

January 24, 2022

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RE: Strengthening Fellowship Review

The American Society for Biochemistry and Molecular Biology is an international nonprofit scientific and educational organization that represents more than 12,000 students, researchers, educators and industry professionals. The ASBMB strongly advocates for strengthening the science, technology, engineering and mathematics (STEM) workforce, supporting sustainable funding for the American research enterprise, and ensuring diversity, equity and inclusion in STEM.

The ASBMB has five recommendations for CSR to strengthen and improve the National Research Service Award (NRSA) Fellowship review process to (1) support scientists whose work has been and continues to be affected by the COVID-19 pandemic, (2) ensure that women in STEM are given fair and equal opportunities and (3) diversify the STEM pipeline.

Supporting scientists affected by the pandemic

The ASBMB recommends that the National Institutes of Health Center for Scientific Review permanently allow applicants to explain how the COVID-19 pandemic has affected their education and career.

Studies show that scientists are initiating [fewer new research projects](#) as a result of the pandemic and that scientists who do not work on COVID-19–related research have had even greater decreases in total work time, publications, submissions and projects. The pandemic has acutely affected trainees, potentially negatively impacting evaluations of their ability to serve as principal investigators in the future. Scientists should not be penalized for effects of the pandemic; to encourage scientists to continue applying for grants, CSR should ask them to explain work interruptions and delays.

In addition, an alarming number of women — especially young women — have had to [leave the STEM workforce](#) during the pandemic to care for young children and/or other dependents. Such absences shouldn't be left unexplained in grant applications. Addressing absences in fellowship applications will ensure that all scientists receive fair and equal evaluations.

Supporting junior and early-career scientists who have experienced harassment

The ASBMB recommends that CSR allow applicants who have changed labs or research projects because of sexual or other forms of harassment to explain these gaps in their CVs.

The apprenticeship model of science in the United States renders trainees highly vulnerable to harassment by advisers or others in positions of authority. CSR should allow trainees/applicants to explain these circumstances to ensure that victims of abuse are not further penalized for reporting their experiences, moving to safer environments and continuing their scientific careers. This would be

possible by adding an optional letter or statement to fellowship applications that could be written by the student or contributed by the director of graduate studies, graduate committee chair, department chair or dean.

Implement implicit bias training for reviewers

CSR should incorporate implicit bias training in their bias training for scientific review officers, study section chairs, and all reviewers. The ASBMB applauds CSR for introducing bias training; however, implicit bias training is necessary as well to make these decision makers aware of their own unconscious biases and reduce the likelihood that unconscious biases will affect their judgment. The [importance](#) and [effectiveness](#) of implicit bias training are well documented.

Reduce emphasis on undergraduate coursework

The ASBMB recommends that CSR modify its academic performance criteria.

[Growing evidence](#) illustrates that undergraduate grades are not a strong indicator of future success. This is especially true when applicants have earned their undergraduate degrees and grades three to eight years prior to their fellowship application. Underrepresented minority and first-generation undergraduates face different and additional challenges than their majority peers, and these challenges have been well documented.

Recent graduate coursework is a more accurate indicator of success and likely more applicable to the research they will be conducting. CSR should put more weight on the proposed research and mentoring plans and lessen the weight on undergraduate coursework in its fellowships review process.

Reduce emphasis on a principal investigator's training track record

The ASBMB recommends that CSR put more emphasis on an applicant's training goals and on their PI's training plan than on the PI's past training experience.

Early-career investigators who are just building their research programs have had only a short time and only a few opportunities to train postdocs and publish their findings. Given the current CSR criteria, fellowship applicants who wish to work in the labs of these ECRs are at a disadvantage compared with those applicants who wish to work in the labs of more established investigators. This, in effect, penalizes trainees and robs them of opportunities for no fault of their own. Current measures currently used to evaluate a PI's activities, including mentorship, [are not predictive](#) of future outcomes.

Fellowship application reviewers should instead focus on, first, whether the applicant's training goals and the PI's training plan are aligned and cohesive and, second, whether the PI has demonstrated a commitment to training and productivity.