

National Youth Science Forum Report

When I was selected to attend the National Youth Science Forum, I was ecstatic and unsure of what to expect when I arrived. One person from my school which attended NYSF a year before me said it was “a life-changing experience.” I thought this was just an exaggeration, but I was soon to learn just how revolutionary and life-changing attending the NYSF truly was. Never in my wildest imagination could I have imagined being exposed to so many new experiences, learning about new ground-breaking discoveries in fields of science that I had never even heard of and, perhaps most importantly, becoming very good friends with so many people from all around Australia, and from other countries, who share the same passion for science that I have.

Arriving at Sydney Airport and getting onto the coach was a very anxious experience for me. While I had already made several friends from South Australia through the selection process and on the plane, we were made to sit next to people we didn't yet know as we collected our “*wouches*” (a pouch with a wow factor). However, I didn't need to worry at all as everyone there was very friendly, and it was very easy to connect with everyone at NYSF and become quick friends with them due to that shared sense of purpose and passion for science. The coach ride was also our first introduction to the wouches and the Staffies. While the wouch at first just seemed like a convenient way to have our names visible, it quickly became an item that everyone loved, as did most of the quirks of NYSF, such as the eccentric Staffies, Burgmann lawn and the plethora of NYSF chants. The Staffies throughout the coach ride were oddly concerned with the breeze from the air conditioning, which culminated in them introducing the first of the NYSF chants, “*I feel a breeze*”, as we approached Canberra. They also introduced many of the other chants as we got closer to ANU. As we approached Burgmann College, our home for the next two weeks, we could see Staffies outside the bug doing cartwheels to guide us in. This level of eccentricity and energy that the Staffies showed stayed constant throughout the entirety of NYSF and gave the entire trip a very energetic atmosphere.

The first night was about getting to know our interest and floor groups, through doing some icebreaker activities. Immediately, I felt a sense of connection and friendship with everyone that I talked too, with some of the people I met during that first night sure to become life-long friends of mine. The first full day at NYSF was packed full of activities welcoming us to NYSF, such as the Opening Ceremony at Parliament House, the Introductory Lecture by Professor Eggleton at the Shine Dome, who explained his work in photonics, and the Science Relay Quiz after dinner, where my floor group won.

The activities at the session can be broken up into several different categories, lab visits, lectures, evening activities and social and networking events. Our interest group, Newton/Engineering, attended several amazing lab visits which opened my eyes up to the possibilities that working in STEM fields presents. A lab visit which stood out for me was our visit to the Molonglo Radio Observatory, which is a radio observatory located about 40 minutes from Canberra. There, we learnt how scientists collect data from all the different antennas on the kilometre-long arms, how they process it and how the data collected advances our scientific knowledge. The scientists on site showed us the massive amount of

computing power they used to process the data in real-time, and what certain objects, such as a neutron star, looked like when observed through the observatory. They also explained their current cutting-edge research on FRBs (Fast Radio Bursts) and how, despite many theories, we really do not know what they really are. I found it an amazing experience to be able to talk with experienced scientists about the innovative research in astrophysics that they are doing and how we still have so much to learn about our universe. I also found all the other lab visits our interest group went on to be amazing experiences and I really enjoyed learning the latest research in so many disparate scientific fields.

The lectures given to us at NYSF by a wide variety of talented scientists also were invaluable in showing us the opportunities of pursuing a career in STEM. The two presentations by Professor Liesl Folks, who is the dean of the University of Buffalo's School of Engineering and an NYSF alumni from the first ever session, gave a series of very inspirational talks which awed every single person in the audience. I found her insight into the problems humanity faces in the future to be invaluable and her entire successful and accomplished career a prime example of the impact NYSF can have on people. The presentation given by Professor Lyn Beazley, former chief scientist of Western Australia, was also incredibly inspirational, as she explained how her research into brain damage and treatment for pre-term infants has saved and improved many lives, including her own granddaughter's. Knowing the profound impact one can have on the world by pursuing a STEM degree has really motivated me to achieve my best in Year 12 and Uni, in the hope that I can have an impact on the world that is even a tenth of the impact the wonderful scientists we met at NYSF have had.

The most unforgettable events at NYSF would have to be the various social and networking events we undertook. The disco, which occurred on the first Saturday after we went shopping the night before to arrange themed costumes in our interest groups, was one of the best events at NYSF. The costumes produced by the groups were stunning, with our interest group going as tradies and one interest group going as a shockingly realistic imitation of the Staffies. That night will be a night I will never forget. The Rotary and Alumni Evening was also an unforgettable night. It was inspirational to hear about all the work Rotary has done around the world, such as working to eradicate Polio with the Gates Foundation, and all the opportunities NYSF Alumni have had and the amazing things which NYSF led them to do. The NYSF Science Dinner, held on the last Thursday in the National Museum of Australia, was also a highlight of the event. It was amazing to have conversations with people who are experts in their various fields and who have done so much to expand humanity's knowledge.

Partners Day, held on the same day as the Science Dinner, was where we had the opportunity to learn more about all the wonderful organisations who support the NYSF and make it possible. This day had a very profound impact on me, as it made me consider what I wanted to do after I finished Year 12 and where I would do it. I found the talks by representatives from UQ and ANU to be very compelling, especially as I had just spent the last 2 weeks at ANU, and they really made me consider moving interstate to get my undergraduate degree. Directly because of NYSF, my plans now are to pursue a double

degree in Engineering and Science from either UQ or ANU. Additionally, because of NYSF, I know that I will already have a vast network of very good friends at either ANU or UQ as I know plenty of people from NYSF who are also considering both universities.

NYSF had a very deep personal impact on me and my plans for the future. It was truly an unforgettable event and I will cherish some of the friends I met there for the rest of my life. Leaving Burgmann was a very emotional event for myself, as it was for many others, as we realised that we had to leave the many wonderful people who we became incredibly close to over the two weeks. I would like to thank and extend my deepest gratitude towards Rotary, the Mawson Lakes Rotary Club and all the other Rotary clubs nationwide who make this program possible. Without your generous support of this program, both in donating your time in the selection process and financially, it would be impossible to run the NYSF and make it the incredibly impactful program it is today. I would also like to thank the various other sponsors of the NYSF, who also make the NYSF possible. Additionally, I would also like to thank the NYSF Office and Student Staffies for running such an incredible program, bringing together over 200 passionate science students across Australia and creating a very impactful and life-changing experience for all of them. I have only good things to say about the amazing and wonderful program you have all made possible and would highly recommend it to anyone interested in STEM.

Bradyn Walsh



Our interest group's costume for the Disco.



The NYSF Session A cohort in front of the Shine Dome.