For many seventeen year-olds, deciding on a career path is not easy. But it wasn’t a problem for Anna. Even in year 12 she was fascinated by the new technologies being developed for DNA analysis and how they could be used to help solve crimes. It was logical, therefore, for Anna to complete a Bachelor of Science degree at Murdoch University and to major in Molecular Biology. During her studies she acquired skills in DNA fingerprinting, biochemistry, microbiology and forensic science and after graduating, set sail for Sydney. Fortunately, the New South Wales Government had identified a need to expand the use of molecular forensic techniques in the fight against crime, and Anna was soon appointed to the Position of Forensic Biologist in the NSW Health Department.

In the High Volume Crime Section, Anna and her colleagues, who work in either the Forensic Biology laboratory or in the DNA laboratory, deal with everything from robberies to abductions. Extracting DNA from anything at the crime scene that may have been contaminated with blood, saliva or cells from the perpetrators, they then amplify and analyse it, so as to generate a DNA profile. “We compare the DNA we find at the scene with that of the suspects, analyse the information statistically to determine the likelihood of another person having the same profile, and then prepare a report for the police.”

Anna says she has tracked down DNA on all sorts of things - “from traces of blood found on a coffee table at a break and enter, to the trigger of a gun used in a drug raid. I’ve looked for DNA in saliva residues on a Coke bottle found at the scene of a robbery and I’ve extracted DNA from traces of saliva contaminating innumerable cigarette butts. I’ve even examined a tomahawk used in an assault.” Anna says she really enjoys the work because of the challenges the cases present. “Try finding which 3 cm section of a woollen balaclava contains the best saliva sample, when the offender has not even bothered to cut a mouth-hole!” Anna says that the casework in the Forensic Biology laboratory has tripled in the past year, requiring the appointment of eight new staff. This is due to new legislation aimed at establishing a national DNA database. “The plan is to enter into the computer the profiles of the DNA we find at crime scenes so we can compare them with recorded DNA profiles of known or suspected offenders.”

Anna chose Murdoch for her Molecular Biology degree because of its reputation for quality. “Science degrees from Murdoch are very well respected and I’m sure this was a big factor in my favour when I applied for the Position. Murdoch is very strong in research and I knew the University would be at the forefront of the technologies I needed. Not only is Murdoch student-friendly and staffed by lecturers who really know their stuff, but the courses are very hands-on.”
Keith completed a Bachelor of Science degree at Murdoch University with a major in Biological Sciences and a minor in Molecular Biology. To broaden his qualification still further, he then elected to undertake Honours in Veterinary Biology, specialising in pharmacology and parasitology. After graduating, Keith was soon employed as a Graduate Research Assistant by the Centre for Legumes in Mediterranean Agriculture (CLIMA) where he honed his molecular biological skills developing diagnostic procedures for the detection of plant viruses. With this experience under his belt, Keith was then appointed Graduate Research Assistant in the Division of Veterinary and Biomedical Sciences at Murdoch University. Funded by the multinational pharmaceutical company, SmithKline Beecham, Keith studied the parasitic organism Cryptosporidium. Infection with the parasite, which is usually the result of drinking contaminated water, causes diarrhoea and abdominal cramps, and is difficult to treat because antibiotics are largely ineffective. Keith studied the genetic characteristics of the organism and the capacity of dinitroaniline drugs to treat the infection. As a result of this work, Keith co-authored two papers on Cryptosporidium and published them in international journals.

Having gained valuable experience in molecular biology, molecular diagnostics and animal health as a result of his studies and his subsequent employment, Keith then joined MEDOS, a long established company which supplies scientific equipment and consumables to a range of medical, industrial, biotechnological and agricultural laboratories. Keith’s role in the Scientific Division of the Company centres around establishing a rapport with researchers, laboratory managers and quality assurance officers in many scientific organisations in Western Australia, assessing their needs and recommending relevant MEDOS products to them.

Keith said that he chose to study at Murdoch because of the high reputation of its Biological Sciences program and the attractiveness of the Murdoch Campus. “There is a lot of flexibility in choosing your subjects. The teaching staff have diverse research interests, are friendly and approachable, and their doors are always open to students”.