**Career Perspectives from an Academic Immunotoxicologist** (Interview conducted July 16, 2014)

B. Paige Lawrence is a professor in the departments of Environmental Medicine and Microbiology and Immunology at the University of Rochester Medical Center (URMC) in Rochester, NY. She graduated from Skidmore College with a double major in biology and chemistry and earned her PhD in Biochemistry and Molecular Cell Biology from Cornell University. Since 2011, she has been the director for the graduate program in toxicology at URMC. Her lab studies the long-term health effects of environmental exposures on the development and function of the immune system. Her lab website can be found at: [http://www.urmc.rochester.edu/labs/lawrence-lab/](http://www.urmc.rochester.edu/labs/lawrence-lab/).

**EW:** Toxicology is rarely a major at undergraduate institutions, and there are relatively few graduate programs in toxicology compared to other basic sciences. What made you choose to make the transition from biochemistry to immunotoxicology and what is your perspective on effective methods to increase awareness about toxicology among young scientists?

**BPL:** As an undergraduate, and for most of the time I was in graduate school, I was definitely not aware of toxicology as a field. My PhD research focused on fundamental cell biology and biochemistry. My minor for the doctorate was immunology. As the field of immunology was blossoming, I found it very exciting and knew that as my career moved forward, I would focus on the immune system. Yet, as I was finishing my PhD, I realized that I wanted to ask questions that were directly applied to a specific problem related to public and environmental health. This caused me to gravitate toward the field of toxicology, but even as I was gravitating, I didn’t label my interests as toxicology. I still hadn’t even heard that word!

I remember an “a ha moment” while I was reading and pondering postdoc options. An article that particularly piqued my interest was about the aryl hydrocarbon receptor (AhR), a receptor without a known endogenous ligand, but which binds many chemicals from our environment. So for me, it was initially this idea of orphan receptors interacting with environmental agents that hooked me into toxicology. For my postdoc, I looked specifically for labs studying the AhR and immune function. I identified Nancy Kerkvliet’s lab through reading the literature, and I reached out to her. It worked out wonderfully. She is a truly outstanding scientist and mentor.

As for ways to expose more young scientists to toxicology: I think the SOT is doing a great job with initiatives to reach out to undergraduates. Awareness of toxicology among young scientists will increase further if toxicologists pursue teaching and research careers at undergraduate institutions.

**EW:** What advice would you give to toxicologists aspiring to establish careers in academia?

**BPL:** My advice probably isn’t particularly dependent on a career in academia versus careers in other sectors: do the best job you can do, work hard, persevere, and seek out role models and mentors. It sounds simple, but it really is the key to success.

But to answer your question more specifically: if you want to be a toxicologist in academia, don’t expect that you are going to end up in a Department of Toxicology. There are few departments labeled this way; however, there are many academic toxicologists in departments of biology, biochemistry, pharmacology, medicine etc. who have successful and rewarding careers.

Since you asked if I have any advice, I’ll take the opportunity to try to dispel the common myth that choosing an academic career is selecting a career that is inherently more stressful than another career path. If you want to excel, then any job you take is going to be stressful. The stresses might be different for different career paths, but it’s still stressful. Therefore, success and job satisfaction are all about figuring out what type of stress you personally can deal with best and selecting the career that meshes with your aspirations, personality, and talents. Having said that, I feel privileged to have a job that I love. Anyone who gets a higher degree has worked extremely hard to obtain specialized knowledge and training. You should be able to find a job that you are passionate about. This does not mean you will be passionate about every aspect of what you do every day; that would be a bit naïve. It’s key to take the long view of what it takes to achieve your goals, and likewise to have a big picture view of any job you take. But, if you are not satisfied with the career path you are on, then you should redirect your energy and expertise to a job you really like doing. It’s a cliché, but life is too short to do a job you don’t enjoy.

**EW:** You have been both locally and nationally recognized as an outstanding mentor to scientists at multiple levels in their careers. Was it a conscious choice to prioritize mentoring?

**BPL:** It’s hard to come up with the right words to express how much it means to have students and postdocs tell me I’ve been a good mentor. Mentoring wasn’t a conscious choice for me. It’s something I simply enjoy doing. I also think it comes down to role models. I’ve been very fortunate to have great mentors at all stages of my career. My guess is that for them, being a good mentor wasn’t a conscious choice either.

**EW:** Do you have any tips for how to effectively reach outside one’s immediate network and build foundations for lasting mentoring relationships?

**BPL:** First, don’t expect mentoring to just happen. You need to take the lead in finding mentors and establishing relationships. Networking is very important, as is asking for advice and critical feedback from people you respect.
Second, don’t be afraid to reach out to people. Sometimes, this takes guts, and it’s important to find the appropriate context to reach beyond your immediate network to build new relationships. While that may sound a bit daunting, remember that most people are kind and want to be helpful.

EW: Is there anything in particular that you’d like to share with the WIT membership about how you navigated and continue to navigate your career?
BPL: I often get asked to comment on “work life balance.” My response is perhaps a bit counter to the messaging that is inherent in that phrase. I don’t believe there is such a thing. What I mean is that this phrase, and the dialog that often accompanies it, seems to foster this belief that if you’re navigating your career successfully, then you’ve achieved harmonious balance between having a career and your private life—and implicit in this phrase is having a family.

Let me be very clear: I firmly believe that you can have it all. But in order to have it all, you have to make a lot of compromises. You don’t have to choose parenthood, or whatever you want to have in your private life, versus a successful and rewarding career. You can definitely have both. However, sometimes you’ll have to miss something at work and at other times work will take precedence. Therefore, instead of “work life balance,” I think it’s perhaps more realistic to view it as “strategic work-life compromises.” Continuing to promulgate the idea that there is an achievable, harmonious balance causes people, maybe women in particular, to think that they must be doing something wrong or that they are failing because they haven’t achieved that perfect balance.

If you are living life to its fullest—and I hope you are—then there will be stressful aspects, and you will often feel a bit out of kilter. Maybe in a holistic, 365 day birds-eye-view of the year, there’s balance of time spent in and out of work and professional activities. But on a daily, weekly, or even monthly basis, it’s not going to feel like balance—and that’s okay. So, as you navigate your career, I would encourage young scientists, both women and men, not to think that they are failures for not being able to find a state of balance. Having a rewarding career and an engaging life outside of work is something that you can and should have, but having it all requires compromises and flexibility in all aspects of your life.

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