



American Society for Biochemistry and Molecular Biology, Office of Public Affairs

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The American Society for Biochemistry and Molecular Biology is a nonprofit organization representing over 12,000 research scientists. ASBMB has a long time commitment to increasing the participation and success of minorities in biochemistry and molecular biology, particularly through the work of its Minority Affairs Committee. ASBMB understands that the American research enterprise cannot flourish if its work force does not reflect the diverse values, interests and culture of our nation's population. Data from the 2008 U.S. Census indicate that underrepresented minorities (URM)<sup>1</sup> comprise 28% of the U.S. population but represent only 9% of the science and engineering work force<sup>2</sup>. Minorities who do enter the S&E work force face significant challenges throughout the career pipeline. Underutilizing the talent and potential of minority individuals or over-burdening those minority investigators who have entered the research work force ultimately will compromise the success of the entire research enterprise.

Even with the broad range of programs and resources available to URM students and investigators, there are still considerable obstacles facing URMs in the biomedical research work force today. While studies have shown that black Ph.D.s are as likely to obtain faculty positions or gain tenure as white Ph.D.s<sup>3</sup>, the August 2011 *Science* study, showing that black researchers were 10 percentage points less likely to receive NIH funding than white researchers<sup>4</sup>, was widely regarded not only as surprising but also highly disturbing. ASBMB is strongly supportive of the efforts of the Advisory Committee to the NIH Director and the NIH community at large to address the issue of diversity in the biomedical work force. ASBMB emphatically agrees with efforts to identify and eradicate conscious or unconscious biases in the peer-review process that may play a role in the disparity in successful funding of minority researchers. ASBMB also enthusiastically supports actions that strive to address the cause of the disparity even outside of peer review. ASBMB thanks the NIH for engaging the extramural community in this discussion and presents the following recommendations:

### Intramural

#### **(1) The NIH should create and manage a centralized database of resources for minority researchers and students.**

The NIH should capitalize on its unique position in the biomedical research enterprise to become the preeminent resource center for minority researchers and students. While each I/C at the NIH has specific programs to provide minority scientists with resources, it is difficult for individuals to access the full potential of all of these resources because they are located and managed by different I/Cs. We recommend that the NIH create and maintain a centralized resource center for minority scientists that would include pertinent information from all the I/Cs. While the first step would be to centralize

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<sup>1</sup> URM denotes black, Hispanic or American Indian/Alaska Native individuals.

<sup>2</sup> National Science Foundation, National Center for Science and Engineering Statistics. 2011. [Women, Minorities, and Persons with Disabilities in Science and Engineering](#).

<sup>3</sup> D.J. Nelson & C.N. Brammer, 2010. [A National Analysis of Minorities in Science and Engineering Faculties at Research Universities](#).

<sup>4</sup> D.K. Ginther *et al.*, 2011. [Race, Ethnicity, and NIH Research Awards](#).

the different programs within NIH, we would hope that this platform eventually could be expanded to include minority resources from the extramural community as well. Creating a “one-stop shop” where minority scientists could easily access information on scholarships, training programs and mentoring/networking groups would be exceptionally valuable to the minority research community.

**a) Play a primary role in publicizing minority resources to all levels of the biomedical research pipeline.**

The NIH should capitalize on its position as the leading resource for the biomedical research community to disseminate information and resources for minority students and investigators. ASBMB recommends focusing on three entities for distributing information about minority resources: 1) minority-serving institutions and professional organizations, 2) biomedical professional societies, specifically FASEB and its individual constituent societies and 3) university administrators and faculty members.

