

## AN INTERVIEW WITH DR. VALERIE ASHBY



From left, Navami Jain, BSS Editor-In-Chief; Emily Wang, BSS Editor-In-Chief; Dr. Jonathan Bennett, BSS Faculty Advisor; Dr. Valerie Ashby, Dean of Trinity College of Arts & Sciences at Duke University; Kathleen Hablutzel, Publication Editor-In-Chief; and Jackson Meade, BSS Essay Contest Winner

### What drew you to chemistry?

That's an easy answer. My dad was a math and science teacher; he taught chemistry and various versions of math in high school... so science was never scary to me. It just seemed like what we did... The second thing is I had a great high school chemistry teacher. I actually did something I don't recommend to my own Duke students, which is to decide what you're going to major in before you arrive. Leaving high school, I said that I'm going to be a chemistry major and I'm not going to change my major, because I had heard these stories about how college students hit their first hard course or their second hard course and they shift their major. I decided I was not going to do that. The good news was that I loved it, even at the college level... that's how I decided I was going to major in chemistry. Science was always my thing.

### So you're in more of an administrative position now. Do you ever wish you could go back to the lab?

Oh, you mean every 30 seconds? I wish for you that every job you have is your favorite job. And I have led this crazy,

lovely life where every single job that I have held has been my favorite job at that moment. When I was a faculty member, it was my favorite job. Who I am and what I do have overlapped my entire life. That's a gift that I get to be who I am in my job. I am a teacher, that's who I am. Even though I'm out of the classroom, that's still who I am. The way that it presents itself now is through inspiring other teachers, encouraging other faculty, and mentoring students... I have office hours with students every Friday even though I'm not teaching. They come and talk to me about their lives and I get to do the thing that I love...

I also miss running my old research group. I kept my research group at UNC when I took this job... I graduated my last PhD students from UNC Chapel Hill last year. For the first time in twenty years I haven't had my own research group. I'm so busy that I don't have time, but I miss training graduate students and I miss creating knowledge. There's something about waking up every day trying to do something that nobody else has ever done and answering a question that remains open, and then teaching other people how to do that... it is so much fun.

**We were wondering how the scientific and problem-solving skills you've gained as a chemist have translated into other roles such as your current role?**

It was absolutely great training. When you do scientific research, it is team-based with vertically integrated teams; so a professor, a postdoc, graduate students, undergrad students, and then high school students who come in the summer or during the academic year. That team-based approach and learning how to work with every level of that team are great training for what I do here.

I have an administrative team and it's a vertically integrated team... When you run a research group, you're not just doing science, you're doing people - people who spend a lot of time together in close proximity. Teaching graduate students how to navigate being in a group that has a personality and a culture... I had to manage all the finances of the group, so I learned how to do big budgets for grants. You learn how to write, you learn how to communicate - so many different parts of running a research team. It's like a small business if you're doing science... So what do I do in my present job? I run the finances - they're my responsibility. Human resources, the well-being of students, faculty, and staff, making sure that we're being collaborative and collegial - all my responsibility. It's absolutely great training and I think I use all of that now. My day-to-day life is really all of those skills that you learn about being in a team and managing people.

And my job is to raise money. If you're going to do science, you better know how to raise money. You may know who Joe DeSimone is - I was his first PhD student so we have known each other for a very long time and one of my favorite Joe quotes is "Val, a vision without funding is just a hallucination." And as a scientist, if that's not your mindset, you can't actually do your science. This enterprise doesn't run without funding, so being a little bit entrepreneurial is important... for this job.

**While at UNC you worked with an NSF grant to increase the number of underrepresented minority students who receive doctoral degrees in STEM fields. What were some of your more effective policies and what challenges have you personally faced as a minority woman in STEM?**

Quite frankly, I never paid any attention to being a woman or being underrepresented. Now, that's a luxury. People treated me so well it was never my experience. Now when I advocate for women and underrepresented people I have to say to them "I haven't had a bad experience. My goal is for you not to. And if you have, my goal is to help you with it." My PhD advisor was incredible - some people have trouble with that. The reason I want to help so many

people is because I have had such a wonderful experience. I always say to people if somebody tried to offend me at some point or did something, I just didn't take it in... it just never affected me. So that's my history with that.

I loved working in that program and it had a model that worked already and my job was to not break it and to try to expand it. It's a cohort model of students and it's everything from making sure students are onboarded into their departments. It's very isolating to be a grad student. Especially if you are an underrepresented student, you could be the only one in the program. If you're not in a group that welcomes you and has a great culture, it can feel even more isolating. We were the place where students could come when they hit roadblocks... Sometimes we were the place that would support them in going to talk about their research... we would pay for travel for them to go to conferences... we would help them engage with faculty and collaborators... So many different ways. It was quite successful and we were able to expand it into the humanities, because all grad students need support for different reasons.

**What do you think is the future for women in STEM, and what can we do to make sure that the STEM fields are inclusive for all people?**

That's a great question. When you look at the number of women faculty that we have in each one of our disciplines, we are not very different from most universities... we have more women who are humanists than social scientists and scientists. I think 23-27% of our science faculty are women. 50% of the graduate students are women... but the numbers just don't translate into the faculty for several reasons... so we have a lot of work to do here for women in science. Part of that is making sure that we have a culture that is welcoming, but also that we are thinking about how families and having children affects women and men differently. It's serious when you're a scientist because you have to be in the lab, right? There are several family-friendly things that we can do... but making sure that people have the mentorship that they need is really important... [and] making sure the climate is such that we are equally supportive of every single person. That's not trivial to pull off.

