The Minorities Affairs Committee of the American Society for Cell Biology—Fostering the Professional Development of Scientists from Underrepresented Minority Backgrounds

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ABSTRACT

As part of its mission, the American Society for Cell Biology (ASCB) works to increase diversity in the scientific workforce, in part through the work of its Minorities Affairs Committee. It is for this reason that the ASCB was happy to welcome the special September 2016 issue of *CBE—Life Sciences Education* (*LSE*) focused on broadening participation. As a response to this special issue, we update our ASCB community and *LSE* readership on the society's efforts to broaden participation of underrepresented minorities in the biological sciences.

To the Editor:

It was with great enthusiasm that we welcomed the special September 2016 issue of *CBE—Life Sciences Education* (*LSE*) focused on broadening participation. As a response to this special issue, we would like to update our American Society for Cell Biology (ASCB) community and *LSE* readership on the society's efforts to broaden participation of underrepresented minorities (URMs) in the biological sciences. ASCB has a strong and successful history of helping mentor the next generation of cell biologists. In fact, in 2004, ASCB was awarded the Presidential Award for Excellence in Mathematics, Science, and Engineering Mentoring, largely in part to the innovative programs of its Minorities Affairs Committee (MAC; http://paesmem.net/node/1765). The MAC is one of the standing committees of the ASCB, and it is charged with increasing the involvement of URM scientists in all aspects of the society. Since its inception in 1980, the MAC has approached this goal through the creation of programs and resources that promote the professional development and recruitment of URM scientists who are at different stages of their academic training—from undergraduate trainees to junior faculty at a range of academic institutions, including historically Black colleges and universities, primarily undergraduate institutions, minority-serving institutions (MSIs), and Hispanic-serving institutions. The ASCB MAC also takes a proactive role in advocacy on behalf of the URM science, technology, engineering, and mathematics (STEM) community. Below, we briefly describe the ASCB MAC programs and advocacy efforts that are currently taking place and their most notable outcomes. We also describe how the current needs of our biological sciences workforce are shaping our plans for the future of the ASCB MAC.

Annual Meeting Programs. The ASCB MAC hosts a series of travel awards, talks, and speakers during the ASCB annual meeting. While the travel awards help ensure strong participation of URMs (at the undergraduate, graduate student, postdoc, and junior

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faculty levels), talks and invited speaker activities are open to all ASCB members and attendees. These events are designed to help raise awareness about and preparation for the challenges URMs face while pursuing careers in STEM fields. Mentoring talks are available for scientists at all levels of training and are open to all attendees. One mentoring talk is designed to help undergraduate students think about and apply to graduate school. Another aims to prepare early-stage graduate students to hit the ground running. A third mentoring talk, geared toward grad students in the final stages of their dissertation work, discusses how to best prepare for and transition to the next steps after graduate school. A variety of talks designed for postdocs and junior faculty are focused on areas like negotiation, grant applications and budgets, and collaboration. Recently, the ASCB MAC has started a Mentoring Academy specifically targeting postdocs, in which participants receive training to help develop plans for their careers. The Mentoring Academy and other mentoring talks during the annual meeting are facilitated not only by ASCB MAC members but also by experts in professional career development. Speakers at the 2016 meeting included Daniel Alfonso Colón-Ramos, the most recent recipient of the E.E. Just Award, a scientist from a URM background who was recognized for outstanding scientific achievement. An additional mentoring keynote seminar featured a talk by Tracy Johnson, a URM scientist who has excelled at mentoring URM trainees in the biological sciences. These invited speakers provide our meeting attendees with success stories from URMs in science and serve as potential role models to our URM mentees and participants. Participant surveys after these ASCB MAC annual meeting events show that this programming has had an impact on trainees' decisions to pursue/continue to pursue careers in the biological sciences. Since 2009, more than 80% of participants have indicated that exposure to the annual meeting and the ASCB MAC events has had a major or moderately positive impact on their decisions. Recently, the ASCB MAC has collaborated closely with the Committee for Postdocs and Students (COMPASS) and iBiology in developing its programming for the annual meeting. An example of this collaboration is the creation of a new interactive workshop that has been offered at the annual meeting since 2015—Delivering Science: Effective Communications Skills to Become a Successful Scientist. This session engages attendees with strategies, resources, and practice exercises to help them become better science communicators. Attendees to this workshop also receive training on how to use effective communication skills to support their professional advancement.

The ASCB MAC also seeks to support URMs in the biological sciences through several year-round programs. We describe these briefly in the following paragraphs.

