

2021 UG Research Conference seminar:What next? Life as a PG.

The following articles on what it is like to be a postgraduate researcher were kindly written for us by three PhD researchers based at the Lancaster Environment Centre, Bailrigg campus. Read about their PhD journeys, how they decided on PG study and what advice they would give to any of you that are considering taking this route.

Samantha Howlett (Final Year PhD).



My name is Samantha Howlett from the UK, and I am in the final stages of writing up my thesis. My research looks at how benthic changes on coral reefs following large scale disturbance events affects herbivorous reef fish and the ecosystem processes that they provide. I use long term monitoring data to model how functions performed by fish vary through time, and apply a range of techniques such as stable isotope analysis and metabarcoding to

track how algal communities develop in the early stages of colonisation following coral mortality.

Ever since I started my undergraduate I was always interested in doing a PhD. The idea of having a major research project that was mine always seemed like a fantastic challenge. I also worked as a field intern for a couple of PhD students during my career journey, and was inspired by their knowledge and professionalism, and always aspired to reach the same level.



My academic career began after I volunteered on a coral reef monitoring project in the Caribbean. I had been training as a veterinary nurse, but after the trip and learning about all the coral and reef fish and the myriad of threats that they face I was inspired to work in conservation. It opened my eyes to how threatened the natural world was, and I wanted to work towards protecting it. My transition from UG to PG was a long one! I spent a lot of time working on a variety of field projects, and building my dive qualifications. Before my MSc I had taken part in projects in Montana, Kuwait and Namibia, which were on both marine and terrestrial projects. After my MSc I worked as the Science Coordinator for GVI in Seychelles, and as a research assistant in a wildlife management department in Latvia. These jobs gave me experience in time and people management, a variety of field techniques and designing, implementing and writing up research. By this point I felt ready to undertake a PhD, however, it was still a big learning curve to be the lead on a major project!

Designing a project from scratch, especially one where there is already a wide range of literature existing in your field is a challenge, and ensuring that it is carried out within the time frame and communicated effectively is no small feat. I have certainly learnt a lot during the three years. I was frequently reminded that a PhD is about building skills and that it is a learning process, and this is indeed true! This was probably the best advice that I was given before and during my PhD; to view this as a stage of personal and professional development. I wasn't sure if I wanted to stay in coral reef research and wasn't sure if this PhD would pigeonhole me, but I was widely told that this wasn't true, it was about building up your skills and making connections.

Doing a PhD allows you incredible freedom to dive into research questions that excite you and try to find answers to novel questions. For example, while there is a wealth of knowledge to show that herbivores are important for controlling algal communities that develop following widescale coral mortality, we have surprisingly few detailed studies documenting how these algal communities develop, how this process shapes herbivory and how it could be influenced by patterns of nutrient recycling. Using metabarcoding to understand how algal and associated microbial communities develop during the colonisation process hasn't been done before, yet it is a powerful tool that can give some pretty detailed information.

My advice to anyone considering postgrad would be that there is no rush! If you feel like you want to get experience working and building your skills, and even to take time to think about whether that is the right path for you then that is ok! I am glad that I did because I feel like each step happened at the right time for me. I would also pass on the advice that I was given when thinking about doing a PhD; that it is a learning process. The idea of these degrees is to give you the skills, you don't necessarily need to feel proficient in them already, so don't let any fear and uncertainty hold you back!

Mary Hodgson (1st Year PhD).



Hi, I am Mary Hodgson. I'm in the first year of my PhD, split between Lancaster Environment Centre and the Centre of Ecology and Hydrology. I am researching the impact of fire, grazing and climate change on carbon cycling in savanna soil at Kruger National Park, South Africa.

What inspired you to study at PG level?

During my integrated masters I realised just how much I enjoyed the research element of laboratory based projects. The idea of having my own research, that I could mould, drive and take complete ownership of inspired me to apply for a PhD.

How did you find the transition from UG to PG research?

Undertaking an integrated masters set me up quite well for a PhD as I had some experience of creating my own project – I just had to scale it up for my PhD. I took a year out to work in industry before starting my PhD, which I also found very helpful. It helped me apply context to my PhD, whilst also giving me an opportunity to develop skills from my UG, such as presenting, leading meetings and project planning.

Which part of your research excites you the most?

The opportunities it gives me. Part of my research includes field work in South Africa - this has given me the opportunity to collaborate with and learn from scientists from all over the world. This has given me so many different avenues for my research and given me a chance to work on some amazing projects. Additionally, it's really exciting to see the science being used in Kruger NP (a working game reserve) in management strategies that are making a difference.

What drives or inspires your best work?

