Alicia Zhou, Ph.D.

Dr. Alicia Zhou is the Head of Research at Color Genomics, a Silicon Valley company that provides physician-ordered genetic testing at a low cost. She earned a bachelor’s degree in biology from the Massachusetts Institute of Technology (MIT) and a Ph.D. in biological and biomedical sciences from Harvard University. Dr. Zhou worked as a research technician at MIT’s Whitehead Institute in the lab of Robert Weinberg, Ph.D.; carried out graduate work at the Dana-Farber Cancer Institute and at the Broad Institute of MIT and Harvard in the lab of William Hahn, M.D., Ph.D.; and completed postdoctoral work at the University of California, San Francisco. Her postdoctoral advisors were Andrei Goga, M.D., Ph.D., and Nobel Prize winner J. Michael Bishop, M.D.

What do you enjoy about being a scientist?

I love being a scientist. I knew I wanted to be a scientist since I was very young. When I was in high school, I loved my biology class and became curious about what it would be like to do research at the bench. I took a chance and applied to be a research intern in an academic research lab while I was still in high school. I was very lucky to be able to work in the lab of Geoffrey Greene, Ph.D., a professor at the University of Chicago who was doing breast cancer research. During the two years I spent in his lab, I learned a lot of the basics of molecular biology. It was in his lab that I validated for myself that I wanted to be a Ph.D. scientist.

How do you manage work/life integration? Do you have tips for young scientists about this?

MIT is highly competitive, and I saw many fellow freshmen flounder in that environment. I did well at MIT and was fortunate to graduate with a 5.0 GPA. When people ask me how I did this, I reply that I couldn’t have done it without joining the Taekwondo team at MIT. I started Taekwondo as a beginner during my freshman year at MIT. Over the course of four years, I got my black belt through the MIT Sport Taekwondo Club under the mentorship of Master Dan Chuang. I continued competing after I graduated and eventually became part of the U.S. Collegiate Taekwondo team for two years. My experience in Taekwondo is what grounded me in my academic life. I think that in order to navigate an academically competitive environment, it’s important to ground yourself in something that you’re passionate about. That something may be intellectual, such as reading books or playing chess, or something physical. Taekwondo anchored me, and I continue to practice to this day. So, the one piece of advice I would give to young scientists is to pick something that anchors you in your life and commit to it. It will help you excel in all the other aspects of your life.

How has mentorship (either as a mentor or mentee) shaped your career?

I’ve been blessed to have great mentors. It started with Dr. Greene. He saw the potential in me and was willing to take a chance on a 14-year-old to do lab work. Dr. Greene was very nurturing and supportive and really ignited my curiosity for science and research. In addition, my undergraduate mentor, Dr. Robert Weinberg, truly taught me to think like a scientist. He was an amazing role model and an excellent mentor. Even though he is one of the most important cancer researchers in the field, he still made time for trainees in his lab, which is one of the reasons he is a great mentor.

Has the trajectory of your career changed over time?

Yes, it has. Both of my parents are academics, and for my entire life I was pretty sure I would also be an academic. I grew up around university campuses my whole life. When I was a kid, I used to go to my mom’s office after school and hang out in the university library to do my homework. I followed the typical academic path of getting my Ph.D., completing my thesis, getting fellowships, and doing postdoc work. It was a surprise to everyone, even me, when I left academia to join Color Genomics. It turned out to be the best career decision I’ve ever made. I felt that what I was doing in the academic lab was decades away from implementation in the clinic and wanted a more practical way to help people. At Color, people call in and let us know how the tests we’ve developed have changed their lives. Being able to effect change much closer to the bedside drove my decision to move to the private sector.

What other female scientists do you admire and why?

When I was at MIT, I took a class with Hazel Sive, Ph.D., who is a professor there and a member of the Whitehead Institute. She teaches undergraduate developmental biology. I loved learning from her. She is an incredible teacher and also ran a high-impact, big lab at the Whitehead Institute, while still being an awesome spouse and parent. She was a strong female figure and inspired me to become a female scientist. She showed me that women in science could really have it all.

What are some of the challenges of being a female scientist?

The biggest challenge is that there aren’t a lot of female role models. There are more women as undergraduate and graduate students in biology than men, but there are more male faculty members than women. As a young woman in training, it’s challenging to look up into the highest echelons of academia and see so many men but not many women.

Do you have advice for young female scientists?

The one thing that I’ve learned is that believing in yourself and having strong convictions are incredibly important. It’s key to own who you are and know where your strengths lie. Also, raise your voice when you feel your opinion should be heard. If you feel your opinion is valuable, instead of shying away, step up and raise your voice.

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