A passion for pathways: Careers in diversity and inclusion for STEM postdocs

A doctorate in a science, technology, engineering, and mathematics (STEM) field prepares postdocs for an especially rewarding career: serving as a diversity and inclusion (D&I) professional, where they can make a difference by ensuring that other scientists and engineers have the same chance at success that they did. By Alaina G. Levine

When Nicole Cabrera Salazar was a grad student in astronomy, she should have received support, encouragement, and guidance from her mentor and her department. A hard-working, talented scholar, she ended up winning two fellowships: The first was the prestigious U.S. National Science Foundation (NSF) Graduate Fellowship, and the second would enable her to pursue research in France. But instead of positive reinforcement and help, she experienced microaggressions and negative responses to her pursuit of continued excellence.

When she approached her advisor about the idea of applying for a Fulbright Fellowship, he presented her with a litany of “no’s,” “shouldn’ts,” and “couldn’ts”: “Honestly, I don’t think you should apply; you don’t have anything to contribute; you haven’t progressed enough in your research project; you don’t have the qualities I like to see from my best and brightest,” and on and on, she recalls. “I also got this from other professors and peers. As soon as I started succeeding, a lot of obstacles were put in my way,” from getting pushback about the makeup of her dissertation committee to the department assigning her to teach labs without her consent, when her NSF fellowship strictly stated that it was her choice to teach.

“I didn’t want other women of color to experience this, so I started a mentoring program. Then I started to think about science communications with a focus on people of color,” says Cabrera Salazar, who is Latina. Her passion to create programs to support and enable the success of those around her led to the opportunity to attend the inaugural Inclusive Astronomy Conference in 2015, which helped crystallize how her desire to fix the serious flaws she found in the STEM pipeline could translate to a rewarding career.

She began building up her network, enhancing her knowledge base in diversity, equity, and inclusion issues, and designing a portfolio of services to offer potential clients. In 2018, only one year after receiving her Ph.D., Cabrera Salazar launched her business, Movement Consulting, LLC. She works primarily for science departments, where she aids them to foster more inclusive cultures. Her output includes workshops and trainings as well as assessments on hiring practices and admission policies, among other areas.

“Culture is a huge issue when it comes to retention of marginalized people, including people of color, so I help departments figure out what they could do and do it better,” she says.

Cabrera Salazar’s story is unfortunately not unique; it is not unusual for underrepresented minorities (URMs), including minorities of gender, race, ethnicity, sexual orientation, ability, and nationality to experience harassment, pushback, and a general sense of being unwelcomed in STEM. But universities and other institutions are recognizing the challenges they face with inequality, exclusive and toxic climates, and a lack of diversity, and how all these factors impede the progress of URM researchers and the collective advancement of STEM. Finally, institutions are taking some action and hiring D&I professionals to develop strategic plans and guidance to put their cultures on the right track.

Upcoming features
Cancer Research: Precision Medicine—March 15  ■  Postdocs: DIY and Science Hacking—August 30  ■  Faculty: Moving Lab to Another Country—September 13
"In research, we answer really tough questions, by taking large-scale problems and breaking them down to digestible pieces. I have that same energy and enthusiasm when I am thinking about how we can train students, give access, and expand access [to the sciences].”

– Johnna Frierson

Scientists and engineers: Good at helping their own

STEM-educated pros are stepping up to bat to aid in this critical effort to change the academy. W. Marcus Lambert, assistant dean of diversity and student life at the Weill Cornell Graduate School of Medical Sciences in New York, whose doctorate is in biomedical sciences, pivoted toward a career in D&I, due to “my lived experience [as an African American],” he says. “Being a part of an underrepresented group moving through science, I saw some of the barriers and challenges that come along with that. I was really motivated to try to do something about it.”

When it comes to those who pursue careers in D&I for the sciences, it seems only logical that scientists and engineers should lead the charge. They after all, know the culture, customs, and language of science and the academy.

