

**Purpose:** The National Institute of General Medical Sciences (NIGMS) seeks input on approaches that will enhance the transitions of productive postdoctoral scientists from diverse backgrounds, including groups underrepresented in biomedical research, into independent faculty positions at research-intensive institutions. This Request for Information (RFI) will assist NIGMS in identifying, developing and implementing strategies that will allow the biomedical enterprise to benefit from a more diverse research workforce – namely, a broader variety of perspectives to address complex scientific problems, more robust learning environments, improved global competitiveness, and enhanced public trust.

See [NOT-GM-18-034](#) for additional background.

Responses to be submitted via web form at [https://www.research.net/r/Faculty\\_and\\_Diversity](https://www.research.net/r/Faculty_and_Diversity)

### Topics to be addressed:

#### **1) The barriers scientists from underrepresented groups face as they progress from postdoctoral training into faculty positions at research-intensive institutions, and potential strategies to overcome these barriers.**

*Barriers:* Scientists from underrepresented groups face supply-side and demand-side barriers in the faculty hiring process. These barriers include a comparatively small pool of underrepresented minority scientists among the national cohort of postdoctoral fellows, and implicit or explicit biases that directly reduce the number of faculty hires from underrepresented groups.

*Strategies:* Breaking down the supply-side barriers should be addressed at multiple points along the pipeline beginning with undergraduates. Participation of NIH in programs and initiatives similar to the National Science Foundation (NSF) Louis Stokes Alliance for Minority Participation (LSAMP) or Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (INCLUDES) would increase the number of junior underrepresented minority scientists pursuing graduate studies, postdoctoral positions, and faculty positions. Past the undergraduate level, a commitment by NIH to increasing the number of underrepresented minority trainees funded by predoctoral and postdoctoral fellowships can build on support at the undergraduate level and sustain the pursuit of faculty positions by scientists from underrepresented groups.

There is accumulating evidence that success of all students (but especially underrepresented minority students) is tied to the quality of their mentoring experiences. Given this, we recommend requiring a Graduate Student Mentoring Plan (modeled after the required Postdoctoral Mentoring Plan) on all research grants. This would help both underrepresented minority and other postdocs. The NIH might also consider requiring training in mentoring for any PI who includes a graduate student or postdoc on his/her grant.

Tackling the demand-side barriers will require acknowledgement of implicit and explicit biases in the hiring process by universities, faculty, and administrators. Approaches likely to have an immediate impact are implicit bias training for search committee members and administrators, and the appropriate setup of faculty searches with clearly defined evaluation criteria and diverse membership. To enact long term change, clear commitments, paired with goals and accountability, to address demand-side barriers must come from the leadership of universities and the NIH.

## **2) The qualities and perspectives that scientists from underrepresented groups bring to the research enterprise, and how these can be drawn upon to encourage and promote career transitions into the professoriate at research-intensive institutions.**

ASBMB advocates for the idea that the biomedical research enterprise is at its best, most effective, and most resilient when the myriad views and perspectives of scientists from diverse racial, ethnic, and gender backgrounds are included. An inclusive biomedical research enterprise is best equipped to capitalize on the multiplicity of ideas needed to make advances that will positively impact human health.

Scientists from underrepresented backgrounds provide different viewpoints and experiences that are crucial to the success of the biomedical research enterprise. Although scientists from underrepresented groups face significant headwinds in pursuit of faculty positions, these headwinds are often not unique to the academe. Overcoming these obstacles engenders perseverance and a strong sense of community that can be drawn upon for efforts to promote career transitions into the professoriate. In particular, efforts to increase the number of underrepresented minority scientists in the professoriate can capitalize on the strong sense of community through conferences, symposia, workshops, and mentorship programs specifically targeting the cohort of underrepresented minority trainees.

Underrepresented minority scientists also tend to bring a commitment to community outreach. This focus not only provides the potential for outreach to younger students of color (hence, enhancing the pipeline) but also the possibility of enhancing community engagement, thereby facilitating recruitment of subjects/ collaborators for clinical trials and/ or community-based participatory research.

## **3) Approaches that key stakeholders (e.g., faculty advisors, institutions, scientific societies, etc.) can employ to promote the successful career transitions of postdoctoral scientists from underrepresented groups into the professoriate at research-intensive institutions, and how these can be coordinated and sustained to maximize impact.**

In addition to targeted mentoring efforts for underrepresented minority trainees, a commitment to increase diversity and to introduce accountability has proven to be effective for increasing hiring rates for targeted groups.<sup>1</sup> Accountability must also be paired with training in implicit and explicit biases at the administrative, faculty, and staff level. Implicit bias training is an effective approach to reducing cognitive biases and increasing scrutiny of decisions in hiring committee selections.<sup>2</sup> The creation of search committees is also an important component for promoting the hiring of underrepresented minority trainees into tenure-track faculty positions. Institutional initiatives targeting clearly defined searches with transparently defined evaluation criteria are crucial.