**b) Optimize and expand programming that provides minority students and postdocs with research experience.**

An excellent way to introduce minority students to the biomedical research enterprise is through programs that give them hands-on laboratory experience. These programs not only expose minority students to the research enterprise but also can help provide them with role models in their respective fields and help create a greater network within the research community, two critical elements to increase minority retention within the biomedical research pipeline. The NIH has an extensive portfolio of programs aimed at increasing the participation and success of minority students and researchers. Programs such as RISE, SCORE, ABRCMS and IRACDA all strive to expose and engage minority students and researchers in the biomedical research community. While the NIH has made considerable efforts in minority programming, there is very little data on the successes or shortcomings of these programs. ASBMB recommends that the NIH do an in-depth review of existing programs for minority students and researchers in order to accurately determine the strengths and weaknesses of these programs. Once the NIH has identified which programs or elements of programs are the most successful, they should be used as models for increased programming.

**c) Support and provide increased programming for young investigators, that emphasizes grant-writing skills.**

One of the most important skills a postdoc or junior faculty member must develop in order to establish and maintain a successful lab is that of grantsmanship. Unfortunately, the current biomedical training model includes little to no training in essential “non-bench” skills such as grant writing, lab management, and budgeting. Additionally, the existing NIH peer-review process gives researchers very little feedback as to why their grants were not funded. Often minority researchers and junior investigators have even less exposure to and mentoring in these skills, which could play a role in their disparity in funding success. To address these issues, ASBMB recommends that NIH make a considerable and concerted effort to provide postdocs and junior investigators with programming that will help develop their non-bench skills, with a particular emphasis on grant writing and review. These programs/workshops should provide adequate time for an in-depth review of mock grants and for feedback on how they could be improved. ASBMB also recommends that the NIH partner with universities that receive NIH funding, particularly those with high numbers of minority individuals, to provide training in these skills. Only by leveraging the resources at the university level, where a majority of the NIH-funded research is conducted, can we hope to improve training opportunities for the future biomedical research work force.

**d) Identify and provide new opportunities to expose young investigators to the peer-review**

## **process.**

Serving on an RO1 study section provides researchers with invaluable insight into the grant-review process. However, investigators already must be funded to participate in these study sections. Since minority investigators are funded at lower rates, they have even more limited opportunities to learn more about the grant-review process through study section participation. ASBMB recommends that the NIH identify and implement new ways to give postdocs and junior investigators exposure to the grant review process. Greater exposure to the grant-review process would be particularly valuable for minority students and researchers.

## **(2) The NIH should continue research efforts to identify the cause of the difference in NIH funding success rates for URM researchers.**

While the Ginther et. al. study<sup>5</sup> presented several suggestions as to the cause of the disparity in the funding success rates of black researchers, it was unable to specifically identify the cause. ASBMB recommends continued investigation of this question to determine the cause(s). The possibility of racial biases, whether conscious or unconscious, in the peer-review process is particularly disturbing to the research community. To address this issue, ASBMB recommends performing additional case studies in which grants are reviewed multiple times, one in which the identifying information is included and one in which various pieces of identifying information are removed, to ascertain if racial biases are playing a role. ASBMB strongly believes that to eliminate the disparity in funding success rates of minority researchers, we must first understand the cause.

## Extramural

## **(1) Professional societies are strongly encouraged to foster mentor-mentee relationships that can reach across institutions.**

Mentor-mentee relationships in the research community are widely considered one of the most valuable assets a researcher or student can have. However, for minority students and researchers, these relationships can be difficult to foster or even establish because of the disproportionately low numbers of URMs at universities and research institutions. For example, data from 2006 showed 16.5% of students graduating with a B.S. degree in biology were URMs, but only 3.8% of faculty members at the top 50 biology departments were URMs<sup>6</sup>. Because an individual university may have few minority researchers, ASBMB recommends that professional societies provide opportunities to develop mentoring relationships beyond a single research institution. Some possible suggestions include creating “virtual networks” in which minority researchers can connect with other URM individuals online. Societies are also encouraged to host special sessions for URM students and researchers at national meetings so URMs can connect at these events and then utilize those relationships throughout their career.

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<sup>5</sup> D.K. Ginther et al., 2011. [Race, Ethnicity, and NIH Research Awards](#).

<sup>6</sup> D.J. Nelson & C.N. Brammer, 2010. [A National Analysis of Minorities in Science and Engineering Faculties at Research Universities](#).