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Letter from the Guest Editors: Cuts to Federally-Funded Undergraduate Research Programs: What is at Stake

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On his first day in office, President Donald Trump issued an Executive Order (EO) “Ending Radical And Wasteful Government DEI Programs And Preferencing” (The White House, 2025). This EO and other federal policy changes were invoked by the administration, especially the newly established Department of Government Efficiency or “DOGE”, in the termination of thousands of federal grants for research, workforce development and other initiatives. According to Grantwitness, a volunteer effort to catalogue disruptions in federal funding, the total value of grant disruptions at the National Science Foundation alone is around \$693 million as of May 2026 (Ross et al., n.d.). Almost half of the terminated awards were in the Directorate for STEM Education, known as EDU (COSSA, 2025).

Grants supporting undergraduate research experiences were disproportionately represented among the terminations, with the Louis Stokes Alliances for Minority Participation or LSAMP program alone accounting for 5% of the terminated grants (Barros-Bustos & Chicas-Mosier, 2026). At least 13 of the terminated grants were for Research Experiences for Undergraduates (REU) programs.

The grant terminations were issued by email, typically by officials outside NSF, and often on Friday afternoon when it was difficult to immediately act on the news. For REU programs, the termination notices were especially disruptive, as they arrived during the weeks of spring when the bulk of planning for summer takes place, usually after student participants had been notified of acceptance to the programs. This meant that hundreds of students had to find alternative summer internships with very short notice.

Some of the grants impacted by the flurry of terminations of spring 2025 have since been reinstated, and some of the criteria for termination have been ruled unlawful. The GAO has determined that the termination and withholding of grant funds by the National Institutes of Health constitute impoundment of funds allocated by Congress (GAO, 2025). In May 2026, U.S. District Judge Colleen McMahon in Manhattan ruled that the cancellation of more than \$100 million in National Endowment for the Humanities grants violated the First and Fifth Amendments of the US Constitution (Collins, 2026). This court case revealed that DOGE staff selected more than 1,400 NEH grants for termination using ChatGPT and crude keyword searches of proposal abstracts, without examining the nature of the research or activities described. A DOGE staff member “testified that he did not define “DEI” for ChatGPT and that he did not have the slightest idea how ChatGPT understood the term” (ACLS vs NEH, 2026).

These grant terminations and subsequent slowing of new awards from NSF, NIH and other federal science funders were just the beginning of a complete overhaul of science funding. Staff at each of the science agencies has been cut, and significant policy changes, such as the prohibition of foreign

subawards on NIH grants, have been made. The president's budget request for FY 2027 contemplates a 55% cut to the National Science Foundation (the largest of all proposed cuts) and the elimination of the Directorate for Social, Behavioral and Economic Sciences, known as SBE (Kozlov et al., 2026). The Science & Community Impacts Mapping Project (SCIMaP) estimates that if the proposed cuts pass, as many as 150k jobs will be lost (Weitz & Sinclair, 2026). In the past, Congress has protected science funding from White House cuts, with overwhelming bipartisan support. In 2026, with a ballooning federal deficit and two record-breaking government shut-downs in the past year, the outlook for federal science funding is more uncertain than it has ever been.

It is in the context of these grant terminations and budget cuts that we issued a call for this special issue of *Perspectives on Undergraduate Research & Mentoring*. Undergraduate research experiences are typically the first to be eliminated during times of austerity, when institutions prioritize faculty retention and graduate training. Decades of evidence demonstrate the importance of undergraduate experiences on student retention, professional identity formation, skill building, network growth and other factors critical to scientists' development (Guessous, 2018; Wilson et al., 2018). Where REUs differ from other undergraduate interventions, like research-oriented courses, theses or internships, is the faculty and peer mentoring associated with full-time engagement in a research apprenticeship. Such impacts are difficult to measure, but remain crucial to the maintenance of a robust and diverse pipeline of students entering research professions, especially at the PhD level. It is at the undergraduate level where we will see the first signs of the generational impact these funding cuts will have.

