Western Faculty Profile: Dr. Cam Tsujita

Kathleen Qu¹

¹*Schulich School of Medicine & Dentistry,
Western University*

No conflicts of interest declared.

Abstract

Dr. Cameron Tsujita is an Assistant Professor in the Department of Earth Sciences at Western University. He completed his BSc at Western and his PhD at McMaster University and now teaches several undergraduate Earth Sciences courses while doing research and outreach, as well as supervising graduate students. He was named one of the 2014 3M National Teaching Fellows and is held in high esteem by his students and colleagues. Kathleen Qu, a member of the Academic Affairs Committee for WURJHNS, interviewed Dr. Tsujita to learn more about his career path and relay his advice for students who wish to pursue research.

Describe your post-secondary educational journey.

After high school, I decided to pursue an undergraduate degree in the sciences, specifically geology. My teachers and guidance counsellors actually found this to be quite odd as they did not perceive me as a strong science student, rather someone more suited for the arts. What they did not know was that I had had my sights set on paleontology for most of my life. As such, I figured that I could do a geology

program and eventually specialize in paleontology and found myself at the University of Western Ontario. Western was a strong school in geology and I later learned that it was well known for economic geology, with researchers well established in the field. I wrote my undergraduate thesis on trilobites—a fossil group of marine arthropods—and subsequently decided that I wanted to a new challenge for my graduate studies. My fascination in cretaceous ammonites led me to my supervisor at McMaster University. He was a world renowned researcher who greatly valued my creative mind and enthusiasm and the respect we had for each other made my experience very fulfilling.

What sparked your interest in paleontology?

I grew up in Alberta, a fossil goldmine, and a few life events in my childhood definitely sparked my interest in geology. One event I remember well is of a family friend who had dug a well in her farm and found a trilobite in a piece of shale—I was about four years old at the time. When she showed it to me, I was immediately awestruck by its beauty and air of creepiness and I had many questions about how it lived, what it looked like when it was alive, and so

on. I soon fancied collecting shells and an interest in marine biology was born. Paleontology seemed like a good marriage of these two fields. I would say that my consistent interest in fossils allowed me to realize at a young age that I would want to pursue paleontology as a career.

You mentioned before that the demand for paleontologists was low. How did this and other societal pressures influence your career path?

I followed an unconventional career path compared to other faculty members, who are more research intensive. After completing my doctorate, I applied but failed to get a research position at Western. However, I was moving to London anyway and decided to cold-call the chair of the Earth Sciences department, stating that I was available for outreach and teaching, even on a voluntary basis because of my enthusiasm for these activities. He happened to have a course that required an instructor and having been impressed with my teaching record from McMaster University, offered me the position. And so, the first course that I taught at Western was a fourth year course in petroleum geology. I also started an outreach program where I invited groups of school kids and members of the public to campus to raise the profile of the department. From there, I went on to teach more courses and this eventually led to me becoming a permanent fixture. All the while, I continued with my research and having the position of an instructor gave me the ability to apply for research grants. I would say that most faculty members come in based on their research experience but for me, it was on account of my teaching. Despite this, doing research was still important to me and had I not been able to get a position at Western, I would still be researching on an amateur level.

I think that marketing what I had to offer, in terms of creative thinking and genuine interest in teaching was key in finding employment in academia. I was able to form a career on my own terms,

finding a niche in which to effectively use my existing skills and to some extent, creating my own position, as opposed to fitting into existing positions.

What was one of the most memorable moments in your research career?

Throughout my researching experiences, I tended to lean towards alternative ways of approaching questions in paleontology—thinking outside the box. For example, I took on an unconventional interpretation of the genesis of storm-deposited beds of shells as a subproject for my doctorate thesis and presented my ideas at a conference that I knew a senior researcher with high stature would be attending. He was known to bring graduate students to tears with his difficult questions and critiques and I thought that I would be annihilated by what he had to say following my presentation. To my surprise, he stood up and said that he was seeing the exact same things inside the rocks he had been studying and that I had a really good point. It was then that I realized that scientists are not as narrow minded as I had once assumed and hearing that from him gave me the encouragement to continue with the approach that was natural to me.

What advice would you give to an undergraduate student interested in doing research in the earth sciences?

Get as much experience as possible and try to get a variety of experiences. Be diverse. Let your enthusiasm carry you and be persistent in the search for a niche that fits you. Follow your passion but keep an open mind in terms of what you may ultimately study. Volunteer work under a faculty member can also be extremely valuable to get that hands-on experience.

What makes a research assistant candidate stand out from others?

Initiative, self-motivation, enthusiasm, problem-solving abilities, and curiosity would be important traits. Those who are willing to take a challenge and expand their boundaries of knowledge stand out immediately. Also those who question established ideas always present a pleasant surprise when they propose a different or more efficient way of doing something! When going through applications, I can often see whether a person is simply applying for the sake of getting a position – these students are usually book-smart but lack in other areas. I like to look for students who will bring their personality into their work and who I think have strengths that are worth further developing.

What do you think is the future of Earth Science research?

Many of the big questions in science as a whole are based on Earth Sciences. Research in the Earth Sciences is and will be focused on climate change management and dynamics, resource and waste management, and exploration of life on other planets—we need to understand Earth before beginning to understand processes on other planets! As we move towards interdisciplinary sciences, the Earth Sciences provide context for the integration of many scientific disciplines—for example, paleontology shows us how life responded to climate change in the past and we can expect living systems today to respond in a similar way, from there we can analyze climate change from other scientific angles. The tools are also rapidly changing, with new technology and innovations available such as complex modelling with micro computed tomography for the next generation of Earth scientists. So, equipped with state of the art materials, Earth scientists will always be in demand as long as we have a need to tackle these really big questions!