involved in the research are members of a foreign government talent recruitment programs sponsored by China, Russia, Iran, or North Korea.  Section 6101. Foreign Talent Programs. Requires disclosure of participating in foreign talent programs, as it applies to federal extramural biomedical research funding awarded through HHS.

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Section 10306(d)(1-11). Research Integrity and Security. Provides requirements for new Office of Research Security and Policy. Does not include an 'initiative' as outlined in Senate bill.	Section 2304. Additional requirements for directorate research security.  Requires NSF to establish an initiative to work with IHEs to support protection of intellectual property, limit undue influence, including through talent recruitment programs, and support efforts toward development of domestic talent in relevant science and engineering fields.
No similar provision in House bill.	Section 2308. Plan with Respect to Sensitive or Controlled Information and Background Screening. Requires NSF to develop a plan to identify research areas that may include sensitive or controlled information and provide background screening for individuals working in such research areas who are employed by NSF or are recipients of NSF funds.
No similar provision in House bill.	Section 2525. Foundation Funding to Institutions Hosting or Supporting Confucius Institutes. Prohibits NSF funding to institutions that maintain a contract or agreement between the institution and a Confucius Institute unless NSF deems a waiver appropriate.
No similar provision in House bill.	<b>Section 2613. NASA Authorization Act.</b> Authorizes \$23.5B for NASA in FY21, including \$7.2B for SMD, \$829M for Aeronautics, \$1.2B for Space Technology, and \$120M for STEM Engagement.
No similar provision in House bill.	Section 2118. Authorization of Appropriations for the Defense Advanced Research Projects Agency (DARPA). \$3.5B for FY22-26 to conduct research in the key technology areas of focus.
HOMELAND SECURITY	
House Committee on Homeland Security	
Senate Committee on Homeland Security and Governmental Affairs	
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No similar provision in House bill.	<b>Section 4493. Federal Research Security Council.</b> Creates a new multi-agency research coordinating council at OMB.
No similar provision in House bill.	Section 4494. Federal Grant Application Fraud. Assesses penalties for failure to disclose receipt of any outside compensation, including foreign compensation by a federal research grant applicant or falsifying information.

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No similar provision in House bill.	Section 4495. Restricting the Acquisition of Emerging Technologies by Certain Aliens. Acknowledges State Department's authority to determine if an alien is inadmissible if they are seeking to knowingly acquire sensitive or emerging technologies to undermine national security interests. Provision sunsets 2 years after enactment.
No similar provision in House bill.	Section 4497. Certifications Regarding Access to Export-Controlled Technology in Educational and Cultural Exchange Programs. Requires J-1 sponsors to certify to the State Department that they comply with export control regulations and licenses are not required for technology that will be accessed by the J-1 visa holder. Requires sponsor to attest that they will prevent access to controlled technology or technical data by the exchange visitor. Sponsors who maintain export-controlled technology/data must submit a technology control plan on how they prevent unauthorized export or transfer.
INTERNATIONAL COMPETITIVENESS	
House Committee on Foreign Affairs	
Senate Committee on Foreign Relations House Committee on Financial Services	
Senate Committee on Banking and Housing	
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No similar provision in House bill.	Section 3138. Review by Committee on Foreign Investment in the United States of Certain Foreign Gifts to and Contracts with Institutions of Higher Education. Expansion of CFIUS review to include certain gifts and contracts between universities and foreign persons.
No similar provision in House bill.	Section 5212. Prohibition on Reviews by Committee on Foreign Investment in the United States of Certain Foreign Gifts to and Contracts with Institutions of Higher Education. Prohibits CFIUS from reviewing or investigating gifts to an IHE from a foreign person. Prohibits use of funds to review or investigate gifts to an IHE from a foreign person.

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Section 30218. Authorization of Appropriations for the Fulbright-Hays	Section 3134. Authorization of appropriations for the Fulbright-Hays
Program. Identical to Senate bill.	<b>Program.</b> Authorizes \$105.5M to promote education, training, research, and foreign language skills through the Fulbright-Hays Program, in accordance with the Mutual Educational and Cultural Exchange Act of 1961.
Section 30219E. Liu Xiaobo Fund for Study of the Chinese Language. Establishes the Liu Xiaobo Fund for Study of the Chinese Language to fund alternatives to Confucius Institutes at U.S. universities.	No similar provision in Senate bill.
IMMIGRATION  House and Senate Committees on Judiciary	
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<b>Section 80301. W Visas.</b> Creates a new classification of "W" nonimmigrant visas which include: (1) W-1: entrepreneurs with an ownership interest in a start-up entity; (2) essential employees of a start-up entity; and (3) the spouses and children of W-1 and W-2 nonimmigrants.	No similar provision in Senate bill.
Section 80302. Start-up Entities; Nonimmigrant Entrepreneurs and Employees. Directs DHS to establish procedures for certain aliens with an ownership interest in a start-up entity to self-petition for classification as a W-1 nonimmigrant; can extend status for up to 8 years. Provides for a limited number of W-2 for personnel who are essential to the growth and success of the start-up entity if the entity serves as the basis for the W-1 status of a founder. Provides W-3 visas for the spouses and children of W-1 and W-2 nonimmigrants. Allows "W" nonimmigrants to seek lawful permanent resident status. Directs DHS to establish procedures for certain aliens with an ownership interest in a start-up entity to self-petition for LPR status as an immigrant entrepreneur.	No similar provision in Senate bill.

