



Guest Editorial—“The Lure of the Lab”

Scott Fisher, Director of the Pine Mountain Observatory, Astronomy Lecturer,
and Director of Undergraduate Studies, Physics Department

My undergraduate research experiences completely changed my life and career trajectory! I credit my early research work to leading me to become a Staff Scientist at the Gemini Observatory in Hawaii, build camera systems used on the largest telescopes in the world, and share my expertise and love of astronomy with students at the UO Pine Mountain Observatory.

As an undergraduate at a large state school, my first exposure to any organized research was through a work-study program. Although I was totally inexperienced and in my program’s first year, I applied for every science related job I saw. I was so hungry to get involved and committed myself to doing whatever job I got. My first job was a humble one—washing beakers and mixing up epoxy in a chemistry lab. Not too much to do with physics, but I WAS IN A LAB!

I had no idea what I was doing when I applied to those jobs—but I had drive, desire, and enthusiasm. These qualities got my foot into the door of that lab and they carry me now as a mid-career scientist and educator. My advice to students is to be bold and proactive! None of us know what we are doing at first—you just need to get involved and move forward.

That work-study program led to a second experience working in a physics lab where I helped construct a refrigerator that cooled a sample of metal down to just a few milli-degrees from absolute zero (-460 F). After this unpaid internship, I knew I wanted to work with machines that enable cutting-edge science research.

After my first astronomy class, I was hooked on studying the universe with those machines. In my Physics of Astrophotography class, I realized that I could not only build instruments, but also use them to do my own research! That was my first step to becoming an astronomer. After that epiphany, I approached every astronomy professor on campus asking if there were any projects I could take on. Luckily—and I realize that I was lucky to find this opportunity—the director of Rosemary Hill Observatory (operated by University of Florida) gave me my first project at a telescope facility.

As I reflect on my career path, I can see how these straightforward ideas—being proactive, being engaged, being a respectful collaborator—have helped me become the scientist I am today. I do my best to share the same lessons with the students I mentor at the observatory and in physics.

My first undergraduate research job cemented my love for the laboratory environment that has propelled me through my scientific career in astronomy. So, I urge you to get involved with research in your major early and often. The research experiences you have now as an undergraduate will likely be the ones that form the foundations of your career.