

**“Research across the pond”**

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SS Chemistry

Entering college just as the word “recession” was becoming a colloquial phrase, I knew that I would have to emerge from college as an experienced graduate. I appreciated that I would need to fill my CV with skills and qualities relevant to my degree but I also recognized that it would have to be unpaid experience. On starting my JS year, I decided to send individualised emails to every researcher of interest in the top 15 universities in the world to ensure I would gain the experience I would undoubtedly need.

On June 6<sup>th</sup> 2011, I started as an undergraduate research assistant to Professor Andrew Myers of Harvard University. My countless emails had paid off. I was only loosely attached to the university and I had to sign a very comprehensive non-disclosure agreement but I was still going to be spending nine weeks at the premier chemistry department in the world. I had worried that I would be assigned menial tasks but from day one I was given a proper research project and told to get on with it!

The pharmaceutical industry is currently going through a huge transition, converting from traditional simple molecules to complex biological species for drug and vaccine design. One exception however is the tetracycline antibiotics, which still retain a huge academic research interest. I was tasked with the synthesis of a tetracycline intermediate to compare with past and future intermediates of a similar chemical structure. Whilst I was given a basic synthetic pathway to follow, I was encouraged to read the literature and alter the pathway for better results. I was thrown in at the deep end, but I rapidly developed the laboratory skills I needed for my future career. I gained experience in every aspect of chemical research and also had the opportunity to present my work, a skill crucial to researchers considering the tremendous recent surge in public interest in science. Nine weeks may seem like a short time but the amount of knowledge I gained was immense.

The paramount priority of my supervisor was for me to learn the importance of safety in the lab. Without question, this is the single greatest quality I learned during my time working for him. In an environment where nearly everything is flammable and most things are toxic, safe working practices are essential. Chemistry isn't for the easily stressed, so maintaining a calm and composed working ability will prove advantageous in my future career. I am already reaping the benefits in my final year project, as I was immediately able to hit the ground running which will allow me to produce a comprehensive thesis.

The highest point of my summer work was the synthesis and characterisation of my first novel compound. This is a regular occurrence in organic chemistry but the initial feeling of creating something never seen before is my drive to be a synthetic chemist. That high point more than compensates for the only low, not getting enough time on the beach in sunny Boston!