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Section 80303. Advanced Degree STEM Graduates. Exempts from the	No similar provision in Senate bill.
numerical limits on immigrant visas, certain aliens (and the spouses and	
children of such aliens) who have earned a doctoral degree or a master's	
degree in STEM from a qualified U.S. research institution or foreign institution	
if the degree is equivalent to a doctoral degree issued by a qualified U.S.	
research institution. Includes health professions and related programs in the	
definition of STEM fields. Allows dual intent for STEM doctoral students,	
allowing them to transition to a green card as provided under this bill without	
first needing to leave the country and start the visa process over.	
Section 80307. Special Immigrant Visas for Certain Fulbright Scholars.	
Provides SIV's for those Fulbrighters currently studying at American	
universities and former scholars who returned to Afghanistan.	
Section 80401. Admission of Essential Scientists and Technical Experts to	
<b>Promote and Protect National Security Innovation Base.</b> Allows for admission	
of essential scientists and technical experts to promote and protect the	
national security innovation base.	
HEALTH & EDUCATION	
House Committee on Education and Labor	
Senate Committee on Health, Education, Labor and Pensions	
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Section 90201. Postsecondary STEM Pathways Grants. Authorizes a new	Section 6111. Postsecondary STEM Pathways Grants. Similar to House bill;
competitive grant program operated by the Department of Education to	allocates grants in different percentages; different priority to applications and
support equitable access to postsecondary STEM pathways that expose	eligibility requirements.
students to high-quality STEM coursework, reduce college costs, and improve	
postsecondary credit transfers.	
Section 90301. Reauthorizing of international education programs under	Section 6121. Reauthorization of international education programs under
title VI of the Higher Education Act of 1965. Similar to Senate bill. House bill	title VI of the Higher Education Act of 1965. Reauthorizes the international
provides a 50-50 matching requirement to align with Sec. 613.	education programs under Title VI of the Higher Education Act of 1965 (HEA)
	to increase and expand existing foreign language and area studies programs
	across the country; build international education capacity at minority-serving
	institutions; and promote opportunities for students and professionals to
	increase their knowledge of world regions, international business, and over
	200 foreign languages at all levels of higher education. Senate bill provides a
	2/3 <sup>rd</sup> Federal share and a 1/3 <sup>rd</sup> grantee share.

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No similar provision in House bill.	Section 6104. Protecting America's Biomedical Research Enterprise. Requires HHS to identify ways to improve the protection of intellectual property, identify and develop strategies to prevent/ mitigate/ address national security threats, identify national security risks, and develop a framework to identify emerging areas of interest for state actors that would compromise national security.
Section 90302. Confucius Institutes. Identical to Senate bill.	Section 6122. Confucius Institutes. Prohibits Dept of Education (ED) funding to institutions (except Title IV) that maintain a contract or agreement between the institution and a Confucius Institute. Requires ED to consult with NASEM and evaluate any CI contract or agreement and publish an evaluation of the contract on ED's website to confirm protection of academic freedom, prohibits foreign campus law, grants managerial authority to the institution not the CI.
Section 90304(a). Disclosure of Foreign Gifts. Amends Section 117 of the HEA to capture additional foreign gifts and contracts totaling more than \$100,000 in any given year and \$250,000 in three years; lower fines for administrative or "knowing and willful failures" (compared to Senate provision); includes exemptions for qualifying tuition payments and also exempts contracts for clinical trials (not addressed in Senate provision).	Section 6124(a). Disclosures of Foreign Gifts. Lowers the Section 117 reporting threshold to \$50,000; provides an annual disclosure date; outlines content of disclosure reporting; addresses sanctions for noncompliance; establishing a single point of contact within the Department of Education.
Section 90304(b). Policy Regarding Conflicts of Interest from Foreign Gifts and Contracts. Creates a new reporting requirement in Sec. 124 of the HEA which would require universities to ensure that faculty and staff report gifts or contracts with a foreign source totally \$50,000 or more; requires institutions to collect data on previous 5 years of gifts/contracts to individuals (not addressed in Senate provision).	Section 6124(b). Policy Regarding Conflicts of Interest from Foreign Gifts and Contracts. Creates a new requirement in Sec. 124 which would require universities to ensure that faculty and staff report any gifts from, or contracts, entered into, with a foreign source, and then maintain this information in a searchable database. Also expands the definition of a contract for Sec. 124 reporting to include any "affiliation, agreement, or similar transaction" involving the use of the "name, likeness, time, services, or resources" of faculty and staff.
Section 90305. Short-Term Pell Grant Program. Expands federal Pell Grant program eligibility to support high-quality short-term and job training programs.	No similar provision.

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<b>Section 90306. College Transparency.</b> Establishes a secure privacy-protected postsecondary student-level data system (the provisions of the College Transparency Act).	No similar provision.