My NYSF Experience

Looking back on it now, I can honestly say that the two weeks in Canberra was both the best, and unfortunately, the quickest two weeks of my life so far. Meeting brilliant, like-minded peers from across the country who share the same passion for the fields of science and mathematics was incredible to say the least, not to mention listening to the awe-inspiring life stories of individuals who have made this very love for STEM into a fulfilling career; individuals who are working to make a difference in the world that we live in. I may have entered with uncertainty, but I have definitely emerged with a direction, and an even greater thirst for science.

Initially, I didn't actually think I would be selected to attend such a program, but I applied anyway with the saying 'You never know' tucked under my belt. It was an extensive application process, but that in itself I was told by a Rotarian, was a test of one's initiative. So, I nervously contacted several Rotary clubs, and was in a panic, because none of them actually replied until about 2 weeks before the due date. This they ensured me, was nothing to do with my suitability, but the fact that they had gotten my email wrong. There at Manningham Rotary Club, I began conversations with Wally Spinks and David Rosenwax , the Youth Coordinator, and soon had an interview with them. To be blunt, the interview did not go very well. I was nervous, and had been tested and found unknowing in the environmental process in farms in relation to the recycling of water – despite the fact that I had admitted I was interested in becoming an environmental engineer. To my surprise however, (and immense gratitude) they decided to support me for district interviews, and suddenly, and very unexpectedly, I was into round 2.

District interviews was probably the most nerve-wracking experience I have ever encountered. The interviewing panel was big, consisting of 7 people – Three Past NYSFers (two in university and one well into a successful career), two rotarians, and two scientists. The nerves really set in when I saw a single ominous chair in front of them, and they all stood as one to shake my hand as I entered the room. However, I soon discovered that they were all lovely people. The 20 minutes passed in a blur but I didn't believe I had made it through, mainly because I had begun a half argument with one of the scientists in regards to power outages resulting from unreliable renewable resources such as wind farms.

With spirits down, I was already consoling myself the next day, only to get a phone call informing me of my success. I was overjoyed, and I promised myself then that I would make the most of the incredible opportunity I had been given. Of course, I would not have had this opportunity without the generosity of Rotary, especially the Rotary Club of Manningham. These admirable people have opened my eyes to a selflessness and a desire to help others that I will now hope to convey now, and well into the future.

While it was most definitely a science forum (as from the name), it was also much more than just science. Not being the most outgoing person, it also gave me a chance to extend both my leadership and public speaking skills (I never knew I had it in me to talk for 2 minutes with the aim of persuading my fellow peers that pugs should rule the world), and achieve a confidence that I never previously had. As the NYSF was a residential program, the two weeks away from the family was most definitely one of the challenges (though the wonderful staffies made up for that) but it also aided in the development for an independence that will be invaluable in the future not matter where I go.

So, to the beginning of my journey. The morning of the 16th of January 2017 saw me late, running, and frantically searching the endless terminals of Southern Cross Station for the green and cream transborder coach, having been warned repeatedly that the bus would not wait for me if I arrived late. Eventually, given that I am here writing this report, I made it, dumping my

bag in the bottom of the bus before taking some awkward photos with my family. Then came the daunting part – actually getting on the bus, and sitting next to a potential stranger for a whole 10 hours to Canberra. However, I was lucky enough to sit next to a lovely girl that later to my chagrin, I found was actually in my interest group – Newton; A group for engineering.

Figure 1 - My interest group, Newton, in front of parliament house

Before I knew it, the trip was 3 hours in, and having disembarked for a stretch I came back to the bus only to see a two new, loud, and extremely energetic individuals – two of a 22 strong cohort of blue-shirted staffies that we soon learned, was a different breed of human. They would soon lead us in the chants that circled in your head for months (and maybe even years), and leave us with aching throats and lost voices.

I was almost bursting with excitement upon arrival at the Burgmann College, soon to be home of unforgettable memories. Or at least that's what I had been told. I would have to see for myself during the next two weeks. And let me tell you, I most definitely did. The two weeks were filled with hilarious, mind-boggling and enjoyable moments of both science, and just plain fun. Nothing could dampen my mood – not even the sweltering heat of summer in Canberra, which I survived with a little ineffective fan that served no purpose but to push the stifling air around the room, and the mini fridge, which on the most desperate of nights, I propped open next to my bed. It was challenging, but I made it.

The first lab trip we had, to my delight, was a robotics programming workshop. There, we learned how to program Lego robots to do the most amazing things with just a few clicks of the mouse – most notably a team effort to design a robot with the best wheels, traction, balance and aesthetics to successfully navigate the obstacle course with its precious load – a bowl of M&M's.

Next, saw us on a bus to countryside New South Wales, our destination being the Molonglo Radio Observatory – the largest radio telescope in the Southern hemisphere. I had the opportunity to meet some of the brilliant minds in physics operating the telescope, and saw

firsthand ground-breaking research on their recent discovery of pulsars: short bursts of radio waves from space of unknown origin. That of course, sparked some interesting theories.

Figure 2 - Under the left arm of the telescope

Over the next few days, we visited the labs on campus at the Australian National University, including the photonics lab where I found myself standing less than a metre a way from a 3 million dollar telescope, as well as a branch of the Australian Defence Force Academy, where we were privy to real life applications of the science we all loved, and the variety of possible future careers. Another session saw us at the ANU facility of Supercomputing, where we were welcomed on a tour of their, as you would guess, super computer. Yet its name did not do it justice. The terminals for data storage were practically endless, the sound deafening, and the heat sweltering. As it was, each terminal had its own individual cooling fan. Despite the fact the following presentation seemed to be in alien language, having no experience myself in programming and hacking, it was mind-blowing in the aspect of the extent of the computers operation, and what it was capable of.

While that may seem overwhelmingly ‘sciency’, there were equally as many amazing moments leaning to the social side. This included swing dancing, a science quiz disco, which my group came in third and was rewarded with extra cake and ice cream, and a shopping trip. Of course, a highlight was the science dinner. A formal occasion where we had the chance to network with industry partners and professionals in the fields that we dreamed of working in. We even had the chance to tour the parliament house, where we conducted a mock hearing for the approval of nuclear power. Our evenings were mainly filled with a range of fascinating lecture style talks which ranged from anything to the psychology of morality and photonics, to a day in the life of a CSI investigator.

Figure 3 - A group dress up as 'Where's Wally?' for the science dinner.

As you can tell, it was a hectic two weeks, and I'm not entirely sure whether I could have survived without a day of relaxation at a host house. On that middle Sunday, I was lucky to meet the loveliest couple, Paul and Sue Roger, who welcomed myself and two other girls into their home with open arms. Needless to say I enjoyed a little nap, a movie (dirty dancing, when Sue realised to her horror that I had never seen it), a dip in their outdoor spa and the most amazing roast dinner. Learning about their decades long dedication to rotary was absolutely inspiring, especially their travels to help the less fortunate. It was exactly what I needed, and I returned ready and energised for another week.

Figure 4 - My lovely host couple, Paul and Sue Roger

However, despite the endless chants, the late night gatherings in floor groups for games and ice-cream, and many, many laughs, the two weeks did have to end, no matter how much I didn't want it to. Saying goodbye to Burgmann college and everything that had transpired there was probably the hardest thing I had to do, though trying not to cry as we Melbournians drove off and our friends from different states ran beside the bus for as far as they could, came a very close second.

All in all, the two weeks at the National Youth Science Forum was all they said it would. A life changing experience. An unforgettable memory that will stay with me throughout the years to come. I went there as one girl, and came back a different one. Someone I'd like to think with more confidence, and curiosity to explore the limits of science.