The need to survive is a remarkable thing, for it has allowed evolution to equip organisms with a range of extraordinary capabilities to stay alive. Since reading 'Why Geese Don't Get Obese' by Widmaier, my interests have developed in the molecular adaptations of animals; for example, the antifreeze protein that prevents the blood of Antarctic Notothenioid fishes from turning into ice. This demonstrates how such small yet ingenious components can make a huge difference within an organism.

One of my favorite topics is disease, so as a Realizing Opportunities student I relished writing an academic assignment on 'Why is MRSA so difficult to treat?' I could carry out independent research by reading journals such as 'Toxins' and making my own notes, which benefited my written communication and referencing skills. Organizing my time to comply with the deadline sharpened my time management. I particularly enjoyed discovering the mechanisms of antibiotic resistance in Staphylococcus aureus, such as the beta-lactamase enzyme it produces to hydrolyze the beta-lactam ring within the drug. Reading of worldwide research attempts to find alternatives to antibiotics also appealed to me, and I look forward to studying topics more broadly at university.

Studying on the Bioscience Strand at the Cold Spring Harbor Asia Summer School intensified my desire to study biology. Sessions ranged from extracting DNA from strawberries to taking part in a debate on human cloning. However, investigating the effects of temperature on cell metabolism by far held the greatest interest for me. One task was to use tweezers to transfer single sheets of cells into fluorescent dye, enabling us to clearly see the mitochondria under the microscope. This demonstrated the importance of accuracy when carrying out experiments. Drawing conclusions from the resultant cells also developed my skills in analysis. I now look forward to applying scientific theory and improving my practical technique further during a degree.

I recently carried out a four-week observation and internship at a hospital investigating risk factors for patients acquiring bacteraemias. Working with infection control and microbiology enabled me to witness how scientific research is used to benefit society, for example, developing PCR detection to identify MRSA positive patients. Carrying out clinical audits within wards ensured I listened carefully and co-operated with staff. I also honed by computer literacy by using online databases to track the conditions of bacteraemia patients. In addition, I found it rewarding to deliver a presentation explaining and evaluating my project.

Contributing to my college is important to me, so as a student representative I am required to be responsible and dependable when providing help at college events. Regularly volunteering at a planetarium where I assist the running of shows and guide customers has not only broadened my scientific interests but developed several abilities such as organization and communication. In addition, I recently took part in an enterprise competition at the Tsinghua University where my team came second in designing an innovative new building to be built on the university grounds. Even though we had to work under pressure with a tight budget and short amount of time, it was enjoyable working with a group of new people, developing teamwork and problem-solving skills.

The rapidly evolving nature of biology enables it to provide the answers for many of the world's major problems which only enhances my interest in the subject. Though a science degree is

demanding, my experiences have enabled me to develop my independence, initiative and experimental skills allowing me to fulfil my potential and thrive at university.