

LIYSF 2019

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When I think of LIYSF I think of one of the best experiences of my life that I could've missed out on if it wasn't for my friends pushing me out of my comfort zone and convincing me to apply. I got to spend 2 weeks full of laughter, talking to people from over 70 countries and learning about their cultures, discussing our thoughts and opinions on science as well as sharing personal experiences and making friends that I still keep in contact with today.

Of course, LIYSF is as much about meeting new people with similar interests as it is about science. During this time, I was lucky enough to attend inspiring lectures given by some of the most brilliant minds in science, as well as visit renowned research centres and industrial facilities around the UK. Although some lectures were outside of my area of interest, I thoroughly enjoyed all topics ranging from artificial intelligence, fusion energy and astronomy, to cell biology and neurology, developing treatments for dementia and motor neuron disease, quantum biology and new brain imaging technologies. I must admit that going into the forum I was under the impression that these were going to be two very serious, academic focused weeks but to my surprise there were quite a few fun activities: from treasure hunts around London and visits to the London eye and other tourist attractions to talent shows, karaoke nights and dance parties.

I remember on the day of the departure to London I was so nervous, and I had so many silly questions going through my head such as: "What if I can't make any friends? What if everyone is so much smarter than me and I'll just feel stupid next to them?" However, all my fears vanished the minute I stepped into our accommodation halls, where I was welcomed by two friendly, bubbly staff members who put me at ease and gave me a brief overview on what the next two weeks were going to entail. Next, I met my roommate, a lovely, friendly Latvian girl with whom I shared not only a passion for science but also for the TV series *Friends*.

On our first day I had the honour of representing Romania and carrying the Romanian flag during a beautiful flag ceremony which set start to the welcoming ceremony, where we were addressed by Princess Anne herself, as well as Sir Venki Ramakrishnan who won the Nobel Prize for Chemistry in 2009 and is also president of the Royal society. He started off the forum by giving a captivating talk about the structure and function of ribosomes, which is one of his long-standing interests. In 2000, his laboratory determined the atomic structure of the 30S ribosomal subunit and its complexes with ligands and antibiotics. This work has led to insights into how the ribosome reads the genetic code, as well as into various aspects of antibiotic function. Similar to Sir Venki Ramakrishnan's opening talk, the following lectures are the ones that I found most interesting and captivating:

Professor Jim Al-Khalili, from the university of Surrey introduced to us the concept of quantum biology and showed some real-life examples where this can be seen. For example, enzymes use quantum tunnelling to accelerate chemical reactions and plants use quantum coherence to calculate the most efficient route for sunlight to get to their photosynthetic cells.

Professor Clare Elwell and Dr Gemma Bale from the University of London presented to us their work on developing new technologies to monitor the brain, both its activity and health, in spaces where regular brain monitors won't fit. This lecture was even more captivating as there were few live demos and a lot of audience participation.

Professor Sir Martyn Poliakoff teaches Chemistry at the University of Nottingham but is also a famous YouTube scientist. During his lecture, the professor described some of his research in green chemistry and supercritical fluids and showed some live demonstrations, highlighting the advantages and disadvantages of communicating science over the internet compared to live lecture demonstrations.

Irish Professor Richard O’Kennedy, vice-president for research, development and innovation at the Qatar Foundation has presented us the concept of personalised medicine. During his lecture he talked about how the information available on genomes has the capacity to greatly improve the quality of healthcare by providing personalised treatments to tailor to the individual characteristic of each patient. He discussed the challenges to be faced in making this a reality such as ethical issues, personal data management issues, and development of better, faster and cheaper methodologies for genome analysis. Based on his talk we then had to split into groups and put on a little play on stage, emphasising what we have learned, which was really fun and brought us closer as a group.

As I have already said, the forum was much more fun than I expected it to be. During the two weeks which felt more like three days I made some memories and friendships that I will cherish forever. To name a few: renting bikes and cycling to Buckingham Palace, through Piccadilly Circus, Oxford Street and Hyde Park, playing ping pong, cards, and learning traditional dances in the common room, the talent show and culture night where some people really went out of their way to teach everybody something about their culture, the welcoming and farewell parties, both of which had my legs hurting from all the dancing, exploring the streets of London and multiple failed attempts to get the perfect picture with a red telephone booth, holding a real human brain in my hands during a visit to Cardiff University in Wales, taking a night bus tour and experiencing London at night with all the beautiful lights, but most of all, late nights talks, walks and laughs with new, interesting and funny people every night.

I really do believe that I have come out of my shell quite a bit during these two weeks, learned new things not only about people and their cultures, but also about myself and my interest in science and have opened my eyes to new paths I am willing to explore such as physics and astronomy. Therefore, I would like to thank the people who made this possible for me, I couldn’t be more grateful for all the wonderful memories, friendships and new knowledge that I have gained. I would very strongly recommend this programme to every student who is passionate about science and is willing to come out of their comfort zone to spend two amazing weeks with people from all around the world with similar interests.