Western Faculty Profile: Dr. Brad Urquhart

Anastasiya Vinokurtseva¹

¹ Faculty of Schulich, Western University, London, Canada

No conflicts of interest declared

Dr. Urquhart, please tell us about yourself and your career path?

I did my undergrad starting just in Science at Western. At first, I didn't really know what I wanted to do; I came to university thinking I was just going to do a four-year general science degree. It wasn't until I took a 3rd year Pharmacology course, that I really started to see that I was really interested in Pharmacology and Toxicology. It was really the exposure in that class. Back in those days, Pharm3620 was at 8 o'clock in the morning, very rough; but I didn't miss one class, I loved it, it was great.

The summer after third year, I was fortunate enough to get a research position in a Clinical Pharmacology lab. Initially, I had no intentions of doing grad school, probably because I didn't know what it was and what it entailed. I liked Pharmacology, but before getting the exposure to research, I thought that I would probably go work for a company or for the government, I didn't really see myself in university academic research. I think it is the opportunity to help people that first got me into research. Even if you are doing a very basic science project, your goal is always helping people. It was the early experiences of this opportunity to do something that nobody knows the answer to. There are challenges to research, but there are a lot of rewards, too. For me, the rewards outweigh the challenges.

After getting that first exposure, I liked research, so I ended up doing a PhD in that lab. At that time, the lab was interested in homocysteine, which is a non-essential amino acid. It was shown that people that had high levels of homocysteine were at an elevated risk for cardiovascular disease, and patients with kidney disease in particular had really high levels. We were looking at novel ways to lower levels of this molecule in kidney disease patients. So that's what really opened my eyes to the kidney disease world of patients. I found that patients were very engaged in their own care, and it was great. When you approached them and talked to them about the research you were doing, they knew a lot about their own disease, they knew that they were at a high risk of dying of heart attacks and wanted to help out with the study.

When we did some studies looking at lowering levels of homocysteine, we found that our approach worked in the short-term, but not so well in the long-term. This is a part of science: you get really excited, something worked great, and then using it at reasonable doses over a long-term didn't work out so great. But that was still a great time of my life. I think it was during my PhD, when I was a teaching assistant for undergrad classes, that I thought to myself "I think I like this and could do this for a career". I liked teaching, I liked research, and in my eyes, that's what a University professor does: teaching and research. I like that I can decide what research I want to do, there is nobody telling me what I have to do. I can look at what's current, look at unmet needs and try to fill them.

As I started to think about that career and looking into it, I found out that in order to get a job, you have to do a postdoc after a PhD. I always go to the yearly Canadian Society of Pharmacology and Therapeutics meetings. I was presenting there as a grad student one year and through my supervisor met a fellow from Vanderbilt University in Nashville who ran a really great research operation. He saw my talk, spoke with my supervisor and they both thought that I'd be a good fit to do a postdoc there. I kind of lucked into a postdoc: I wasn't actively looking at the time because I was still about a year and a half – two years away from graduating, but I was fortunate enough to already have that postdoc lined up. Here is where my career path gets non-traditional, I guess. Usually, you are supposed to do your postdoc somewhere else, in a different location than where you did your PhD. Accordingly, I was going to Vanderbilt, but when I got there, I found out that my supervisor was moving, of all places in the world, to London, Ontario, Canada, back to Western. So, I spent a short amount of time in Vanderbilt and ended up coming up here, finishing my postdoc at Western. It was at that time that I was asked by the Department of Physiology and Pharmacology if I could help teach Pharmacology 2060, an online course. I did that for a few years, and eventually got a faculty position.

What are some of your hobbies and interests?

The first one is my family. My life has changed a lot over the last three years. Having two young kids, I don't do as much as I used to, but I love playing with my kids. I'm also a big sports fan. Hockey is probably my favorite sport, I love hockey: I play hockey, I watch hockey... My favorite team is Maple Leafs, I've been a diehard fan forever. My father made me a Maple Leafs fan, because he was a Maple Leafs fan himself, and I'm probably doing the same thing to my son now. A lot of my friends outside of work are friends I've made through hockey.

What is the most difficult part of your job at Western? What is the best part?

Most difficult, for sure is getting grant funding for doing the work that we have to do and want to do. It's difficult but not impossible: when you look around at our department and faculty, in Schulich, I think we do really well. You have to write a lot of proposals in order to get money; I'd rather do the work than write the proposals about the work, I think everybody would share that. But I think we sometimes give students the perception that it's impossible to get funding and we are more negative about it than we should be.

The best part is, bar none, sharing in student success. I have graduate and undergraduate students working here, and I get to see their success. I have a job now, I'm where I want to be; I have, in my opinion, the greatest job ever, and the best part of it is seeing the success of people getting to where they want to be, whatever that may be. I had a PhD student who is now doing a postdoc in a really big great lab in the US; a competitive lab to get into, and that's what he wanted to do, and I was really happy to share in that success. I've had 2 students that I've met early on in their undergrad programs that wanted to do MD/PhD program, which is a really competitive program and I'm really happy to see them both in the program, it's amazing! You know, whatever it is, whether it is going to medical school, whether it's going somewhere else to do grad school, whether it's getting a job in the industry... sharing the success with students – that's the best part.

In your opinion, what qualities would make one an excellent researcher?

You got to be curious. You have to be bright, but I think the students are bright enough, every one of them is bright enough to do research. You have to be curious and resilient. You have to be willing to try things and have them not work, and then be able to troubleshoot. Don't give up when something doesn't work out the first time, look at it as a learning experience and try to change something to try it again. Some people are not cut out for it, they can't accept that failure part of it. But it definitely develops, I don't think it's something you are born with. It is a progression in learning how to approach a problem. Research teaches you how to approach problems really well because that's what you are trying to do – solve a problem.

What would be your advice for students interested in a career in research?

Try to get started as early as you can. Try to get involved where you can have a tangible output in research, like a paper or a conference presentation, even if you are not a lead author. I think it helps you in the future more than you probably appreciate when you are really young. Those things go on your CV and go a long way if you apply for grad school or scholarships. In terms of finding your niche, you have to follow your passion. You are sitting through classes, and you are taking Biochemistry, Genetics, Cell Biology, Physiology, Pharmacology... You have to find what really interests you. For me, it was really Pharmacology that interested me; I kind of lucked into that first research position, but it's where I would have headed anyways – I was going to do a 4th year Honors research project in Pharmacology, I was just lucky enough to get in a little bit early, so it was much easier. Just like your classes: it's much easier to do well in classes that you like, because it's easier to be engaged.

To learn more on Dr. Urquhart's lab and research, please visit his website:

http://www.schulich.uwo.ca/physpharm/people/bios/faculty/urquhart_brad.html