

Partnering to Improve Equity in Publishing

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The scientific publishing community must “push toward greater equity in publishing and research at large,” said moderator Dr Sowmya Swaminathan, Head of Collaboration & Chair, Springer Nature Research & Solutions DEI Programme, to start this session at the CSE 2023 Annual Meeting. Referencing the recently released National Academies (NASEM) report¹ on Advancing Antiracism, Diversity, Equity and Inclusion in STEM organizations, she noted that it is the responsibility of individuals or organizations who have power and influence—described as “gatekeepers” in the NASEM report—at publishers, funders, and societies to develop and implement policies and opportunities for historically excluded researchers to participate equitably in scientific discourse across all areas of research. Along with her panel of speakers, the message was clear: Creating an effective ecosystem of lasting, meaningful partnerships with organizations and institutions that employ and recruit largely from historically marginalized and excluded populations is absolutely necessary to boost their participation in scientific research and publishing. It is a problem that has wider implications on research and the types of research that can help address and diagnose issues affecting these communities and society at large.

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That said, these partnerships cannot be a one-way street, as aptly stressed by Dr Antonio Baines, Associate Professor, North Carolina Central University and University of North Carolina-Chapel Hill. As a cancer biologist, it is not lost on him that he studies a disease that directly or indirectly affects millions of people and families around the world (myself included) regardless of background, race, gender, or identity. Therefore, it is imperative that research institutions work together to communicate and study these issues effectively and not devalue institutions that represent marginalized groups such as Historically Black Colleges and Universities (HBCUs), of which Dr Baines is a proud graduate and professor. These institutions, in particular, must be respected for their significant contributions and expertise in multiple areas of research, especially as they have some of the highest success in producing Black STEM (science, technology, engineering, mathematics, and medicine) graduates and training Black students for future careers in STEM.¹⁻³ Therefore, collaboration must not be a one-sided opportunity to “check a box” for achieving a diversity, equity, and inclusion milestone. Rather, it should be a mutual agreement from the beginning among organizations and institutions, where they can learn from each other and partner on issues pertinent to the research they conduct and the communities the research affects. Dr Baines’ example of the collaborative project “Exploring Cancer”⁴ gave an excellent sense of how this collaboration can achieve such an impactful goal. As he put it, without “all hands-on deck” to mutually collaborate on critical research, we will be less prepared to bring about the meaningful changes needed to address real-world problems head-on across our communities.

The statistics only emphasize the immense work needed to tackle the problem. Citing data from the aforementioned NASEM report, Dr Swaminathan noted that 91% of university and college faculty identify as White, and that, although Black, Hispanic, and White students declare their STEM majors at roughly the same rate, 40% of Black students switch out of STEM majors before earning their degree.¹ In terms of research funding, the numbers were even more staggering: 69.5% of NIH R-01 grantees identified as White, 23.9% as Asian, 4.8% as Hispanic and only 1.9% as Black or African American.⁵ Although the statistics within the publishing industry were not available, there is an assumption that many publishers face this same problematic trend internally and throughout their editorial boards.

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So how can the gatekeepers for publishers, funders, and societies make more meaningful partnerships that serve to improve equity within their organizations? Dr Dorraya El-Ashry, Chief Scientific Officer, Breast Cancer Research Foundation (BCRF), and Allison Leung, Assistant Director, Researcher Products & Engagement, American Chemical Society (ACS), are both attempting to address this question within their respective institutions and spheres of influence.

Within the funding and society spheres of influence, Dr El-Ashry shared that BCRF is focusing on a two-pronged approach at BCRF to support historically excluded groups by 1) leveraging BCRF's current society partnerships to focus on increasing diversity in the early-career breast cancer investigator pipeline and increasing the diversity of the BCRF investigator portfolio with new invitations to established breast cancer investigators, and 2) investing in research focused on addressing disparities. For example, early and mid-career funding requests for applications are specifically targeting historically excluded groups by leveraging the funds BCRF sends annually (~\$2 million for ~20 investigators) to their current partner societies. Through these initiatives, 8 senior investigators from historically excluded groups were added for biomedical research in 2022/2023, and they expect to fund new investigator applications this year with the same focus. In tandem with

these efforts, investments are being made in disparities research to prioritize issues that directly affect marginalized communities. These include research focusing on breast cancer in Black women and disparities in mortality rates, among other areas of research. Additionally, in collaboration with Springer Nature, BCRF is funding master classes focused on manuscript preparation and communicating science to diverse audiences, specifically targeting researchers at HBCUs, Hispanic Serving Institutions, and other organizations such as Women in Research. As of April 2023, BCRF and Nature have conducted 5 workshops to 134 participants and 33 partnered institutions.

