



FIG. 1. Image by Shannon E. Cramer.

subjective material in a low stakes setting. For example, lab members could discuss their peers' haiku, clay sculpture, or line drawing to improve the delivery and intent of their commentary. By working with unfamiliar materials and subjects, we challenge students to face their fear of failure, judgment, and imperfection and instead focus on refining their work. Practicing criticism in this manner allows students to develop the skill of critique in parallel with their other scientific skills, such as data collection or statistical analyses. As students' progress through their training, they should deliver critique on scientific products in person and in writing. They should also experience incorporating edits into their work and re-presenting it to peers. As critique and review are essential components of our field, mentors and educators should focus on critique throughout the science education process, improving the educational experience and our professional science practice.

With explicit training in the art of critique, students can more readily participate in seminars, better develop their scientific perspective, and correctly identify useful commentary vs. personal attacks. With routine practice in giving and receiving criticism, scientists can improve their

communication with their colleagues and students, and the effectiveness of their review commentary. To succeed in practicing the art of science, scientists should practice being artists.

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## BEFORE, DURING, AND AFTER THE ASSOCIATION FOR THE SCIENCE OF LIMNOLOGY AND OCEANOGRAPHY MULTICULTURAL PROGRAM

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LEARNING ABOUT THE ASSOCIATION FOR THE SCIENCE OF  
LIMNOLOGY AND OCEANOGRAPHY MULTICULTURAL  
PROGRAM

2017 was my year! 365 days full of accomplishments in my life, but mostly in my career as a

scientist. As an undergraduate I was selected to participate in a field trip to one of the most beautiful and iconic national parks in Missouri: Mark Twain National Forest. We were getting ready for a hike to an emblematic cave in the middle of the forest. I was looking forward to seeing bats; however, the park ranger's discussion about all the possible dangerous organisms that we could find during the trip made me a little nervous.

It was in this distracting scenario that a woman approached me. She seemed very calm, curious and thoughtful. She considered me for a couple of moments, and then asked my name. I replied politely, but I was a little preoccupied by the random and abrupt way in which she approached me. She introduced herself and explained the purpose of her being there: she was one of the field trip program graduate mentors. After that, she started asking me a lot of questions. The questions were mostly about my expectations as a scientist, my future plans, what I was hoping to learn from the field trip, if I was comfortable about the way that the program was running, among other things. The questions revolved primarily around myself, which made me feel intimidated at some point. We kept walking together and had a conversation about my future, and what I wanted in that moment in terms of my academics. We also discussed my research project and the actions I was taking to accomplish it. Talking to her was interesting and unusual because she was asking strong questions that made me reflect about what I really wanted as an individual, and to consider if I was pursuing the correct pathways to achieve my goals. It created a thunderstorm of thoughts in my mind.

After going back to our group's accommodations, and with me still having a spaghetti of thoughts in my mind, we talked some more.

She asked me, "Angelique, did you ever present your research work at an international conference?"

Me: "What do you mean by an 'international conference'?"

Her: "A meeting that is recognized in an international level and scientists from around the world come to present their science. It is excellent to do networking as well."

Me: "No..."

Her: "Well, you should go to Hawaii and present your research project."

Me: "Can I do that?"

Her: "Yes!"

Me: "Of course I would love to. But how do I do that?"

Her: "You can apply for a student travel award which will sponsor you to go to the ASLO 2017 conference at Honolulu, Hawaii. The award is for enhancing the participation of undergraduate students from an underrepresented background to present their research; the program is called Association for the Science of Limnology and Oceanography-Multicultural Program (ASLOMP)."

Me: "That sounds surreal! Where do I sign up?"

During the whole field trip, we talked a lot about all the advantages and disadvantages this opportunity could bring to my professional career. In fact, the field trip mentor participated in the ASLOMP program before as an undergraduate student. At that moment, I wasn't completely aware of all the benefits and the importance of applying and participating in this type of program. Moreover, I wasn't completely aware of the importance of the last step of the scientific method: communication. I didn't know that participating in a conference like ASLO and presenting my research work as a poster or oral presentation is a way of communicating my science. Just 5 days were needed for my perspective as a scientist to start changing in an incalculable way. My perspective of how to see science changed completely. Having that new perspective about my studies made me enjoy myself and the fieldtrip better. Thanks to the field trip mentor, colorful sprinkles were added in my life.

#### ALWAYS CHECK YOUR EMAIL ADDRESS

When I got back home, I already had all the information about the conference, ASLO 2017, Honolulu, Hawaii, and the ASLOMP award materials in my email; it was time to begin working on the application requirements. When I began reading about all the documents that I needed to complete my application, it felt quite overwhelming. Everything was new for me. But the most terrifying part was the personal statement. No college course taught me how to prepare a "personal statement." At that stage of my undergraduate degree I knew how to do a reliable autobiography.... This was definitely not the same. My brain collapsed and hid into a black corner that I acquire in my left side of my head. I turned off the computer. I didn't have a clue of what I was doing! I took a big breath, inhaled, exhaled; and opened the website again. I copied and pasted the personal statement instructions in a document; as a way of

not staring into that terrifying blank page. I began by answering the requisite information. The following day I did the same; edited, revised and repeated. For the duration of a week, I was sparing my late afternoons to work on the essay. When I developed something stronger, I sent the essay to the mentor from the field trip; yes, she is still involved in this story.

