Why attend ABRCMS? Student describe their experiences [1]

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Students are the focus of the Annual Biomedical Research Conference for Minority Students [3] (ABRCMS) meeting, held most recently November 9-12, 2016, in Tampa, Florida. Undergraduate and postbaccalaureate students make up over half the roughly 4,000 program participants, and many participants belong to minority populations often underrepresented in science, technology, engineering, and mathematics (STEM) fields. While the American Society for Microbiology helps

manage the meeting, student research on all STEM fields is easy to find at the numerous poster and oral presentations.

Attending ABRCMS is often the first time many students have attended an interuniversity research conference. Because the conference is focused on undergraduates, there are a number of orientation sessions held to help students be and remain successful, including sessions on how to give a poster presentation, how to stay organized as a student researcher, skills for building your resume, and a mandatory orientation to the conference itself. Held at the beginning of the conference, these sessions set students up for a successful ABRCMS experience full of research presentations and networking opportunities.

Learning to Present A Scientific Story

For many of these students, ABRCMS is the first opportunity to present their research outside of their research institution. At the 2016 ABRCMS [4], there were 120 oral presentations and a whopping 1837 poster presentations! How do students prepare to share their results with researchers from any of a broad research background? We spoke with several ABRCMS attendees and alumni to find out.

Daniel Mukasa is a second-year student at Oberlin College [5], working in the Physics Department with Stephen Fitzgerald. In addition to the orientation session held on the first day, he prepared by watched webinars provided by ABRCMS and tried to incorporate the advice, such as telling a scientific story, making eye contact, and keeping the audience engaged, into his oral presentation. Mukasa's research from the past two summers is focused on improving metal-organic frameworks to store hydrogen, and has potential applications in new clean energy initiatives. To make a quantum mechanics-based project exciting to the broad ABRCMS audience, Mukasa relied on practice runs with his mentor and colleagues.

"I presented to my labmates as well, but generally in preparing this, I presented to anyone who was willing to listen, until I felt completely confident about every question that could possibly be asked," says Mukasa. "It really made me feel more engaged with the project from an application side, since most questions come in the form of 'how can this affect us?'" These questions helped Mukasa include big-picture research goals that all audience members, regardless of background, could understand.

Experience has helped Ashley Vincenty Acosta, a fourth-year biology student at the University of Puerto Rico Recinto de Mayagüez, [6] refine her presentation skills. The 2016 ABRCMS is her third research conference opportunity, and she can see the improvement that comes from multiple presentations. "My first presentation was an oral presentation," which, along with her subsequent poster presentations, focused on her research to identify more sustainable synthesis pathways for epoxides, a common compound found in medications.

Her experiences have helped Acosta feel comfortable with both the formal presentation and Q-and-A involved in research communication. Acosta's experience in both oral and poster presentations has increased her proficiency in using technical terminology in English (Acosta's first language is Spanish), and also taught her that she prefers poster over oral presentations. She finds poster presentations encourage more interaction between audience and presenter.

After asking for audience feedback, Acosta tailors her explanation for each listener in ways less possible during seminar-style presentations. Her approach is to open with a question and transition based on the response, a technique suggested at the ABRCMS research presentation session. Acosta thinks the advice she pulled from this session for her presentations has helped improve the experience for both herself as the presenter and her audience.

Yomarie Bernier is at her third ABRCMS as a judge (each student poster has three assigned judges). A senior graduate student at the University of Turabo [7], she finds the judging experience a valuable experience in learning science communication. Like Acosta, she values the interactive nature of the poster presentations and coaching students through their entire project. Moving outside of her own studies in environmental microbiology to fields like immunological microbiology allows her to apply her technical knowledge to new areas. Additionally, in explaining her research to students, she practices her elevator speech, a short-but-accurate description of her research project. Bernier also values the student experience, encouraging her student mentees, such as Karin Millan, to attend the conference.

These presentation skills practiced at ABRCMS last well beyond an undergraduate career. “ABRCMS is probably the most influential conference yet in my career,” says Ricardo Perez Dulzaides, now a postbaccalaureate student at Johns Hopkins School [8] of Public Health. While performing undergraduate research at Florida International University [9], Dulzaides presented his research on the *Drosophila melanogaster* bacterial endosymbiont *Wolbachia*. “I was very nervous at ABRCMS, but the judges were nice and inquisitive. I never felt as if they were trying to find out what I did not know, but rather they were interested in the project and what we did to probe the question further.” This positive presentation experience has motivated Dulzaides to pursue a research degree.

Networking Opportunities Abound

By bringing together so many research-oriented students from all over the country, ABRCMS is a great place to meet students with similar backgrounds and interests. Many conferences have social mixers, but a unique ABRCMS event is the meal arrangement, which allows attendees to gather in between scientific sessions. These meals offer informal opportunities to meet students and faculty from around the country. Like presentation preparations, attendees approached meals and networking with various strategies.

“For each meal, I decided I would sit with a group of people I’ve never met before, and just talk to them,” says Mukasa. “I got some results I didn’t expect from this; for example, I talked about my research a lot. This was one way to practice my oral presentation, which was really great. I was also able to meet people with advice about career options in research, industry, and grad school.” Mukasa found himself sitting with mostly students, but occasionally sat with faculty or companies. Meal tables are labeled with fields to help attendees congregate by similar interests, but this can also offer a way to meet people in different fields: Bernier, a microbiologist, often sat with behavioral scientists, learning about entirely new research fields from her fellow attendees.

Dulzaides was directly influenced from his lunch networking sessions: “Oftentimes I sat at a table that had space and joined the conversation with an open mind.” From this, Dulzaides made several good friends, including Carlos De Leon, who helped influence Dulzaides’ decision to work

at Hopkins after graduation. “I really liked the meals at this conference.”

De Leon, now a senior graduate student at Albert Einstein College of Medicine [10], was similarly inspired to follow a research career based on his ABRCMS experiences as a post-baccalaureate student at Case Western Reserve University [11]. “This conference is inspiring because it helps you connect with people interested in helping you become successful. The conference sessions offer advice such as how to make the most of your relationship with your mentor, which may sound trivial, but this is really important and could be crucial for your success. These are the types of topics that ABRCMS covers that will transform your career.”

Networking occurs throughout ABRCMS, of course, and the exhibit hall is full of businesses and research programs eager to recruit young scientists. “Despite the field you go to, there’s always opportunities,” says Mukasa. “I’ve been able to meet many companies that offer internships with physics or computational experiences.” By talking to recruiters from companies and research institutions, Mukasa feels he can not only apply to these opportunities, but apply effectively. There are also mixers hosted by different research programs, such as the Yale Ciencia Academy [12], a science career development program for underrepresented minorities where Bernier is a fellow. Bernier finds these mixers a great place to meet colleagues, some of whom she sees annually at ABRCMS and Microbe (formerly at the ASM General Meeting).

Acosta has found networking opportunities throughout the entire conference. During lulls in the poster presentation session, it’s natural for students to exchange information and talk about their research. The ABRCMS program includes breaks between scientific sessions, which also allows students to network. “A friend of mine did a summer program at Berkeley, and he had a friend that turned out to be in neuroscience,” Acosta’s areas of interest. Despite a fear of being left out, Acosta found that similar scientific interests can build bridges and expand social and professional networks. “Putting yourself out there to get to know what opportunities are out there is definitely something I will take with me” after this experience. “I’m definitely hoping to come back next year.”

This information was obtained from the American Society of Microbiology. The original article can be found in this link:

https://www.asm.org/index.php/education-blog/item/4367-why-attend-abrcms-students-describe-their-experiences [13]

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