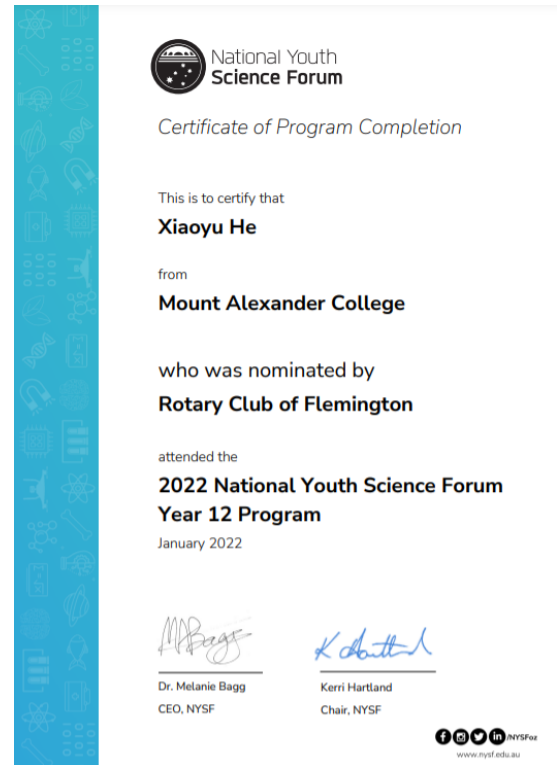


I am Xiaoyu (Zoe) He from Mount Alexander College. It was a great honour that I was selected to attend the NYSF program. This program gave me an insight into how I can create my vision of career paths in STEM. I attended many workshops such as Critical Thinking Workshop, Career session, Nobel Laureate Lecture, The Science of Solving Crime, The Story of Our Human Genome, Applied Mathematics and Indigenous Culture etc. If I compared my understanding and knowledge about careers and pathways in STEM, I am definitely more confident than before. Despite the Covid situation and not being able to attend the face-to-face programs, the NYSFers did such an amazing job at making the online meetings more interesting by involving people from around Australia to engage in fun activities. I was able to meet new people, learn amazing science knowledge even things that I didn't think I would be interested in.



For example, in the workshop “Applied Mathematics and Indigenous Culture”, Professor Chris Matthews, whose career shifted from a research mathematician to work in mathematics education for Aboriginal and Torres Strait Islander learners talked about his journey. That is the first time I had a deep understanding that mathematics is more than numbers. It relates to everyone’s everyday life and even culture. It is not just a subject that most people fear, it can actually help people. He also introduced the Goompi modal, which is a way of teaching math that combines math and culture by using symbols and creativity. I still remember the quote “Pattern thinking is Aboriginal thinking. There is no big boss. Patterns are about belonging. Nothing is separate from anything else”. It showed to me that there are people that working really hard to introduce math to everyone. And I realized that STEM is more than just itself, it is related to humanities as well. And in order to help the world to develop, humanities and STEM subjects need to go hand in hand in education and even all areas.

Moreover, the physics workshop about galaxies surprised me as well. It is called “Who we are in the universe: from Earth to the furthest galaxies”. I did not know anything about galaxies before because I always think it is confusing. However, there is also an ongoing curiosity in my mind that ask me the exact question as the title of this workshop said, “who we are in the universe”. Dr Katie Grasha from Australian National University introduced many things about astronomy, such as the basic physics knowledge behind the universe: electrons, protons, spectrum; the use of the Hubble Space Telescope, which enables the ability to observe individual stars in galaxies millions of light years away...etc. But I think the biggest harvest for me from this lesson, is never afraid to be curious. There were many terminologies that I haven’t heard of, such as “ionizing

photons”, “Andromeda galaxy”, “planetary nebula” and I might still do not understand most of the content, but I felt it is interesting when I was in that lesson. My curiosity brought me to attend the lesson and gained some new knowledge about physics and the universe. And that is what I found really important: it is always better to explore rather than stay there do nothing.

Furthermore, things that are related to medicine are always something that I am interested in, and this was the original motivation for me to join this program which is to learn something about medicine. Thus, the workshop “Advancing Medical Research” is one of my favourite sessions and helped me a lot in understanding the medical fields. There were three professors who talked about their research in their fields. Professor Tri Phan explains how to use the immune system to target cancer. Professor Mike Rogers discussed osteoporosis medications for treating bone diseases. Associate Professor Liz Caldon and Professor Vanessa Hayes showed their studies of breast and prostate cancers. During the whole lesson, I was really excited to see a lot of experts talk about their studies and research. And the fact that there are many scientists who try to save people’s lives in different ways touches me. It also adjusted my opinion about people who work in the lab: they are also heroes. Not only doctors are saving people, but scientists are also playing a significant role in the medical field.

There are other workshops that I also like, but it would take too long to write about each of them. Overall, I am just grateful that I attended such an amazing program. I would never expect that can see a Noble prize winner share his experience if I did not come to NYSF. Also, as an international student whose first language is not English, I was doubting myself: can I do good in the STEM area. Through this program, I saw many experts who came from different backgrounds, and they did amazing jobs in their fields. It gave me the confidence to keep being curious and exploring STEM subjects. I think this was the most important lesson that NYSF taught me. In my final year of high school, I am glad that I can go through this journey with lots of good experiences and advice from NYSF. And it also makes me more confident and determined in choosing STEM subjects as my pathway.