

# Past Student Spotlight

## Dr Andrea Crampton (1990)



To start, how others might end (occupational habit perhaps, communicating the more relevant information before my students fall asleep ☺), life is easier, more fun, and much more rewarding when you can make choices. The capacity to make choices and explore the places outside the box of others' expectations requires not only education but, perhaps more importantly, an understanding of how you learn and apply those skills when you want to.

Having spent 9 years at the University of Queensland in Brisbane, some may say I overdid the education. However, I did graduate with a PhD in microbiology and parasitology (ticks, fleas, worms), and it gave me time to interact with a wide range of people. I focused on parasites because, unlike the big animals we read about going extinct every other week, the parasites, the "little guys", create new variants just after humans have spent millions of dollars trying to kill them. I like their attitude and wanted to know more; I also want to learn about molecular biology and DNA analysis to have a skill set I could apply beyond parasites.

After Brisbane, I found myself knee-deep in snow in Blacksburg, VA, USA as a postdoctoral researcher at Virginia Tech working on malaria in a lab partially funded by the U S Army. This was fun work involving dissecting mosquitoes analysing gene expression, and looking at how their immune systems responded to the malaria parasite (*Plasmodium* spp.). We found that the genes activated in mosquitoes were the same as some of those activated in humans when infected with the same parasite; therefore, despite the big differences between humans and mosquitoes, the first responses to the same single-cell organism are very similar. During this project, I got to travel to villages in Kenya, Africa, with U.S. Army researchers and suck, via a plastic tube, mosquitoes off the wall of mud huts and insect screens, much to the amusement of the village elders. We also got a private tour of a game reserve which meant being meters from a pride of lions, water buffalos and rhinoceros or which I momentarily forgot as I walked several metres to take photos of a lake of flamingos

Three years later, I returned to Australia to work as a research officer at Queensland University of Technology on a forensics project to identify genetic markers for human facial characteristics so it would be possible to predict what someone looked like from a sample of

their DNA. I next moved on to another parasite-focused position as a senior research officer at the University of New England, working on an Australian wool innovation project targeting sheep parasites. It was rewarding to apply scientific research to real-world scenarios in consultation with people whose families had worked the farms for many generations and taught me much. I'm not sure I miss directly extracting faecal matter from thousands of sheep or the nerves associated with handling rams worth more than my car. My next move was to Charles Sturt University in Wagga Wagga, which allowed me to be close to my grandmothers and apply various skills to different roles at the university.

The roles have varied from lab manager to an international award-winning lecturer of forensics, Sub Dean Learning and Teaching in two different faculties, Associate Head of School Biomedical Science and now a more low-key role of Senior Lecturer microbiology. I've enjoyed working with a wide range of people in these roles. In many ways, following the school motto, "Together We Achieve", has been an important part of ensuring I could enjoy the opportunities as I learned a lot from other people and focusing on a project rather than future promotions helped build rewarding networks and enhance job satisfaction.

Today, I teach microbiology, parasitology, research skills and science communication online and occasionally in lecture theatre or laboratory. I supervise honours, PhD and Masters students from around Australia and sometimes further afield. I have co-authored several publications (the first of which my grandmother put on the fridge next to my cousin's finger paintings), which can be found on Google scholar If you're having trouble sleeping.

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