

Focus on Faculty #76

Jerry Pelletier



I was born in Saint-Jean-sur-Richelieu and grew up as an army brat. Although uprooting and moving every couple of years was difficult as a child, I was exposed to cultures, environments, and diversity that most never experience. I recall that from a very early age, I had a deep interest in nature, biology, and space exploration, and these curiosities were fostered by both of my parents. If there was a certain subject that I became interested in, I could be sure that a book on this same topic would end up in the house. My interest in both biology and chemistry lead me to pursue my BSc in Biochemistry at McGill University. After graduation, I was fortunate to be accepted into the Biochemistry PhD program at McGill and began my studies under the guidance of a new investigator who had just started his lab, Nahum Sonenberg. The impact of Nahum's leadership, expertise, wisdom, passion, and above all patience, was transformative and lessons learnt then are still with me to this day. This is where I learned molecular biology, the intricacies of translational control, and the power of studying these events in viruses. I then undertook my post-doctoral training at MIT in the Cancer Center, in the lab of David Housman. I was actually due to start in another PI's lab, but was introduced to David by a good friend of mine, Philippe Gros, who had done his postdoctoral studies with David (where he had cloned the multi-drug transporter, Pgp-1). Philippe had glowing reviews of David's lab and as fate would have it, changed my starting lab. With David, I was immersed in hard-core genetics. David had a disarming personality, a real knack for seeing the real issue at hand above all the "noise", and understood genetics better than anyone at that time. During my time there, I worked on Wilms' tumor, characterizing the WT1 tumor suppressor gene – the second example then of a tumor suppressor gene (RB1 being the first) to be found through a combination of somatic cell genetic and positional cloning techniques.

I returned to McGill three years later, appreciative that I could come back to my favorite city. The beginnings of my lab were among the more difficult years in my career as I became aware that I needed, as a Principal Investigator, to do more than worry about my own experiments. Balancing mentoring, teaching, training, and my own experiments were tasks that no one is

really ready to undertake coming out of a post-doctoral position. Nonetheless the quality of the McGill Biochemistry students made it that much easier and I was fortunate to start my lab with very motivated individuals, who today are quite successful in their own right with many having their own mature research programs. I was also joined early on by Michel Tremblay who was kind enough to share his lab with me and his infectious enthusiasm during those early days made starting up that much easier. It is also around this time that, based on only an idea from the book entitled “Microbe Hunters” that I had read, Philippe Gros, Michael Dubow, and myself founded Phagotech (later renamed Targanta Therapeutics) – a biotech company that leveraged phage genomics into anti-bacterial therapeutics. We are grateful to David Housman and Lou Siminovitch for their support during this ~15 year endeavor. Targanta employed over 30 very talented people whose enthusiasm and hard work ultimately contributed to the development of the FDA approved drug, oritavancin.

In the early 2000s, I jumped at the opportunity to incorporate more chemistry into my research program through David Thomas’ newly initiated chemical biology initiative. My research benefited from David’s support in this new endeavor and we were able to chemically dissect certain steps of translation initiation with some amazing natural products that my students/postdoctoral fellows identified and characterized. My current students are very dedicated at moving these compounds into research areas that could not initially have been anticipated and these are quite exciting times. I am also quite enthusiastic about recent developments in mRNA Therapeutics. I foresee in the next 5-10 years immersing part of my research program into this area and look forward to employing this technology to better understand and manipulate gene expression programs.

My family has been an important part of all steps of my journey, and to them I am eternally grateful. Outside the work environment, I have trained in Kyokushin¹ for over ten years and recently have been fortunate to have been joined in this endeavor by Sid Huang, a friend and colleague, who has taught me to be wary of spinning back kicks. Kyokushin and academia are not so different – both require extreme dedication, the ability to continuously overcome setbacks, and achievement is attained from consistent daily input. I am a dog lover. I also collect stamps focussing on natural habitat and species conservation – two issues that very much concern me these days. I am comfortable to canoe-camp into remote areas where the population density is lower than it is on the streets of Montreal during imposed COVID-19 curfew.

¹ N.B. Check the Wikipedia entry on this full-contact martial art derived from Karate: <https://en.wikipedia.org/wiki/Kyokushin>