To begin with, I didn’t have many expectations for NYSF. I believed it was going to be a camp with lots of science lectures and lab visits and not a lot of socialising. I thought that most of the students would be quite “nerdy” and I thought I might struggle to make conversation with many of the students. I expected the forum to be run by older staff. I knew the two weeks would be very busy, but I was overawed at how busy we actually were.

Upon arriving, I was surprised by the immense energy radiating from the place - buzzing students and hyperactive Student Staff (staffies). Chants and songs were used throughout the two weeks to energise everyone and to keep everyone involved. That night we met with our floor group (Barassi 1C for me) and the following morning we met our interest groups – mine was Einstein (physics).

Our first day at NYSF was spent settling in and getting to know everyone and involved a trip to a pool and a site visit, for me a trip to the NASA Deep Space Tracking Station at Tidbinbilla.

The next day brought us into the action with the Opening Ceremony at Parliament House followed by a mock senate inquiry to show us how science policy is created. I found this to be very interesting and I learned a lot about how scientists advise policy makers. That afternoon we also had our opening seminar – a fascinating lecture on quantum physics which was very well presented. It was very popular among NYSF students even those who weren’t studying physics.

Over the next few days we participated in a multitude of activities including a swing-dancing lesson, a dinner with Rotarians, shopping time at Belconnen Mall and 3 lab visits. For Einstein these lab visits were to the ANU Research School of Physics, ANU Research school of Astronomy and Astrophysics at Mt. Stromlo and a field trip to the Lake George Windfarm complex. I found these lab visits to be very informative. At the Research School of Physics we toured the facility and were shown Australia’s largest particle accelerator. We also conducted tests on radioactive samples to identify the radioactive isotope in each substance. This was very exciting for me as I have a keen interest in Nuclear physics. At Mt. Stromlo we toured the site and were also guided around the Advanced Instrumentation Technology Centre, which is used to test parts of spacecraft in space-like conditions. We also received a talk on Astrophysics, which was very dense but throughly interesting. Visiting the windfarm was also very interesting. I learned a lot about how wind turbines are made and how power companies and the National Electricity Grid work.

On Saturday we visited the National Science Dome where we participated in a Forum on Australian Science. We also had a session on impromptu speaking
where we learned useful skills as well as being able to put these skills into practice with our own impromptu speeches. That afternoon included presentations by the staffies on how to cope with the stresses of year 12 and how to best go about applying for university. On Sunday we were finally able to have a break, we spent the day at a local Rotarian’s house, had home cooked meals and were able to rest and sleep.

On Monday students were refreshed and ready for another week of amazing science action. We began the week with a forum on nanoscience, which challenged our ethics and understanding of global science. We voted and discussed modern scientific issues; this was a highlight of the two weeks for me. In the afternoon students presented 5-minute talks on topics of their choice to their interest groups (my topic was large prime numbers). This was a chance for us to use the communication skills we had learned from staffie presentations and to practice public speaking in a more relaxed environment than in school. That afternoon we visited more sites around Canberra (the War Memorial for me), we also ventured up Black Mountain where we were able to see the Australia Day Fireworks.

Tuesday brought about two more lab visits; Einstein visited the ANU Physics Department where we did experiments with lasers and optics. In the afternoon we toured the ANU Supercomputer Facility (NCI), which was an amazing experience. We learned about the uses of supercomputers and the issues of running such a facility. We also visited related departments such as the ANU Vizilab (Visualisation lab). On Tuesday night we had a Skype call with a member of the CERN Team in Switzerland. It was awesome learning about the Large Hadron Collider (LHC) from someone who actually works there. I learned so much about current theories of particles and the methods used to test them.

The next day was Partner’s Day. We were spoken to by many of NYSF’s sponsors and partners about university and career options. I learned a lot about what is available for future scientists at university especially in relation to Advanced Science degrees and double degrees. That afternoon we had an expo where we were able to talk to the universities and businesses one on one. This lead to our Science Dinner held at the Australian Institute of Sport. We had dinner with Scientists and Industry leaders, which I found to be an amazing, experience.

Over Thursday and Friday we had our last lab visit (to the Earth
Sciences department), visited Questacon, had a closing seminar on forensic chemistry (which I found to be fascinating) and attended a multi-disciplinary panel where we learned about engineering new inventions (like a microscope lens for your phone), social businesses which are lighting up the slums in India and how cats are ruining Australian ecosystems. Saturday brought about tears, hugs and goodbyes as NYSF students returned home, this did not prevent us from singing and chanting for hours on the bus home.

NYSF was a truly-life changing experience. From my lab visits I learned so much about the world of science, specifically physics. Being able to perform university level experiments in a university lab with university professors gave me a taste of what studying science at university is really like. Through the visits to Mt. Stromlo and the windfarm we were able to see the practical applications of the science we are learning and how scientists strive to help humanity. The lectures we had also taught me a lot, some of them me opened my eyes to sciences I had never cosidered while others gave me a new perspective on the sciences I am familiar with.

One of the biggest highlights for me was the skype conference with Rolf Landua the Head of the Education and Public Outreach Group at CERN. I learned so much the LHC and what humans are trying to discover with it and the presentation really inspired me to study harder in Physics. Over the two weeks, I also greatly advanced my communication skills with the impromptu speeches and the workshops that the staffies ran. I am sure these skills will help me in year 12 and throughout university.

At NYSF I made hundreds of friends from all over Australia who share a passion for science just like I do. These students are intelligent, interesting and motivated individuals, who I am honoured to have met. I am sure that in time I will see many of these students doing great things in science and the network that we have created will be very valuable in the future. I look forward to seeing these students again at Next-Step programs and in coming years at University.

NYSF has really inspired me to follow my passion for science. I am now strongly considering studying science at university, specifically a Bachelor of Advanced Science at the Australian National University. I am also writing my application for the International Programs through NYSF as I write this report. I believe these are amazing opportunities that would broaden my understanding of science globally and would help me increase my network of intelligent, motivated and scientifically orientated people.

In conclusion, I would like to thank everyone that made NYSF as fantastic as it was. Starting with the NYSF office staff, which really do the hard yards in making NYSF run smoothly. I would also like to thank the Staffies who made sure that NYSF students were happy, energised and inspired. Specifically I would like to thank my floor staffie, Ben for doing an amazing job looking after Barassi 1 C. My Home Hospitality host, Emma deserves a big thank you for her generosity in looking after us. I would also like to thank all the professors, lecturers and PHD
students who looked after us, helped us, taught us, excited us and entertained us throughout the lab visits and lectures.

Back at home I would like to thank my local Rotary Club; the Milton-Ulladulla Rotary Club (District 9710) for their support and generosity specifically Ms Yvonne Young for her amazing efforts in supporting me through the selection process and preparing me for the forum. I would also like to thank the Ulladulla High School P&C for their generosity. The National Youth Science Forum has truly changed my life.