In this special issue of *PURM*, we sought to document the impact of NSF-funded REU programs in particular, since NSF is facing the biggest cuts and we have both served as directors of REU programs funded by SBE, which is slated for elimination. NSF's support for undergraduate research began in 1958 with the Undergraduate Research Participation (URP) program, which ran until its elimination in 1981 during Reagan-era funding cuts. The REU program as we know it today was established in 1987, with a focus on broadening participation in the STEM workforce (Barney, 2017; McDevitt et al., 2020; "Q&A," 2017). Since 1987, the REU program has grown, awarding approximately 170–190 grants and supporting about 6,000 undergraduates annually. The program has distributed awards across every U.S. state and territory (Barney, 2017; McDevitt et al., 2020). The America COMPETES Act cemented the program's mandate to reach underrepresented groups and track participant outcomes (AMERICA COMPETES ACT, 2007). These stringent reporting requirements have made REU programs the most-studied of the High-Impact Practices (Kuh, 2008).

The papers included in this special issue illustrate the breadth of REU programs and highlight the range of opportunities we stand to lose if terminations are upheld and proposed cuts are implemented. We received 52 abstracts for this issue – more than any previous issue of *PURM* – and invited 14 of these to develop full articles. Submissions represented programs from 20 states. Some of the programs were in their first 3-year cycle, and others had been running continuously for more than 30 years. The programs train students in biology, physics, computer science, engineering, geosciences, forestry, psychology, neuroscience, and language science, among others. The articles describe programs in which students study the sun in partnership with NASA (Yalim et al.), oceanography while living on a boat (Lane et al.), language inside of a science museum (Dixon et al.), volcanos on Hawai'i (Smith Konter et al.), and leverage their own language and cultural backgrounds into research projects (Maguire et al., Barriere et al.). Many of these programs were designed to reach students with very little access to research opportunities: Three of the papers (Madison et al, Wilson et al., and Zavala et al.) discuss programs designed especially for community college students and Camacho et al. describe a program designed to build a pipeline of students at Hispanic Serving Institutions (HSIs). Three of the papers are about programs that were terminated in 2025 (Maguire et al., Barriere et al., Camacho et al.) and their loss is keenly felt. Several of the papers were written

in part or in their entirety by student participants themselves, highlighting the impact of these programs on student professional development (Dixon et al; Lane et al; Duque-Baird et al). Finally, Togami, et al. have written a viewpoint article that addresses some of the core issues that motivated this issue and why it is so important that we, as a community, address the challenges posed by the funding crisis.

This is not the first time that science funding in the United States has been challenged. Cuts by the Reagan Administration eliminated both undergraduate research support and social science funding (Hilts, 1981; Silk, 1981) but these were restored and even increased in subsequent years. This restoration did not happen by chance. Advocacy by individuals, organizations and legislators turned the tide. Our worry is that the elimination of undergraduate research programs will have a generational impact, cutting off an important pipeline into research careers. Coupled with declines in international student enrollment (NAFSA, 2025) and an uptick in the emigration of US scientists (Cohen, 2025), we are witnessing the beginnings of an unprecedented decline in the US science workforce that merits concerted action.

References

AMERICA COMPETES ACT, PUBLIC LAW 110–69 (2007).

American Council of Learned Societies vs. National Endowment for the Humanities, 1:25-cv-03657-CM (U.S. District Court Southern District of New York May 7, 2026).

