A Day in the Life of …

Alex Adami

Age: 27
Timeline: GS3 (5th year MD/PhD student)
Research Interest: Immunology/Microbiology

Academic and Clinical Background:

I had something of an unconventional undergraduate career, one that took me across three states and three universities. I began as a biology major at the University of Connecticut (UConn) in Storrs, CT. I enjoyed my biology classes and had taken just about all the courses required for a degree by the end of my sophomore year. However, I have been a lifelong technology-addict, and I decided I wanted to try and incorporate technology into my biology. UConn, unless I wanted to study pure computer science, did not have what I was looking for, so I ended up transferring to Rensselaer Polytechnic Institute (RPI) where I ultimately graduated with a degree in Information Technology and Web Science (ITWS), concentration Medicine. In hindsight, the blending of biology and technology education and big school and small school experiences from UConn and RPI has been a real asset as I have advanced in my training.

My introduction to research began just before I made the move to RPI, as I spent the summer after my sophomore year at the University of Illinois at Chicago (UIC) working full-time in an oral pathology and cancer laboratory. My project focused on smokeless tobacco induction of oral cancer and introduced me to working with laboratory animals, histology and pathology, and the reality of how research is conducted, both the good and the bad (such as when my eyes were close to rebelling and leaping out of my head after counting tens of thousands of fluorescence-positive cells on stained slides). I also had the chance to work on an early clinical study of oral cancer in human subjects, which was fascinating and enlightening with respect to the promises and challenges inherent in clinical research. I ended up returning to UIC between my junior and senior years to work on the same projects.

At RPI, my second research experience took place in my senior year. The ITWS program includes a capstone project for all seniors, and I chose to study clinical decision support at the Albany, NY Veterans Affairs hospital. I learned quite a bit about electronic health records and the challenges inherent in trying to improve them. However, more important to me than that was the experience of performing research in a very different field than wet lab biology. Based on my experiences, I would encourage anyone seeking a physician-scientist career to consider doing two things. First, take on a serious project that you can devote yourself to full-time (or part time, if the experience will last for at least a year or two) so you can decide if this career path is really for you. Second, try to find a project in a different field, be it computation, wet lab biology, social sciences and humanities, or clinical research. This second experience need not be as substantial as the first, but I do think it will

open your eyes to how research is done more broadly, and some of the insights and ideas you acquire there will help you think about your research project when you enter medical school.

Personal and Professional Development:

After my undergraduate research experiences, I knew that pursing an MD or a PhD alone would not satisfy me, so I sought out MD/PhD training and ended up back where I started, at UConn. Unlike many of my peers, I was not attached to a particular specialty, so I sought out a department that had broad application to medical science, settling in the Department of Immunology. Essentially every ailment you can imagine has an immunological component, and the basic concepts I acquire as a PhD student will serve me well when I have to contemplate human diseases. Having dual interests in technology and biology, I sought out a PhD project that would combine the two, and this led me to the study of the microbiome, or the community of microorganisms that dwell in and on our bodies, and allergic asthma. My project has allowed me to hone wet lab biology skills while challenging me to master many new computational techniques as I have tackled the mysteries of the microbiome.

Outside of the lab, I keep myself busy (perhaps too busy) trying to contribute to as many initiatives as I could. I was not a big leader as an undergraduate, and I wanted to challenge myself to be a leader before I graduated. I started out as Treasurer of the combined Medical/Dental Student Government at UConn and joined APSA as an Institutional Representative around the same time. I have sought out positions within APSA that would challenge me and leverage my technology skills to support APSA initiatives, leading me to Vice-Chairmanship of the Public Relations committee and later Chairmanship of the Technology committee. My experiences in student government and in APSA have been challenging and rewarding, and I would strongly encourage all of you to contribute to your school or your favorite association during your time in medical school or prior. You may find that you can make a greater difference in a group, or that you gain unique perspectives from the other people you volunteer with.

If I had one overall lesson to impart, it would be to seek out different experiences, particularly in areas you are not comfortable in. Challenge yourself. If you never try to do something that makes you feel a little uncertain or a little uncomfortable, you will never know if you like it or not, and you will never be able to grow from it. The best experiences are those that make you work, even (especially!) if they are difficult.

Typical work day

A typical day does not exist for me. I usually am up by 6 AM and get to lab soon thereafter, but when I end my day varies widely. Sometimes, I am done by mid-afternoon, but many other times I am working until 11 PM, midnight, or early the next day. On certain experiment days, I may start working at 2 or 3 AM and keep going until midnight. I do not work well at home, so I spend most of my time in the lab. I am fortunate in that my mentor does not require me to be in the lab if I do not need to, so if I have something else to do and am not busy, I can leave. I work on the weekends as well, but I have the freedom to take it off if I do not have pressing work to do. One of the best things about a PhD, at least with the right mentor, is the flexibility to work when you need to and take a break when you don't.

Hours spent in an average week

(Note: excludes sleep)
Personal time: 7-21, depending on how busy the week is.
Class Work: 1-2 hours, mostly attending Journal Club, which is a class at UConn.
Lab Work: 70-112 hours, depending on how busy lab is.
Clinical Work: 4 hours. I spend one morning a week in a clinic seeing patients. This helps keep me connected to the "medicine" side of my MD/PhD, and prevents my clinical skills from atrophying too much.