Western Faculty Profile: Dr. David Litchfield

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No conflicts of interest declared.

Background

While completing his undergraduate degree at McMaster University, Dr. Litchfield gained his first experiences into the world of research after his third year of undergraduate studies. Fascinated by the intellectual aspects of research and the prospect of answering unknown questions, he completed his thesis in his Honours Specialization before coming to Western University as a graduate student under the supervision of Dr. Eric Ball, becoming the first successful Ph.D. candidate in Dr. Ball's lab. He later completed a postdoctoral training at the University of Washington in the lab of Dr. Edwin Krebs, who was known for the discovery and characterization of the first protein kinase and a major figure in the field of signal transduction.

Dr. Litchfield described this training opportunity as a "tremendous experience". During his postdoctoral position, Dr. Litchfield greatly appreciated the international origins of many of the members of the Krebs lab and noted the common bond shared by many of the members of the lab in coming together to pursue a similar goal. Finding passion in

his field of work, Dr. Litchfield returned to Canada to continue his research career at the Manitoba Institute of Cell Biology. He found the environment particularly stimulating as many specialized clinicians and scientists came together to pursue new ways of cancer diagnosis and treatment, an underlying theme still motivating his work today. After being away from Western for nearly a decade, he eventually returned to the same academic department at Western where he completed his doctoral training to take up a faculty position, enjoying the environment and collegiality greatly. Commenting on his choice of location as London, Dr. Litchfield casually replies: "Working in Winnipeg, I enjoyed and respected my colleagues and I wasn't really looking to leave ... but one of the attractive features of Western, from personal experience, was that I knew it was a collegial environment. I knew that I would be working with contemporaries, colleagues at similar stages of their career ... When I contrast London with some of the other larger centers, Montreal, Seattle, I would like to think the less complicated life offered by London offers us more time to channel into our intellectual pursuits."

Dr. Litchfield's laboratory currently investigates signaling in cell growth, proliferation, and survival. Detailing his research focus, he explains: "In a number of different forms of cancer, there is some sort of perturbation in the transmission of regulatory signals or interpretation of these regulatory signals ... Our real motivation is to understand the underlying basis of cancer to instruct better strategies for the diagnosis and treatment of cancer." Dr. Litchfield further elaborates the applications of his laboratory's research with the new excitement of discoveries in his field: "One of the things I find really exciting has been the emergence of precision cancer medicine. That's a strategy where identification of the precise underlying molecular defect in a specific cancer instructs the treatment so that therapeutic intervention is directly targeted to the mechanism responsible for the cancer."

Speaking to the challenges of research, Dr. Litchfield cited the excitement of discovery and the challenges of keeping his research focused and relevant when there is a natural tendency to continually pursue new questions revealed by the work done in his laboratory. "When motivated by discovery ... one of the challenges I face is to ensure that we're actually doing research that has a purpose. A risk of being driven by only curiosity is that there is a risk of being driven in too many directions." To this effect, Dr. Litchfield elaborates on how the process of applying for research grants keep his lab focused on relevant and important problems: "Applying for funding is an ongoing challenge, but on the other hand, it is an opportunity to reflect on the progress we made and outline a course for our future experimentation that takes advantage of new knowledge and experimental approaches."

Among the most rewarding aspects of his career, Dr. Litchfield mentions important contributions of knowledge that have been made by his lab. However, he notes that at the current stage of his career, the trainees that enter his lab gives his role the greatest reward: "I'd like to think I had some role in inspiring them." Dr. Litchfield describes his

lab as a place for the trainees "to work, and to explore and to be creative while advancing knowledge." Speaking further, he says "it is tremendously rewarding when they get inspired by something."

When advising undergraduates considering research, Dr. Litchfield suggests getting involved in topics that interest each individual student the most. Based on his own career and experience, he reflects: "In a lot of respects, by having a job aligned with my interests, research doesn't feel onerous and continues to be stimulating and rewarding. If you're excited by your research, you're going to be motivated to do it, and if you're motivated to do it, you'll be more likely to succeed."