Institutions should consider clustering hires as a strategy to enhance outcomes for underrepresented minority junior faculty. Too often, underrepresented minority faculty are hired to “check a box”, with little attention to availability of collaborators and mentors who have expertise that complements their research interests. The cluster hire approach provides underrepresented minority faculty with “built in” collaborators and mentors.

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<sup>1</sup> McCracken, D.M., *Winning the talent war for women: Sometimes it takes a revolution*, Harvard Business Review (2000) November-December: 159-167. <https://hbr.org/2000/11/winning-the-talent-war-for-women-sometimes-it-takes-a-revolution>

<sup>2</sup> Rudman, L.A., Richard D. Ashmore, R.D., and Melvin L. Gary, M.L., 2001. 'Unlearning' automatic biases: The malleability of implicit prejudice and stereotypes, *Journal of Personality and Social Psychology* (2001) 81: 856-868. <http://dx.doi.org/10.1037/0022-3514.81.5.856>

Institutions should also devise strategies to retain mid-career underrepresented minority faculty who can serve as mentors to junior underrepresented minority faculty. It is not uncommon for an underrepresented minority faculty member to get a grant early in his/ her position, but fail to renew and stay research active. This is an understudied issue that deserves attention.

Furthermore, hiring underrepresented minority faculty to increase diversity is not enough; institutions should have programs that specifically address how underrepresented minority faculty feel about their sense of belonging and "fit" within an institution. It has been my experience that having culturally sensitive academic coaches in coaching teams provides the sense of community that is sorely lacking in many institutions. This approach has been very successful with graduate students who report an enhanced sense of self-efficacy after participating in these coaching groups. The ASBMB's Minority Affairs Committee is piloting a similar approach through the ASBMB travel award.

#### **4) Current strategies that have been successful in promoting the transition of postdoctoral scientists from underrepresented groups into independent, tenure-track faculty positions.**

Targeted workshops and symposia providing direct interaction between underrepresented minority trainees and effective senior mentors with proven academic track records provide an opportunity to give underrepresented minority trainees key insights into the faculty hiring process and the early years of an independent faculty position. Additional contact points early in the trainees' careers provide similar opportunities for effective guidance. ASBMB recommends that NIH continue and increase support for targeted workshops and symposia. Increased support for workshops held by professional societies would lead to increased participation of postdoctoral fellows from underrepresented groups in programs such as the [ASBMB Interactive Mentoring Activities for Grantsmanship Enhancement](#) (IMAGE) grant writing workshops. The [NIGMS Annual Mentoring Workshop for New Faculty in Organic and Biological Chemistry](#) provides a framework for NIH efforts that could transition to serve late-stage underrepresented minority postdoctoral fellows. Targeted inclusion of underrepresented minority trainees in postdoc preview events at institutions and NIH provide a complementary opportunity at the postdoctoral level to ensure that underrepresented minority trainees are considered for postdoctoral fellowships at R1 institutions. An expansion of the [NIH Graduate Student Research Festival](#) to include more underrepresented minority trainees would again provide a similar training and mentoring opportunity early in the trainee's career. Coordination of workshops at the graduate and postdoctoral level could be accomplished through providing NIH support for planning and hosting of the workshops and conferences. Success of postdoc preview events would lead to increased buy-in by institutions and would assist with sustaining maximal impact.

#### **5) Any other comments or recommendations for NIGMS to consider with respect to programmatic efforts to enhance career transitions of postdoctoral scientists from diverse groups into the professoriate at research-intensive institutions.**

The NIH K99/R00 award is a highly successful program that promotes the transition of postdoctoral trainees into tenure-track faculty positions. ASBMB recommends that NIGMS commit to specifically setting aside funds within the K99/R00 program to fund underrepresented minority scientists. A specific set aside within the current K99/R00 program is most desirable, as opposed to creating a separate program restricting application to underrepresented minority trainees only since a separate program may carry stigmas that could be unfavorably reviewed by search committee members who have not had implicit bias training.



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Moreover, the NIH should also consider highlighting and expanding its current Research Supplement Program to a standalone funding source, aimed at increasing minority postdoc positions.