A Conversation Between a Graduate Student and Her Mentor

Cancer Biology Graduate Interdisciplinary Program
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Samuel Campos is an associate professor in the Department of Immunobiology, Cancer Biology Graduate Interdisciplinary Program and the BIO5 Institute whose research focuses on the molecular mechanisms of HPV-host cell interactions. I chose to conduct my graduate research in the Campos Lab because I was not only interested in the science, but I had a strong feeling that Campos would be the ideal mentor to help me blossom into an independent scientist.

Over the past four years, Campos has proven to be an exceptional mentor who encourages me to "own" my project, present my research in a variety of formats and to a wide range of audiences, pursue activities outside of research that enhance my career development, and is someone who supports all aspects of my life.

While we routinely speak about viruses, the immune system and cancer, Campos and I had the opportunity to discuss his journey to an academic career and the mentors that guided him along the way. Further, he shared the most rewarding and challenging aspects of being a mentor, and the pieces of wisdom he hopes to impart on his students.

There are many career opportunities one can pursue with a Ph.D. in a science-related field. Why did you choose a career in academia? Did you always aspire to lead a lab, train students and teach courses at a large university?

I already loved science, but after having volunteered and worked in a lab for two years as an undergraduate, I found that I loved the laboratory and I loved doing actual science. I aspired to become a scientist and run a university research lab to train and teach students while in the process of making discoveries.

I selected you as my Ph.D. mentor because your passion for scientific discovery is infectious, you are physically present in or near the lab on a daily basis, provide sound career and life advice, and encourage me to become an independent, critical thinker. What qualities did you look for in a Ph.D. mentor?

Wow, thanks for the compliments! I chose my Ph.D. mentor for many of the same reasons. He was very passionate about science and extremely smart and creative in his approaches to doing science, asking the interesting questions and designing experiments to answer those questions. Although he was one of the smartest guys I've known, he was not at all arrogant and was easily approachable and open to questions from students. In fact, he welcomed and encouraged input from students and trainees. He had the right balance of "being present" yet was also hands off, allowing his trainees to develop into independent thinkers.
How did the mentoring style of your Ph.D. mentor differ from that of your post-doctoral mentor, and how have their styles influenced the way you mentor graduate students?

My relationship with my postdoc mentor was quite different from that of my Ph.D. mentor, in part because it’s just a different relationship. I was already trained as an independently thinking Ph.D. scientist, so my work was even more independent, and focused more on making scientific progress. I did, however, develop more skill in scientific writing and grantsmanship skills through writing papers and postdoctoral fellowship applications and proposals, as well as strengthen my speaking skills through presentations at scientific meetings. She also gave great career advice along the way.

What skills and characteristics do you hope your graduate students develop under your guidance by the time they graduate?

I hope my students learn how to think like a scientist: independently, critically and creatively. I also hope they develop some strong laboratory bench skills!

What is the most rewarding aspect of being a mentor to graduate and undergraduate students? What about the most challenging?

Seeing my students or trainees overcome obstacles to grow, develop, mature, succeed and advance brings great joy and pride. The most challenging aspect comes from the pressures to advance the science, publish and maintain funding to support the lab.

What is the most important piece of advice you received from either your Ph.D. or postdoc mentor?

Both would tell me to always be self-critical? that hypotheses are rarely ever proven, and looking at things from a different perspective or asking different questions may lead to new, unanticipated discoveries.

What advice would you like to share with young scientists?

Question how things work. Be bold and creative in your approaches to answer questions.

Brittany Forte is a fourth-year graduate student in the Cancer Biology Graduate Interdisciplinary Program at the UA Cancer Center. Her dissertation focuses on the evasion and antagonism of the innate immune system by HPV and the impact of such activity on the viral life cycle. She completed two Bachelor of Science degrees at the UA in 2015: one in biochemistry and the other in molecular and cellular biology.

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