I'm inspired by positive change and making the world a more sustainable place to live. The idea of finding out something unknown for the development of science and the understanding of a bigger picture helps drive my work.

What was the best piece of advice you were given before or during your PG research?

Collaborate! The first piece of advice my PhD supervisor gave me was to make friends and talk to other scientists about their research. Although intimidating at first, it has helped me immensely at the start of my PhD journey; from providing me with new ideas, insights or just pointing me in the right direction.

What advice would you like to pass on to any student thinking of progressing to Masters or PhD?

Don't be intimidated. Imposter syndrome can be really difficult when embarking on PG study, but if you are keen to learn new things, then go for it, you deserve to be there.

Rachel Gunn (3rd Year PhD)



My name is Rachel and I am a third year PhD student within the REEFS team in LEC. My research focusses on using coral reefs and reef fish as a model system to understand behavioural responses to environmental change. By studying the behaviour of individuals, my research aims to understand how behaviour can be scaled up to better inform broader scale responses to environmental change.

What inspired you to study at PG level?

My undergraduate degree is in Zoology. I had always been interested in marine biology, but I didn't want to limit myself to just area for my undergraduate. I therefore decided to study zoology first, and then specialise in marine biology through a masters. I also went on a expedition to Honduras with Operation Wallacea at the end of my second year of undergraduate study. During this expedition, I completed dive training and a marine ecology course. This is when I really found my passion for marine based research, and it was after this trip that I started looking for postgraduate positions.

How did you find the transition from UG to PG research?

My transition from undergraduate to postgraduate was relatively gentle. My MSc was a taught course, which meant that the first semester of my masters consisted of lectures, workshops, seminars, and coursework, much like my undergraduate. Whilst the intensity of the work increased from undergraduate-postgraduate, it was certainly manageable. The second half of my masters consisted of a thesis. Had I done a research-based course (MRes) I would have found the transition from undergraduate to postgraduate quite difficult. The first semester of my masters provided me with the fundamental training that I could then use to develop and complete a high-quality thesis. This training also gave me the confidence to start to consider a PhD programme after my masters.

Which part of your research excites you the most?

I love the scientific process. Conceiving an idea, or a hypothesis, then designing methods to collect data, testing your hypotheses, and producing a paper, is a really satisfying and exciting process. As a PhD student with international research collaborations, I have the freedom to design my own fieldwork and data collection within the broad aim of my project.

What drives or inspires your best work?

Working with inspiring people! I am fortunate enough to work within an incredibly diverse and supportive lab group. I am also passionate about science communication and accessibility, so

this also helps drive me to produce high quality work. I believe that everyone should have access to and be able to understand science, particularly research that affects the general public, such as work surrounding environmental change. I don't believe there should be any barriers to accessing science, so making science accessible through communication and outreach is a big driver that inspires my best work.

What was the best piece of advice you were given before or during your PG research?

Experience is important! Whilst your degree grade is important, without experience, it can be tricky to secure a postgraduate position, particularly a PhD or an MRes position. I started building my fieldwork skills during my undergraduate degree, through voluntary positions both in the UK and overseas. I completed all my professional dive training before I started by masters and then in the year between my masters and my PhD, I worked as a reef ecology lecturer for Operation Wallacea in the Caribbean over the summer. Combined, these experiences gave me a unique marine fieldwork skill set. During my PhD, this skill set has meant that I have been given multiple opportunities to work as a research assistant for a post-doctoral researcher, at field sites across the Indian Ocean! I would say that gaining experience will make you a more desirable post graduate candidate, but it will also open up additional opportunities for you during a post graduate programme.

What advice would you like to pass on to any student thinking of progressing to Masters or PhD?

For a masters, I would say go for it! It is a great experience and opportunity to gain additional research skills and develop the skills you already have. Even if you aren't sure you want to continue on in academia after the masters, doing a masters programme can help you develop professionally which in turn will make you much more employable in the future. When it comes to doing a PhD, I think the best piece of advice I can give is make sure a PhD is something you want to do. This sounds obvious, but a PhD is a big commitment, anywhere from 3-5 years, or potentially more. So it is important that you know that taking this next step is something you want to do. Make sure you are passionate about the topic you will be researching if you are doing a PhD. The PhD experience is infinitely more enjoyable and worth all the hard work if you are passionate about the research you are doing!

Don't worry if you aren't sure what you want to do next! Uncertainty at this stage is normal. It is important to remember that you can always come back and do a postgraduate programme if you aren't sure it is for you right now. Going into my masters I always told myself I would never do a PhD. Then I fell in love with research during my masters thesis, and now I am in my third year of doing something that I am passionate about!