Barney, C. C. (2017). An Analysis of Funding for the NSF REU Site Program in Biology from 1987 to 2014. *Scholarship and Practice of Undergraduate Research*, 1(1), 11–19.
<https://doi.org/10.18833/spur/1/1/1>

Barros-Bustos, S., & Chicas-Mosier, A. M. (2026). Unraveling federal award terminations: Evidence from the Louis Stokes Alliances for Minority Participation. *Frontiers in Education*, 11.
<https://doi.org/10.3389/feduc.2026.1673464>

Cohen, P. (2025, May 14). The World Is Wooing U.S. Researchers Shunned by Trump. *The New York Times*. <https://www.nytimes.com/2025/05/14/business/economy/trump-research-brain-drain.html>

Collins, D. (2026, May 8). Judge finds Trump's DOGE-led cancellation of humanities grants unconstitutional. *PBS News*. <https://www.pbs.org/newshour/politics/judge-finds-trumps-doge-led-cancellation-of-humanities-grants-unconstitutional>

COSSA. (2025, May 27). NSF Releases List of Terminated Grants | COSSA. Consortium of Social Science Associations. <https://cossa.org/nsf-releases-list-of-terminated-grants/>

GAO. (2025). *Decision: Department of Health and Human Services—National Institutes of Health—Application of Impoundment Control Act to Availability of Funds for Grants*. U.S. Government Accountability Office.

Guessous, L. (2018, June 23). *Board 53: Long-Term Assessment After More than a Decade of Involving Undergraduate Students in an REU Program*. 2018 ASEE Annual Conference & Exposition. <https://peer.asee.org/board-53-long-term-assessment-after-more-than-a-decade-of-involving-undergraduate-students-in-an-reu-program>

Hilts, P. J. (1981, June 28). Last-Minute Move Kills NSF Funds. *The Washington Post*. <https://www.washingtonpost.com/archive/politics/1981/06/28/last-minute-move-kills-nsf-funds/a7e6c2e0-817f-479b-a697-e4c0589e58d7/>

Kozlov, M., Garisto, D., & Chen, E. (2026). Massive budget cuts for US science proposed again by Trump administration. *Nature*, 652(8110), 547–548. <https://doi.org/10.1038/d41586-026-01105-7>

Kuh, G. d. (2008). *High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter* | Semantic Scholar. Association of American Colleges and Universities. <https://www.semanticscholar.org/paper/High-Impact-Educational-Practices%3A-What-They-Are%2C-Kuh/0b9ee16ec488c30ebf46d3cd705f54b68fdc54b7>

McDevitt, A. L., Patel, M. V., & Ellison, A. M. (2020). Lessons and recommendations from three decades as an NSF REU site: A call for systems-based assessment. *Ecology and Evolution*, 10(6), 2710–2738. <https://doi.org/10.1002/ece3.6136>

NAFSA. (2025, November). Fall 2025 International Student Enrollment Snapshot & Economic Impact. NAFSA: Association of International Educators. <https://www.nafsa.org/fall-2025-international-student-enrollment-snapshot-economic-impact>

Q&A: The ground floor of discovery. (2017). *Nature*, 551(7678), S24–S25. <https://doi.org/10.1038/551S24a>

Ross, N., Delaney, S., Barente, A., Mairson, E., Scott, E., & Shan, M. (n.d.). *Grant Witness*. Grant Witness. Retrieved May 12, 2026, from <https://grant-witness.us/#fn1>

Silk, L. (1981, April 3). Economic Scene; Budget Cuts And Economics. *The New York Times*. <https://www.nytimes.com/1981/04/03/business/economic-scene-budget-cuts-and-economics.html>

The White House. (2025, January 21). Ending Radical And Wasteful Government DEI Programs And Preferencing. *The White House*. <https://www.whitehouse.gov/presidential-actions/2025/01/ending-radical-and-wasteful-government-dei-programs-and-preferencing/>

Weitz, J., & Sinclair, A. (2026). *Science & Community Impacts Mapping Project (SCIMaP)* [Dataset]. University of Maryland, College of Computer, Mathematical, and Natural Sciences. <https://scienceimpacts.org/>

Wilson, A., Pollock, J., Billick, I., Domingo, C., Fernandez-Figueroa, E., Nagy, E., Steury, T., & Summers, A. (2018). Assessing Science Training Programs: Structured Undergraduate Research Programs Make a Difference. *BioScience*, 68, 529. <https://doi.org/10.1093/biosci/biy052>