

## **Vacation Studentship – Case Report**

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### **What made you apply for the award while you were studying for your degree?**

Between the summer of my second and third year of my Undergraduate BSc Pharmacology studies, I wanted to gain a greater experience of laboratory research, in more of a real-life setting. I had enjoyed practical work during the first two years of my degree, but felt I wanted to see a different side of laboratory research – and I really did! I had little experience or understanding of practical molecular pharmacology to that point, but my studentship introduced me to the world that I have since dedicated my future studies and career to.

### **Briefly tell us a about the project you worked on.**

I worked in the Molecular and Clinical Pharmacology department at the University of Liverpool, in Prof. David MacEwan's lab. Supervised by Dave and the rest of his lab group, I gained a wealth of experience in molecular biology and saw how this was an important part of key pharmacological research. My project was entitled 'Understanding the Role of BCR Signalling in B Cell Malignancies'. I used CRISPR-Cas9 gene editing to delete the *SYK* and *PLCγ* genes in cell lines, both of which are critical in mediating signalling within the B cell

receptor pathway and have the potential to be aberrantly activated in B cell malignancies. In this project, I developed tools and proved their potential for use in wider projects within the lab. From a personal perspective, I learned many skills and techniques I was able to utilise in future research and saw first-hand the cross-over between molecular aspects of disease and their implications in targeted therapy.

**Did the experience influence what you did when you completed your degree or is it otherwise having an impact on the direction you are taking in your career?**

My studentship played a huge part in influencing my career decisions – in fact I now work in the same lab as I did my studentship in, six years and one PhD later! Throughout that time, I've been able to get a good range of experience and education from across many different sectors of pharmacology, but the initial opportunity to study for my PhD wouldn't have come about if it wasn't for my vacation studentship. Based on the work I completed in this studentship, I was subsequently able to attend the BPS Pharmacology conference in Edinburgh the following year, where I was able to present my studentship work in the poster session to future peers from across the pharmacology world.

**What does your current role involve?**

I am currently a Post-Doctoral Research Associate at the University of Liverpool in the department of Pharmacology and Therapeutics, with responsibilities in both research and teaching. Day to day, I conduct wet lab-based research into cancer pharmacology, and more specifically understanding how drug resistance occurs in acute myeloid leukaemia. I use my molecular pharmacology skills I developed to generate gene edited cell lines, as well as using *in vitro* assays to assess the susceptibility of these cell lines to a huge variety of targeted pharmacological agents – and so much more besides. During my laboratory work, I also mentor other students – from undergraduate summer placement students (including BPS vacation studentship students) up to PhD level, and I have expanded my role into giving lectures and tutorials to future pharmacologists too.

**What advice would you give to science students considering applying for an award?**

Go for it! It's a fantastic opportunity to gain a completely different experience than is routinely available during Undergraduate laboratory practicals. It's a good time to truly experience the highs and lows of research and can be truly inspirational for pursuing your career. Whether or not you decide a career in the field you've conducted your placement in is for you, you will have pushed yourself out of your comfort zone and had the experience of project design, management and feel ownership of the work you have performed – all truly translatable skills for whichever subsequent career you have!