Amy Monaghan, winner of the SET award for the Best Pharmacology Student 2012, answers questions about why and how she became a pharmacologist. Amy was interviewed by the WiP student representative Liang Yew-Booth.

1. **Why did you choose to study Pharmacology at university?**

I began my studies at Edinburgh University in the biological sciences programme. I chose Edinburgh because their flexible degree programmes allow you to try a wide variety of courses before specialising in your final year. I have always been interested in disease development and treatment, and naturally migrated towards the medical biology modules. From here I decided to study pharmacology honours. I love the way in which pharmacology can be used to dissect the mechanism of a disease, and then develop new ways to combat it.

2. **What did your undergraduate dissertation project involve? Why did you choose to do that particular project?**

My undergraduate project involved examining the effect of glucocorticoids on vascular remodelling. The isozyme 11β-hydroxysteroid dehydrogenase (HSD) type 1 is responsible for amplifying local glucocorticoid concentrations. I utilised an 11β-HSD1 knock out mouse model to examine the effects of this isozyme on angiogenesis in hind limb ischaemia, a useful model of diabetic critical limb ischaemia.

I chose this project for several reasons. I was incredibly interested in cardiovascular pharmacology, and this was encouraged by my cardiovascular lecturers, who were extremely knowledgeable, but also very enthusiastic. The project also offered the exposure to a vast array of in vivo and in vitro techniques which would not have been possible in other projects, and was obviously translatable to an important human condition. I was also keen to work with a lecturer whom I liked and respected – having a good relationship with your supervisor as a young researcher can be critical to your enjoyment of the lab experience.

3. **How did you win the SET Award for the Best Pharmacology Student 2012?**

The pharmacology department and my supervisor nominated me for the “Best Pharmacology Student” award shortly after my graduation. I had to write a 2000 word synopsis of my undergraduate project, and from this I was shortlisted with two other candidates for interview. The interview was at the BPS headquarters in London, where I was asked to give a short presentation of my work, followed by questions on both the project and my general interests in pharmacology.

4. **What are you doing now you’ve finished your undergraduate degree?**

Following graduation I worked for the summer at Edinburgh University for the IUPHAR database team, gathering information on orphan GPCRs. During this time I was accepted for a PhD at the University of Aberdeen, where I am developing an assay to identify new inhibitors of steroid hormone receptors. I am also a STEM Ambassador, which means that I volunteer for projects which aim to improve knowledge and inspire children and teenagers in STEM subjects.
5. **What was it that made you decide to do a PhD and would you recommend doing a lab or vacation project to get some experience?**

For me, a PhD seemed the next logical step in my career. I have always wanted to be a research scientist, and whether I continue in academia or industry a PhD will be essential. I enjoy the problem solving aspects of basic science, but also working in areas where research is translatable and relatable to human disease.

I would always recommend doing a lab project in your final year if the option is available to you. Even if you do not see your future in research, working in a lab really helps you to understand all the theory you’ve been working on throughout your degree, and gives you a chance to put your knowledge into practice. It’s also a good taster if you’re considering doing a PhD as to what lab life is really like, and a great opportunity to learn new skills that you might not have the chance to learn elsewhere.

I also did two summer placements: the first in a clinical biochemistry lab the summer between my second and final year, and the second in a bioinformatics lab for two months following graduation. These gave me great insight into other ways I could pursue science away from basic research, and it was great being able to earn money and learn at the same time! Having said that I don't believe that anyone should be put off applying for a PhD or masters because they didn't do a summer placement, there are plenty of other ways to get good experience.

One thing I didn’t know about whilst I was an undergraduate was all the grants you can apply for with lecturers to fund summer placements and go to meetings to meet other scientists. So if there is someone you really want to work with; or a project that you’re fascinated by – go and ask!

6. **Do you have any advice for someone considering a degree in Pharmacology?**

Pharmacology is so diverse that there really are interests to suit everyone. It’s also a field essential to the advancement of modern medicine, and you will constantly be working at the cutting edge of science. If you are interested in human disease and medicine, and enjoy chemistry and biology, then go for it!

7. **What do you hope to be doing in 10 year’s time?**

In ten years time I hope that I will still be a researcher, in academia or industry, working on drug development. Hopefully I’ll be doing post-doctoral research or be a junior lecturer - preferably somewhere sunny!

8. **Lastly, have you been inspired by a scientist (male or female) to make a career in Pharmacology?**

Dr. Gillian Gray and Dr. Paddy Hadoke – who were also my honours tutor and honours project supervisor respectively (and also course organisers for the cardiovascular pharmacology module). Both are passionate and successful scientists, with an incredible amount of knowledge and expertise. Alongside this they are also fantastic teachers, and both provided invaluable advice for me when I was looking to pursue a PhD. I hope I can inspire students in the future in the same way that they inspired and encouraged me.