

April 14, 2023

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RE: National Institutes of Health Office of the Director Request for Information on Re-envisioning U.S. Postdoctoral Research Training and Career Progression within the Biomedical Research Enterprise

The American Society for Biochemistry and Molecular Biology is an international nonprofit scientific and educational organization that represents more than 11,000 students, researchers, educators and industry professionals. The ASBMB strongly advocates for strengthening the science, technology, engineering and mathematics workforce, supporting sustainable funding for the American research enterprise and ensuring diversity, equity and inclusion in STEM.

The ASBMB is heavily invested in offering services and professional-development programming to students and early-career research professionals. Attracting, mentoring and retaining STEM talent within the U.S. enterprise is fundamental to a thriving innovation ecosystem; however, postdoctoral researchers experience numerous challenges that can detract from their success. We must do better to create attractive and equitable environments to retain top talent in our flourishing research ecosystem. The ASBMB makes the following recommendations to do just that.

Perspectives on the roles and responsibilities of the academic postdoc

The ASBMB strongly recommends that the roles and responsibilities of an academic postdoc emphasize the purpose of gaining additional research skills and mentorship to progress in the career pathway of an individual's choosing. As they are in mentored positions, postdocs should have protected time and equitable access to resources that advance their professional development in research and related careers, such as management (time, project, personnel, budget, administrative, etc.), grant writing, peer review, teaching, leadership, outreach, career exploration, and diversity, equity and inclusion training.

To ensure scholars and their advisers have a shared understanding of expectations for the postdoc's responsibilities, progression and goals, the NIH should require postdoctoral training plans that detail anticipated timelines for publications, grant submissions and other milestones, and agreed upon percent effort between professional development, mentored research, and independent research. The NIH should mandate updates be reported during annual progress reports to measure growth and make adjustments to accommodate new goals.

In addition, referring to postdocs as "trainees" can be weaponized to diminish their contributions and expertise to the research enterprise. The ASBMB strongly suggests that postdocs instead be called "scholars" or "fellows."

Lastly, postdoctoral positions are temporary positions for Ph.D. holders to obtain careers in academia, industry and other sectors. However, the value of pursuing a postdoc for nonacademic careers is not well quantified. Data should be collected and disseminated detailing the career outcomes of graduate students and postdocs (salary and position level) across all sectors, reporting the degree to which postdoc positions contribute to career progression in nonacademic sectors. This data would help recruit and retain postdocs who seek nonacademic careers.

Fundamental issues and challenges inhibiting recruitment, retention and overall quality of life of postdoctoral researchers in academic research

Postdocs [experience significant challenges](#) in today's academic environment, including salaries below the living wage, unclear expectations and timelines for postdoctoral research, and inequitable support from institutions. Mitigating a few of these challenges would go a long way in increasing recruitment, retention and quality of life for postdoctoral researchers.

First, the inherent temporality of their positions often means postdocs are [underpaid](#) and lack necessary benefits, such as health insurance, childcare access and funds, retirement plans, etc., which are essential for long-term financial health. To recruit and, more importantly, retain postdocs, these barriers must be removed. It's vital for postdocs to have access to employee-level benefits that support and build financial stability.

Second, a systemic issue inhibiting postdoctoral recruitment and retention is the “trickle down” effect caused by the stifling competition and lack work–life balance in academic environments. Graduate students and postdocs observe their advisers and peers struggling and become increasingly unwilling to pay the opportunity cost required to secure faculty positions that are outrageously competitive and have few perks in comparison to the challenges.

Third, postdocs often feel isolated. They are neither students, staffers nor faculty members and lack visibility in institutions and society. Additionally, postdocs often leave behind their support systems when relocating for positions, worsening mental health and work–life balance and limiting the participation of historically marginalized groups. The NIH should require postdoctoral offices at institutions and consider strategies to fund them.

Lastly, postdoc recruitment should become more comprehensive and transparent to increase the overall quality of the research enterprise and ensure inclusion. Recruiting postdocs is a challenging effort for many investigators; it relies heavily on networking, often disadvantaging students at lower resourced institutions. The NIH should incentivize and provide tools to conduct large postdoc recruitment events that are equitable and accessible to all.

Existing NIH policies, programs or resources that could be modified, expanded or improved to enhance the postdoctoral training ecosystem and academic research career pathways

While the NIH offers multiple resources that enhance postdoctoral training, the ASBMB recommends NIH play a more active role in setting policies that benefit postdocs, encourage institutions to cultivate positive work environments, and expand programs that retain postdocs in academia.

The NIH must lead institutions in encouraging policies that benefit postdocs, which in turn cultivates a positive work environment. First, the NIH must explicitly state that NIH-supported postdocs and fellows can be classified as employees. Otherwise, postdocs are at risk of losing employee benefits upon accepting an NIH fellowship. Second, postdoctoral support varies between institutions, departments and labs, enabling inequities. The NIH should be the arbiter of policies and resources that give all postdocs a sufficient level of support for success.

Family-friendly policies are key to building a positive work environment and retaining postdocs within the field. The NIH should expand paid family leave and intramural childcare subsidies program to all NIH-supported postdocs. Moreover, the NIH should increase the value the current childcare supplement for National Research Service Award fellows and expand it to allow use for caregiving expenses for eldercare, care for disabled spouses and/or dependent family members.

While mentoring is essential to postdoc professional and career development, principal investigators are not formally trained in mentoring. The NIH should require investigators to undergo mentorship training to be eligible to receive NIH funding, and require mentorship plans in research project grant applications.

Lastly, many postdocs want careers in academia but, due to the scarcity of faculty positions, are forced to choose other positions. To retain talent in academia, the NIH should expand programs such as the National Cancer Institute's R50 Research Specialist Award to all institutes to support more staff scientist positions for postdocs seeking to remain in academia without the responsibility of running an independent lab.

Proven or promising external resources or approaches that could inform NIH's efforts to enhance the postdoctoral training ecosystem.

The ASBMB recommends the NIH expand requirements for mentoring across training programs, work collaboratively with institutional postdoctoral offices and encourage postdocs to obtain teaching or other certificates that help launch their careers. There are significant resources for postdoctoral training, but, given the demanding schedules to which postdocs must adhere, it can be difficult to find and fully utilize these resources. The NIH should make a concerted effort to communicate what external resources exist for postdocs, and the NIH should consider including some components of postdoctoral training programs such as IRACDA, MOSAIC and K99/R00 pathway programs that have demonstrated successes. The ASBMB also recommends the NIH consider expanding these programs so more people can benefit from them.

Additionally, the NIH should support postdoc development and success by providing the infrastructure to consolidate training, workshops, career exploration panels, etc. into a collective repository. The NIH should collect and maintain recorded programming, toolkits, and resources useful for postdocs from across the scientific community into a single accessible and searchable Web location. Currently, all institutes and centers do their own programming, which is costly and ineffective.



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Lastly, the [National Postdoctoral Association](#) has a wealth of tools, knowledge and advice to help postdocs succeed. The ASBMB recommends the NIH support and disseminate these resources to the broader scientific community when appropriate.