Linkage Fellows Program. Through this faculty program, the ASCB MAC aims to promote cell biology outreach and activities at MSIs. Selected faculty fellows serve as a link or connection between their home institutions; the institutions' students, faculty, and administrators; and the ASCB MAC. By connecting the ASCB MAC to their academic communities, faculty fellows can facilitate their students and peers applying to and benefiting from ASCB MAC programs. Linkage Fellows have implemented a variety of initiatives with students and faculty at their institutions, including, but not limited to, classroom research and innovations, scientific symposia, and science outreach events. What all of these initiatives have in common is that they foster the professional development of scientists at MSIs, enhancing their scientific training.

Visiting Professors Program. The purpose of this program is to support the professional development of faculty at primarily undergraduate teaching institutions that serve minority students and scientists (MSIs). This mechanism provides support for the MSI faculty (Visiting Professor, VP) to visit and work at the research lab of an ASCB member at a research-intensive institution for an 8- to 10-week period during the summer. In addition, the program provides participants with funds to use at their home institutions for professional development or implementation of training modules in courses taught by the VPs during the academic year. These partnered research experiences have been found to enhance the independent productivity of VPs, contributing to their professional success (Campbell *et al.*, 2013).

*Faculty Research and Education Development (FRED) Mentoring Prog*ram. Currently in its third year, this program (www.ascb.org/fred-home) is a structured mentorship workshop designed to promote grant-funding success among junior faculty at institutions with a strong commitment to recruiting students from URM backgrounds. In this yearlong program, early-career scientists and senior faculty researchers with a strong track record of grant funding work in pairs. The goal of the FRED program is for the mentee to prepare a strong research or educational grant proposal for submission to a funding agency like the National Science Foundation (NSF) or National Institutes of Health (NIH). Members of the ASCB MAC catalyze communication and interactions between mentees and their mentors throughout the year. The kickoff event for each FRED cohort is a 3-day career development workshop for junior faculty and mentors held every summer. During this FRED workshop, participants receive tips on grant writing and funding opportunities. They are also provided with unstructured time to allow mentees to meet their individual needs for feedback from mentors and ASCB MAC members. The FRED program is open to scholars from a variety of institutions and with diverse research interests. The program has been very successful to date—resulting in 11 mentees submitting grant proposals, with eight having been approved for funding. Mentees have reported other benefits, including reported promotions, conference presentations, committee appointments, publications, collaborations, and other significant events that came about in part because of their involvement in the FRED program.

Junior Faculty and Postdoctoral Fellows Workshop. Partially overlapping with the FRED workshop is a second summer workshop organized by the MAC—the annual Junior Faculty and Postdoctoral Fellows Career Development Workshop (www.ascb.org/macjrfacultyworkshop). Now in its 11th year, this workshop explores a variety of topics essential to a successful academic career, including lab management, grant opportunities, getting published, and securing tenure.

Based on end-of-workshop evaluation results, nearly all participants indicate their objectives for attending the workshop have been fully or substantially achieved.

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exception of FRED, are currently funded by an Innovative Programs to Enhance Research Training grant from the NIH/National Institute of General Medical Sciences (1R25GM116707-01). The FRED Program is currently funded by a grant from the NSF (MCB-1340395).

Looking to the future, the ASCB MAC would like to broaden its impact by creating new programs and opportunities to help train and equip URM scientists for nonacademic careers. One of the ways in which we envision this taking place is through the creation of programs that allow for trainees to develop the soft skills, like entrepreneurship, that they will need to tailor their careers to their specific strengths and interests. Another strategy that the ASCB MAC has used to amplify its impact is to partner with other scientific societies with similar diversity efforts and interests.

In fact, historically, the ASCB MAC has been involved in several STEM advocacy efforts. For example, in 2002, the ASCB MAC helped establish the first SuperMAC, a committee of chairs and vice-chairs of MACs from different professional societies. One of the beneficial outcomes was the establishment of an NIH-funded online database of minority scientists and students (JustGarciaHill.org; Wilson and Haynes, 2002). With time, the SuperMAC has become inactive. While MACs in different societies continue to play essential roles in advocating for their respective scientific disciplines, their collective efforts to address the needs and concerns of URMs in STEM disciplines remain fragmented. The ASCB MAC believes that it may be time to revive or reintroduce a SuperMAC to ensure that the URM STEM community at large has a powerful, unified voice. Moving forward, the ASCB MAC will actively look for opportunities to synergize with other professional societies, their MACs, and their diversity efforts.

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