

A Sound Plan for Attracting Students of Color

Tyrone Porter

The demographic survey completed by the Acoustical Society of America (ASA) in 2018 confirmed what many of us suspected, that the composition of the ASA membership does not reflect the demographics of the US population. This is particularly true with respect to Black representation because less than 2% of the membership that responded to the survey identified as Black.

The ASA Committee for Improving Racial Diversity and Inclusivity (CIRDI) that I chair was formed in the summer of 2020 (Porter, 2020, acousticstoday.org/porter-16-4) and charged with developing initiatives and activities to address this glaring problem within the Society and, most importantly, within academic programs and professions related to acoustics. One of the first questions CIRDI discussed was, “Why are there so few persons of color, particularly Blacks, in acoustics or acoustics-related fields?” Through our conversations, we recognized that there are few opportunities for Black students, especially undergraduate students, to be exposed to acoustics in a structured format. It is more likely that a Black student will discover acoustics and careers in the field through their own efforts rather than through a structured program (Scott, 2020, acousticstoday.org/ScottNewNormal). I share my own experience as an example of what the ASA must address to diversify the field and its membership.

I have been interested in physics and engineering since high school but was completely unaware of acoustics. Most of my high-school science classes focused on fundamentals (i.e., the biology of life across scales, Newton’s Laws), and I was only introduced to sound waves in my physics class. However, the introduction was very superficial, and the teacher never discussed careers in acoustics or acoustics-related fields.

On completing high school, I enrolled at Prairie View A&M University (PVAMU), which is a Historically Black College/University (HBCU) outside Houston, TX, and

majoring in electrical engineering. Similar to high school, the college physics course touched on acoustics and sound waves but with very little depth.

I was finally introduced to the fascinating world of acoustics during a summer research experience at Duke University (Durham, NC). The program was funded by the National Science Foundation, and I requested a research project in biomedical engineering to learn more about the field. Interestingly, my summer project focused on building and characterizing the performance of small transformers that would be installed in measurement devices for cardiac electrophysiology studies. I was and remain to this day an innately curious person, and so I would walk the hallways in the Pratt School of Engineering at Duke and read the research posters.

I discovered that the Duke Biomedical Engineering Program had a very strong diagnostic ultrasound group and found the research to be accessible for an electrical engineering student. On returning to PVAMU, I spent the year researching biomedical engineering graduate programs as well as companies that produced diagnostic ultrasound systems.

The following summer, I secured an internship in the Ultrasound Division of General Electric Medical Systems, which is now GE Healthcare. I had a very supportive supervisor and an extremely positive experience, which solidified my decision to pursue a career in biomedical ultrasound. My supervisor informed me of universities that had strong research programs in biomedical ultrasound, including the University of Washington (UW; Seattle). I was fortunate to be admitted to the bioengineering program at the UW, and I joined the research group led by Larry Crum. Larry recommended early in my graduate career that I join the ASA, and he served as a guide at its meetings. Larry also recommended that I attend programs that would provide additional instruction in acoustics while also expanding my network, such as the Physical Acoustics Summer School. I completed

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my doctoral studies in 2003 and have been an active member of the ASA for more than 20 years.

It is important to note that my training in acoustics occurred predominantly after completing my undergraduate degree. However, if I did not take it on myself to learn about biomedical ultrasound as an undergraduate student, I never would have specialized in the area as a graduate student and I never would have joined the ASA.

Based on my experience, the CIRDI acknowledged that the ASA needs to create more opportunities for students of color to get introduced to acoustics and acoustics-related professions. The committee proposed that the ASA establish and manage a summer research and internship program in acoustics and acoustics-related fields for undergraduate students of color. In addition to funding the students, the ASA will provide a short course in acoustics in preparation of the summer experience.

Furthermore, ASA members will host virtual gatherings for the students to foster a community and discuss the academic and professional pathways available in acoustics and acoustics-related fields. The American Institute for Physics (AIP) awarded the ASA seed funding from its Diversity Action Fund to support launching the program in 2021. For many students, the summer program may be their first substantive experience with concepts, technologies, or processes involving acoustics. A positive experience both technically and culturally may serve as a first step toward pursuing a career in a field related to acoustics and becoming a member of the ASA. We are seeking mentors committed to diversifying their profession to host these aspiring young scholars. We plan to foster community among the mentors as well by hosting workshops and virtual gatherings to discuss and share best practices for mentoring students from underrepresented groups. Although not required, mentors and/or companies willing to fund a student will enable the ASA to include more students in the program. More information about the program and expectations for mentors can be found on the ASA Diversity Initiatives page (available at acousticalsociety.org/diversity-initiatives). If you are interested, please contact Tyrone Porter (tmp6@utexas.edu).

The summer program is part of a broader strategic plan crafted by the CIRDI to increase the representation of persons of color in acoustics-related careers and in the ASA. The plan includes various initiatives and activities designed

to increase interaction and communication with students and professionals of color, such as working with faculty and administrators at minority-serving institutions to raise awareness of acoustics-related professions; organizing workshops and forums on topics related to diversity, equity, and inclusion; and creating a webpage to highlight persons of color in acoustics and acoustics-related fields. Please visit the ASA Diversity Initiatives page for more information and for opportunities to volunteer and implement the various initiatives.

References

- Porter, T. (2020). Addressing the lack of Black members in the ASA. *Acoustics Today* 16(4), 75-76.
- Scott, E. K. E. (2020). The need for a new normal. *Acoustics Today* 16(4), 77-79.

Contact Information

Tyrone Porter tmp6@utexas.edu

*Department of Biomedical Engineering
The University of Texas at Austin
107 W. Dean Keeton Street
Austin, Texas 78715, USA*



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