

NAGTY Summer School – Leeds University 2006.

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My first impression of Leeds and the NAGTY course upon arrival was that these two weeks here were going to be remembered for years to come.

Upon arrival, which was segregated into two parts, I was given a key to my own room, which had a balcony. We were given an hour to settle in and meet up with the rest of the students along our corridor. In charge of each corridor were two RAs (Residential Assistants), and there were two SRAs (Senior Residential Assistants), one for boys, and one for girls.

Everyday, excluding the weekend, we travelled by bus into the Leeds University Campus, where we commenced work with the rest of the Bioscience students, and the project supervisors. I was pleased with the University's resources, as we were given our own login code for the computers, and we had access to extremely hi-tech and valuable equipment, such as a spectrophotometer, which we used to measure the rate of light absorption at a certain wavelength (we measured the wavelength in nanometres).

We did a number of projects and practical lessons, the main work going towards a large scientific poster, which I was responsible for the referencing, to be presented at the end of the fortnight to university professors and doctors. This project was undertaken and completed in groups of four to six. My group was made up of four, and our project supervisor was Doctor Knight, from the Bioscience department at Leeds University. The other groups were working on HIV/AIDS, Heart Disease, Animal Testing and Conservation. Our group studied the risks and needs of Genetically Modified Crops, and our poster was compiled with work from all different areas of GM crops, as there were four main questions we devised and worked from, these being:

- 1.) What are GM crops
- 2.) What are the needs for GM crops
- 3.) What are the risks of GM crops
- 4.) Issues concerning GM crops

I worked on question two, and we researched how GM crops can greatly benefit LEDC (Lower Economically Developed Countries) in parts of the world. In order to provide information from other angles in the world of bioscience, we undertook a number of different practical lessons in brilliantly equipped laboratories. These are a few examples of some of the practicals we did:

- 1.) We split dyed glycated haemoglobin from dyed haemoglobin, using a column of negatively charged gel. The effect, as we passed both types of haemoglobin through the gel, was that the haemoglobin would stick to the gel, as it has a

positive charge, and the glycated haemoglobin would pass through the gel, as it is negatively charged.

- 2.) Also, we cultivated a colony each of E.Coli, and Oxford Staphylococcus, which we placed in agar jelly plates, and added different antibiotics to observe and record the effect produced.
- 3.) We placed part of a rat intestine into an organ bath, simulating the gut and therefore keeping it alive. We added drugs, such as carbochol to the intestine, and recorded the movements of the intestine on powerful Shuttle computers, of which we had one each. In this case, the drugs would cause the organ to contract, and we concocted our own concentrations. We measured the most potent concentration, and learnt many interesting facts about pharmaceuticals and pharmacology.
- 4.) Another interesting test we participated in was based around neurology, and in particular, the median nerve. We found this nerve on our arms, then after learning how nerves send messages through our bodies, we stimulated the nerve using a pulse generator, and recorded the latency of the action potential in our nerve. We did this using an advanced oscilloscope. Associated with this topic were diseases involving nerves, in particular, motor neurone disease. How this affects your nerves and motor neurons was studied, along with the functions of action potentials and nerves.

Over the two weeks, we went on a number of field trips and activities, the field trips being:

- 1.) A visit to Malham Tarn, in the Yorkshire Dales, to acquire an understanding of different environments along different levels of a river.
- 2.) A trip to the Thackray Medical Museum in Leeds
- 3.) A day out to the University Farm, where we studied animals close up, as they had been caught in traps the day before. These animals consisted of small rodents, like shrews, voles and mice.

Also, on the weekend in the middle of the two weeks, those who were not being visited by their family were taken on the Saturday to Bradford Museum Of Film and Photography, where we studied the galleries, and watched an IMAX film about walking on the moon. I thoroughly enjoyed this, as it looked very realistic, with people trying to grab material that seemed to be coming from behind you.

On the Sunday, all of us went to Herd Farm, and activity centre, where we partook in Mountain Biking, Archery, Team Games, Archery, Inflatable 5-A-Side Football, and the Bungee Run. At the end of the exhausting 5 hours, those who wished to were taken on a mile-long walk to the Emmerdale set.

Every evening, we signed up to do activities. A few of the ones I did were Quiet Reading, Playground Games (My favourite), Computer Time, Talent Show Set Design, and Board Games. On the penultimate night, there was a disco, formal dinner and a Talent Show. At the end of the fortnight, I didn't want to leave, as those two weeks were well spent.

I have reaped many benefits from this course, and it has been a valuable experience for me, since spending time with other like-minded individuals is important to me. It has motivated me to work well at school, in order that I can achieve a place at a good university. I would thoroughly recommend these courses to those able to participate. I enjoyed myself so much, that at the end of the fortnight, I didn't want to leave.

Yours Sincerely,

Edward Dean