“We are trained to approach complex problems in a very analytical and methodical way, so even if the problem is something unfamiliar, we have a very specific set of tools for making abstract problems more concrete and feasible,” says Johnna Frierson, founding director of the Office of Diversity and Inclusion at the Pratt School of Engineering at Duke University in Durham, North Carolina. Noting the parallels between her previous work in the life sciences and her current work in D&I, she explains, “In research, we answer really tough questions, by taking large-scale problems and breaking them down to digestible pieces. I have that same energy and enthusiasm when I am thinking about how we can train students, give access, and expand access [to the sciences].”

Lorenza A. D’Alessandro, a senior scientist and equal opportunities commissioner at the German Cancer Research Center (DKFZ) in Heidelberg, was also motivated to change careers and move into D&I. “I wanted to contribute more, not only to science but to the mindset of science at the organizational level— to change the mentality of the institution to support younger scientists so they will have fewer issues [with career advancement],” she shares.

Think big

D&I careers are typically found in organizations, including universities, companies, government agencies, and nonprofits, and there are certainly more jobs in the D&I space now than there were even 15 years ago, says Lambert. There are also entrepreneurs, such as Cabrera Salazar, who manufactured their own career and businesses when they noticed the gaps in opportunity for URMs.

No matter the ecosystem, it is important to strategically and proactively tie your D&I efforts to the bottom line of your organization and field. When Kathinka Best, a diversity manager for Bertelsmann, the Germany-based mass media company (with 120,000 employees worldwide), organized a diversity conference for 100-plus executives, “it was of utmost importance that those people understand the different advantages diversity brings to the table,” she says. “We give economic benefits—diversity is a driver of creativity and economic success.”

Similarly, when Marenda Wilson-Pham, associate dean of the Graduate College at Rush University in Chicago, was considering a career in D&I, her mentor, a dean of diversity at his own school, told her to take a strategic and surprising approach. “He said to make your programs so popular that others besides URMs want to participate,” she says. So, early in Wilson-Pham’s career, when she was program manager of diversity and alumni networking (and later as assistant dean of diversity and alumni affairs) at the University of Texas MD Anderson Cancer Center (MDA) Graduate School of Biomedical Sciences in Houston, Texas, she assigned herself a goal: to create an environment that supports everyone, and in doing so she would bolster the success of URMs. The results of her strategic thinking led to great results at MDA: There had been a 45% attrition rate for URMs, which decreased to 12%. The number of URMs increased across the campuses, from 7% when she started, to 25% when she left. And overall, she notes, the quality of the students increased. “Top schools were sending their URMs to MDA because of the success we were having.”

Keep your faculty status

Working in D&I in a university affords certain luxuries—in particular, the opportunity to stay connected to STEM. In fact, there are even ways to maintain your faculty appointment or transition while you are a professor. M. Claire Horner-Devine, who received her Ph.D. in biological sciences from Stanford University, is the cofounder and codirector of three federally funded, national programs at the University of Washington (UW) designed to accelerate and improve the career advancement of early-career women and researchers from underrepresented groups in STEM. She had a secure faculty track as a tenured professor in the UW Department of Ecology and Evolutionary Biology, but “as that was progressing, I was also developing the equity part of my career and realized that it was the latter I enjoyed the most, and was the most challenging to me and most impactful to individuals and institutions, and to me,” she says. “Over time, I closed my lab and stopped the ordering of the pipettes and now I work fully in diversity, equity, and inclusion.”