A week later I received the revised document. Revised document? No, let's say the tortured document. Poor thing. I was so frustrated! I had felt remarkably confident with the job I had done. As I started reading the comments, I realized that the catchy parts in my essay were missing. Why me? Why do I need this opportunity? Why it is relevant for me? A lot of WHYS! My writing was technical with loads of facts, and less interpretation of my character, something that college doesn't prepare you for, at all! Beyond the limitations of my writing, I managed to finish my essay and completed my application package. Pressing the button to submit my application materials was one of the most intimidating moments in the process. I was thinking: "Angelique, this is it!" With major enthusiasm and positivism, I submitted my application. At that point, I was already feeling grateful. Having the chance to apply to an award of that nature, it was already a great moment to advance as a professional. The metamorphosis was a fact.

Time passed, and every day I was checking my email expecting that hoped-for message. I also kept glancing at the website every day as well for updates. However, the time kept passing and I never received an email about anything, even announcing my rejection in the program. I was so sad and completely unmotivated, assuming they had rejected me. I shared my disappointment with the field trip mentor. She was surprised because she had also felt confident in my chances for obtaining the award. She asked me if I received an email expressing my nonselection for the award, and I told her that no, not even that. She recommended that I write an email to the director of the program asking about it because the *modus operandi* was that I should have received a rejection or acceptance letter.

I contacted him explaining the situation. He was so confused because, in fact, I was selected in the program! Yes, I was selected! The situation was that I had misspelled my email address.... Unbelievable! At that point all the

logistics, for example, hotel booking, flights, registration waiver, were accomplished for those students that had confirmed their participation. So, it was a challenge for me, the director and the ASLO president at the time to sort everything for me. However, we managed, and everything worked remarkably well and smoothly. I was going to Honolulu, Hawaii to present my undergraduate research project! I could not believe it. I would never forget that moment of my life, where my mistake almost cost me the award. However, from that day until today, I triple verify my email address when I am submitting awards, scholarships, and pretty much anything else, really. You name it!

#### LESSONS START FROM THE VERY BEGINNING

ASLOMP is the type of program that starts working on you before, during, and after its termination. Also, it is the kind of program that leaves a stamp on every student that passes through it. Since 1990, ASLOMP has been adding shimmer in every human being. More than that, ASLOMP creates a student network that serves many purposes: mentorship, support, friends, family, and research collaborations making this network a long-distance relationship. When you are selected to the ASLOMP program it's like you agree to add another part to your body, for example, a third leg. And that will propel you to advance as a professional and individual.

More than exposing you to a vast science network and providing you a venue to present your research, ASLOMP prepares students to mentor and to be mentored. Without the impact of ASLOMP in previous cohorts, the field trip mentor may never have noticed the sparkle that she saw in me. Nor would she have pushed me to consider the program that leads me to my first international science meeting to present my undergraduate research. ASLOMP made *her* able to transfer all that knowledge to me and has given her the confidence to believe in and recommend the program to potential students. More than that, I developed a fascinating relationship with the field trip mentor, and I am grateful to ASLOMP for that. Nowadays, the field trip mentor is still involved in my life; and not just as a mentor, but also as a friend.

ASLOMP provided me the perfect scenario to evolve as a scientist. Thanks to the skills that I gained before and during ASLOMP, I was



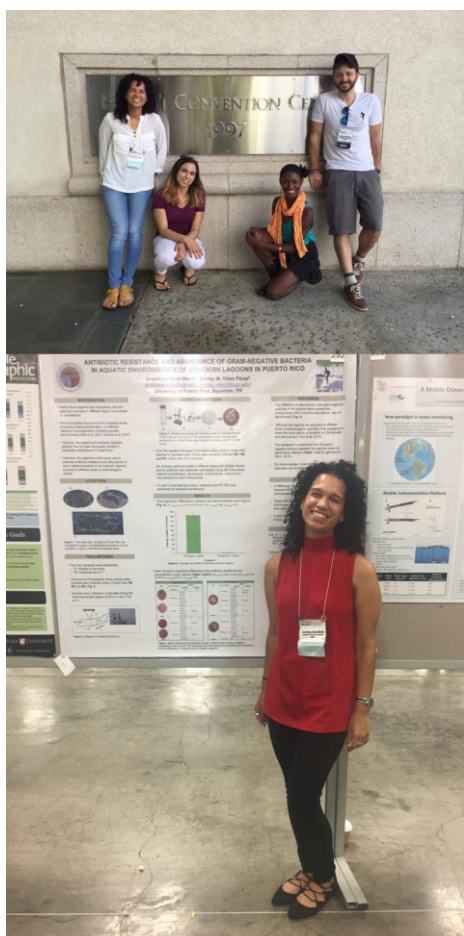


FIG. 1. My ASLOMP mentee colleagues and meeting mentor, and me in front of my poster in the ASLO 2017 conference.

capable of redefining better my life-professional goals; as an example, I started my Master's degree in Fall 2017. In fact, my capabilities are still growing due to the initial opportunity, so let's say *before, during, and*



FIG. 2. My Puerto Rican mentee fellows from the ASLOMP 2017 program.

*after* ASLOMP. The program added abilities that have helped me succeed as a graduate student. After the ASLO 2017 meeting, with my confidence boosted, I participated and presented in several international conferences (Figs. 1 and 2). I also applied for and was selected to conduct an international research experience through the ASLO Limnology and Oceanography Research Exchange program. All

these doors were opened thanks to an awkward conversation hiking in the middle of the forest. ASLOMP plays a crucial part in my past, present, and future.

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