

March 15, 2023

Dr. Sethuraman Panchanathan  
Director  
National Science Foundation  
2415 Eisenhower Avenue  
Alexandria, VA 22314

**RE: Implementation of the CHIPS and Science Act of 2022**

Dear Director Panchanathan:

On behalf of the [Council of Graduate Schools](http://www.cgsnet.org) (CGS), I am writing to thank the Biden Administration for its continued commitment to the nation's scientific research and innovation enterprise. The CGS membership especially appreciates the enactment of the CHIPS and Science Act (CHIPS Act) and continues to be in contact with the Administration concerning its implementation. In October 2022, CGS sent a [letter](#) to Office of Science and Technology Policy (OSTP) Director Arati Prabhakar and the Implementation Steering Council that highlights provisions of importance to the graduate education community. Likewise, in this letter, CGS would like to share our thoughts concerning provisions of importance to the graduate education community found in Title III- National Science Foundation for the Future.

For over 60 years, CGS has served as the national organization dedicated to advancing graduate education and research. Our membership includes 500 institutions of higher education in the United States, Canada, and abroad representing over 1.8 million graduate students. Collectively, our members grant 87 percent of all U.S. doctorates and majority of U.S. master's degrees. As an association, we are proud to represent a diverse and dynamic group of higher education institutions ranging from public and private research-intensive institutions to regional comprehensive institutions, Hispanic Serving institutions (HSI), and Historically Black Colleges and Universities (HBCU) and Minority-Serving Institutions (MSI).

As National Science Foundation (NSF) continues its work to implement the CHIPS Act, CGS ask that you give special attention to programs that provide mentoring, career training, and professional development to graduate students and postdoctoral researchers, as well as to programs that aim to broaden participation in science. Below are a few provisions that are of particular importance to the CGS membership.

**Section 10313. Graduate STEM Education.**

Like previous America COMPETES Act legislation, the CHIPS Act recognizes the importance of Graduate STEM Education programs. As you might expect, the CGS membership appreciates the inclusion of provisions that call for an increase in the number of new graduate research fellows for the Graduate Research Fellowship Program (GRFP). "An annual increase of fellows over the next five years to no fewer than 3,000 fellows" will provide students with more opportunity to participate in this cross-agency program. CGS also appreciates and looks forward to the expansion of the GRFP program to include students pursuing master's degrees and doctoral degrees in fields relating to cybersecurity. As we all will agree, it is important to educate and train the current and next generation of graduate students in fields of study that help address national security needs.

The CGS membership also welcomes the requirement that funding proposals include Mentoring and Professional Development plans for graduate students. We agree that graduate students should have access to mentors, including those not listed on the award. In addition, funding proposals should include development plans for each graduate student that maps the educational goals, career exploration, and professional development of that student. Recently, CGS and the American University in Cairo hosted the 2022 Global Summit on Graduate Education. The summit's purpose was to develop and build consensus around a set of principles on postgraduate mentorship. According to the [Empowering Mentees & Supporting Mentors: Statement of Principles and Practical Actions](#), “mentorship is most effective when it focuses on the whole student, making room for each student’s scholarly and career aspirations and cultural background.” The principles also suggest that mentors consider using Individual Development Plans and mentorship contracts as a framework for making expectations transparent for both the mentor and mentee. The statement of principles is full of actions to be undertaken by mentors, mentees, and university administrators. Thus, CGS encourages NSF to consider these principles as the agency moves forward with the implementation of this provision.

In addition to mentoring, it is also important for universities to provide career guidance about academic and non-academic careers to graduate students. CGS supports the establishment of “competitive awards for institutions of higher education and non-profit institutions to develop innovative approaches for facilitating career exploration and for providing opportunity-broadening experiences including work-related opportunities for graduate students and postdoctoral scholars that can be adopted and adapted by other institutions to carry out research on the impact of such activities.” In this regard, CGS commends to your attention the [CGS PhD Career Pathways](#) project, which is a multi-phase initiative to improve doctoral education and transition into career, through data collection, information-sharing, university networks, and resource development. Again, as NSF moves forward with the implementation of this provision, please consider using the CGS Career Pathways reports as a resource, especially the 2020 report, [Shaping New Narratives about PhD Careers: A Communication Resource to Advocate for Career Diversity](#).

#### **Section 10314. STEM Workforce Data.**

The CGS membership appreciates NSF’s longstanding investments in the science and engineering workforce. CGS is especially interested in the STEM Workforce Data provision which requires “an assessment of the feasibility and benefits of adding rotating questions and topic modules to existing National Center for Science and Engineering Statistic Surveys (NCSES).” If the goal of this data collection is to examine STEM workforce trends over time, then it may be useful to collect consistent data at regular time intervals. It may also be useful to engage the higher education community on potential questions and topics to add to NCSES questionnaires. CGS welcomes the opportunity to serve as a resource to NSF as the agency moves forward with the implementation of this provision.

#### **Subtitle C- Broadening Participation**

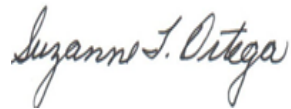
As mentioned in CGS’s previous letter to OSTP Director Prabhakar and the Implementation Steering Council, CGS is supportive of provisions aimed at promoting and advancing diversity, equity, and inclusion programs in the STEM disciplines and workforce. Specifically, we support provisions in the Act that call for the recruitment, retention, and advancement of women, underrepresented minorities, and other groups of graduate students that are underrepresented in the STEM disciplines and careers. In this regard, CGS welcomes the opportunity to engage NSF staff as the agency implements the following sections: Section 10325. Expanding Geographic and Institutional Diversity in Research; Section 10328 Research and Dissemination to Increase the Participation of Women and Underrepresented Minorities in STEM; and Section 10329. Activities to Expand STEM Opportunities.

**Subtitle D- Research Security**

The CHIPS Act includes important provisions concerning research security. As an organization with a history and interest in the development of research integrity curricula, CGS appreciates and supports provisions in the Act regarding research ethics, responsible conduct of research, and research reproducibility and replicability. CGS is especially interested in Section 10337. Responsible Conduct of Research Training. In addition to requiring faculty and other senior personnel on NSF funded awards to participate in responsible conduct of research training, we are pleased that such training will include mentoring training, greater awareness of research security risks, and information about federal export control regulations and reporting requirements.

Thank you for the opportunity to share our comments with you about the implementation of the CHIPS and Science Act. If you have any questions or comments about this letter, please do not hesitate to contact Ms. Amy Scott at [amscott@cgs.nche.edu](mailto:amscott@cgs.nche.edu).

Sincerely,

A handwritten signature in cursive script that reads 'Suzanne T. Ortega'.

Suzanne T. Ortega  
President

**AFFILIATES**

Conference of Southern  
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Midwestern Association  
of Graduate Schools

Northeastern  
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Schools

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