Photo: Amanda Dixon
FOCUS ON CAREERS

postdocs

ADVERTISING FEATURE: Produced by the Science/AAAS Custom Publishing Office

Featured participants

**Bertelsmann**
www.bertelsmann.com/st-1

**College of the Environment, University of Washington**
environment.uw.edu/about/diversity-equity-inclusion

**Diversity and Outreach, Graduate Division, University of California San Francisco**
graduate.ucsf.edu/diversity

**German Cancer Research Center (DKFZ)**
www.dkfz.de/en/index.html

**Institute of Science and Technology Austria**
ist.ac.at

**Movement Consulting, LLC**
www.movebold.ly

**Office of Diversity and Inclusion, Pratt School of Engineering, Duke University**
pratt.duke.edu/about/diversity

**Office of Diversity and Inclusion, Weill Cornell Medicine**
diversity.will.cornell.edu

**Office of Programs to Enhance Neuroscience Workforce Diversity, National Institute of Neurological Disorders and Stroke**

**University of Maryland, Baltimore County**
diversity.umbc.edu

**University of Texas MD Anderson Cancer Center**
careers.mdanderson.org/moreinfo/diversity

Renetta Garrison Tull, who serves the University System of Maryland as both director of Graduate and Professional Pipeline Development and special assistant to the senior vice chancellor for academic affairs—and is also associate vice provost for strategic initiatives at the University of Maryland Baltimore County (UMBC)—highly encourages STEM Ph.D.’s to consider a faculty appointment even before making the D&I switch. “I get a lot of students and postdocs who want to be in the diversity space for their career because they don’t want to be a professor. I respond that I’m able to do what I do because I’m still a faculty member at the UMBC College of Engineering and Information Technology. I have an opportunity to engage with faculty peers. This is an important piece that young professionals might not realize, because the real change comes within the department—the faculty are the ones who do the mentoring and can make changes,” she says.

Understand the role

D&I professionals tend to take a holistic approach to their work—affection change for the betterment of STEM and the people in STEM, now and in the future—by engaging in detailed, granular projects. These can include strategic planning, training, mentoring, and program development as well as recruitment of faculty, students, staff, and postdocs.

One increasingly important aspect of D&I is its emphasis on data and social science. “We need the data and social science and education research to underscore the evidence basis for a program,” says Tull.

Best adds: “It is very important to keep diversity management as unemotional as possible. You can be highly motivated to change things, but make sure your ideas are always based on rational arguments, real numbers, and real data.”

D&I professionals collaborate with sociologists and psychologists to obtain and mine vital data, and some look to get their own credentials in this space. While working, Lambert returned to school for a Master’s in clinical epidemiology and learned how to do social science research. This eventually enabled him to add a faculty position to his resume.

“The lens that I have as a scientist is that it’s really important to share what we learn with each other, so we can attack this issue from a strategic place and one that is based in data,” says Frierson.

“Meaningful” and “fun”

When it comes to addressing humanity’s grand challenges, science and engineering depends on everyone getting a seat and a voice at the table. D&I professionals have their work cut out for them, and the job market for STEM professionals who wish to transition into D&I is favorable. It is also a very enjoyable career path for those who select it.

Hilde Janssens, good practice officer at the Institute of Science and Technology Austria, near Vienna, calls her role “meaningful, never boring, and a creative job,” and she appreciates how multifaceted the topic of diversity is.

And D’Anne Duncan, director of diversity and learner success at the Graduate Division of the University of California San Francisco, says, “This path is fun. We want institutions to leave the door open to individuals who are not faculty members, but have the scientific training and expertise to push the field [of D&I] forward.”

Ultimately, pursuing a career path in D&I is a very personal choice. “I loved the science and working with animal models, but at the end of the day I felt like I was curing a mouse, and what I really liked was helping people,” says Michelle D. Jones-London, chief of the Office of Programs to Enhance Neuroscience Workforce Diversity (OPEN-WD), National Institute of Neurological Disorders and Stroke, U.S. National Institutes of Health, Bethesda, Maryland. “Being an African American woman in science, there’s a level of pressure—so many people were depending on me to stay in science, but I knew I owed it to myself to follow my own passion. In my job I’ve been able to see people participate in programs I had the honor of designing and implementing. I’m making a difference in people’s lives that I can actually measure—and for a job, that’s pretty awesome.”

Alaina G. Levine is a science writer, science careers consultant, professional speaker, and author of Networking for Nerds (Wiley, 2015).