What can you do [referring to Navami, Emily, and Kathleen]? Stay in. Don't quit. If you love it, stay in. Even if it gets hard just stay in there. Find some great mentors... I have four mentors that I've had for more than twenty years, including my PhD advisor. They keep me going. When it got hard, I wanted to quit. And they kept me going. Get good mentors. What can you do [referring to Jackson]? What you do is more important than what they do. All of my mentors are men. That actually is just what

happened in my life. I'm not saying it's a good or bad thing. But you being equally as supportive is important... I've got four of them [mentors] and they've been incredible. They were just the right people for me...

If you love it, don't let anything keep you from doing it. Your part is to find what you love and don't give anybody the power to take you out of doing what you are supposed to be doing.

### **What advice do you have in general for STEM majors?**

Get some sleep is what I tell my Duke students. Just relax. It's okay. It can be pretty intense. Have some fun. I'm serious about that. I think the reason I love what I was doing and what I have always done is because I have a balanced life. The sooner you start taking care of your whole self and form that habit, the better.

The problem with being an independent scientist is that you're independent, which is the same problem I have with this job... nobody's telling me when to come to work every day and nobody's telling me when to go home. The problem is that if you are a crazy workaholic, you can do this 24/7. As an independent scientist, you are actually working for yourself because you're running your own small business. When do you not work because everything you're doing is for you and your group? Start practicing now being more balanced. The other recommendation I would have, at least my experience with STEM majors, is to make sure you really get a great liberal arts education. You're going to be smart enough; that's not the question. This navigating across culture, ethics, language... that's actually going to make you a more creative scientist. You never know where you're going to land in this world, right? You might be doing your science on the other side of the world. You need to feel an appreciation for differences in culture and religion. Get a great liberal arts education with depth in your science and I think it sets you up in a beautiful way.

### **Can you tell us about a time that you failed and what you've learned from that experience?**

When I failed? Sure - you want to talk about last week or yesterday or 20 minutes ago? [laughs]

So in graduate school at UNC, you can get a high pass, you can get a pass, you can get a low pass. That's the grading scale. So I took a mechanistic organic chemistry class and I got an L. And what that means is that if you're in a PhD program you get bumped out of the PhD program down to the Master's program. Let me give some context to you. We don't admit Master's students typically into chemistry. Because you can go from a B.A. or B.S. to a PhD and almost

nobody gets a Master's degree intentionally and stops. So I got bumped down to the Master's and had to earn my way back into the PhD program, meaning that I had to pass. So having a good mentor is a good thing, because right there I would have been gone and everything after that would not have been possible had my PhD advisor not said, "Val this is not a big deal. You weren't prepared because you didn't know you were going to graduate school." And watching somebody else not flinch is really good. He was so supportive. He said "This is not a problem. We're going to do what we need to do here. We're gonna pretend like this didn't happen and we're gonna keep you moving as if you're on the PhD track." So I took my PhD comps.

And I did all of the hourly exams - we took them on Saturdays; you have to pass a certain number before you qualify to take the actual oral exam. And then after I took my comps I had to request in a letter to be readmitted. And I did and there I was. And it was as if it didn't happen... Thank goodness for mentorship, because when your head is not in the right place, your mentor can keep your feet moving until your head catches back up...

The beauty for me of that failure is that when a student comes in here and they have had an academic failure they don't think I've had one, right? Because they think you can't really do the Dean stuff, can you? What I get to say to them is, it turns out, you can. You're fine. You can recover. And then I tell them my story.

I mentor students who think that their first failure is the end of the road. Turns out you can get a C in physics and still be the Dean. Perfection is not required.

### **For sports, Duke or UNC?**

Oh - so I'm glad you asked me this. So Duke. I have to tell you my story - this is so fun. So I hated Duke because I had two UNC degrees and not only that I had an undergraduate degree and when you have an undergraduate degree from UNC the hate is deep. It's like genetic. I was such a Duke hater that I would root for anybody playing Duke because I just wanted Duke to lose and badly, with shame. [laughs] So when one of my mentors suggested that I interview for this job, I said to him, "How am I going to be able to do this?" And he said, "Val, get over yourself." And he is a UNC alum and he said this is a great job and it's a great place and you're going to love the people, you're going to love the students. And all of that stuff is going to go away the moment you show up and meet people. And in my first interview, I walked out and I said if they offer me this job I'm taking it. And I just found my people sitting right there at the table and it was just stunning to me... It's a serious lesson for me on diversity.

It's easy to not like people from a distance. The moment I know you, the game is over. Everything I told myself about you is no longer true. You just become another person, and that's what I found. I sat at that table and I thought "I love these students." I love the ideals and the values and I'm like, "These are my people." I love this place. I'm all in Duke. I'm fiercely competitive in sports and I love great coaching. Duke 100%. On the weekends, I'm in full Duke gear. It drives my friends insane. [laughs] But it was surprisingly easy. The people made all the difference and I love this place. I really do.

**So this isn't a newfound hatred for UNC, it's a newfound understanding?**

It's a newfound understanding and I never thought you could love both of those places. I so appreciate what UNC has done for me. I love how UNC grew me and supported me and got me here. And I love that these guys have accepted me but I also love what we do here - it's pretty doggone special and those students are incredible. I get to love both.

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