Within the publishing and society spheres of influence, Allison Leung has led a multifaceted approach to addressing inequity at ACS by providing opportunities at various stages of education and expertise. ACS's core value of diversity, equity, inclusion, and respect drives that effort as both a society and a publisher. As a society, ACS partners with individuals in economically challenged and historically excluded groups: Their Project SEED provides internship opportunities for students from economically challenged households; their ACS Scholars program awards more than \$1 million in yearly scholarships to undergraduate African American/Black, Latino or Hispanic, and Indigenous students; and their ACS Bridge Program establishes links

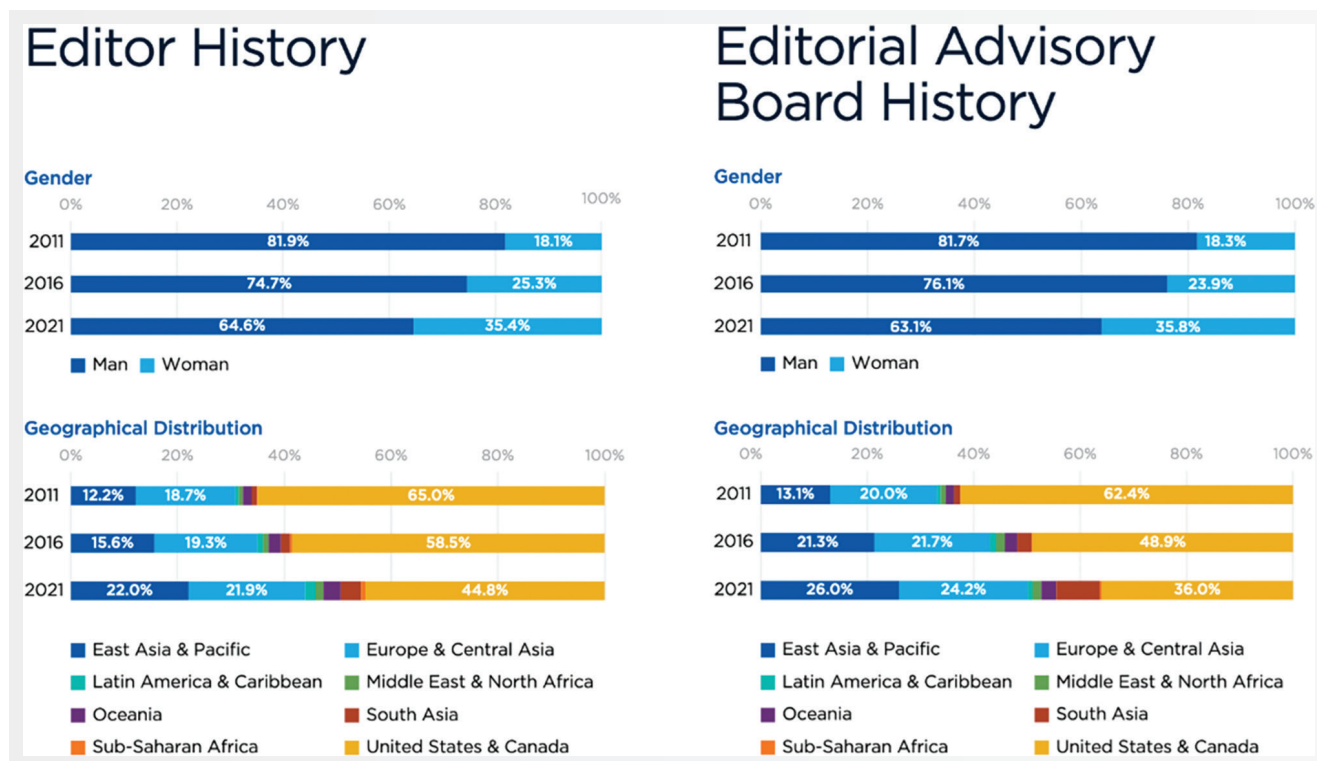


Figure. American Chemical Society Diversity Data Report.

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between minority-serving and doctoral-granting institutions to boost chemical sciences degrees for Black, Hispanic, and Indigenous students.

As a publisher, ACS focuses on internal and external issues. They update their policies and practices to ensure they are intentionally inclusive, seek diverse perspectives from their contributors, and seek to minimize bias in all aspects of their editorial processes to reduce barriers and enable higher success rates. Most interestingly, ACS provides educational resources to its authors and reviewers through their ACS Author Lab and ACS Reviewer Lab, respectively, in order to help them write scientific papers and reviews and, in the case of reviewers, navigate sensitive ethical issues they may come across. They also partner with academic institutions to assist researchers at all stages in a program called ACS on Campus. Finally, ACS has implemented journal initiatives to focus special issues on more diverse voices and provide early-career researchers with opportunities and experience serving as topic editors and on early-career boards.

There are shortcomings to these approaches, and there is always more work to do. In Dr El-Ashry's case, their funding can only reach so far down the pipeline to secure investigators in their early years of research. Applicants are not always there, however, and they are looking for ways to impact individuals at earlier stages. At ACS, as in much of the publishing landscape, their editor and editorial board pool skews mostly male from the United States and Canada (Figure).⁶ While this has improved in the last 10 years, as they

continue to reach more diverse voices through their various initiatives, it will be interesting to see where these statistics stand in another 10 years. By then, hopefully demographic data collection will be much more robust to provide more exact measurements and trends.

It is motivating to see what these gatekeepers in publishing, funding, and societies have accomplished to bring diverse voices to the table of scientific publishing and partner with historically excluded groups and organizations. I am interested to see how these efforts will help shape the publishing landscape moving forward. There will always be work to do on this front, and this panel has provided wonderful frameworks for how publishers, funders, and societies can make a difference within their organizations and across publishing. Even so, as Dr Baines noted, in many of these cases, all of these historically excluded individuals and institutions need is for someone to come to them and begin a dialogue.

References and Links

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