How to start a Research Project

UniSA student panel

Part 1 (of 2)

So, who’s going to Uni?

Ok, that’s a good sign; if no one put their hands up I would be a little bit concerned.

So today I would like to introduce you to three of our PhD students, so they’re at the end of their education. To my right is, I should say they are all to my right, Nathan Williamson, Cassie Hilditch and Felicity Brathwaite. So we have just got a few questions we are going to ask our panel.

So the first question, or what’s it all about is how to start a Research Project. So the first question for you Nathan, is can you tell us a little bit about your research and why you chose that topic?

So I study the diffusion, the movement of molecules and I use a tool called nuclear magnetic resonance which is the same tool that you would use if you went and got an MRI in a hospital to look at your brain, except now we are looking at materials. And the way that I got into this project was actually I was a chemical engineer during my Bachelors and Master’s degree and I found out that I was really interested in learning and asking questions and discovering things about the world around me. And so that put me into, I realise wow, I have this passion and I can get paid to do research, so here I am, and now in particular with my research project I’m looking at, like I said the diffusion of molecules in materials, and how can we as experimenters as people who are collecting the data, how can we represent our data better and so that comes into statistics and mathematics, so that is a major focus of my project as well.

Ok, great, thank you Nathan. Over to Cassie. Hey, so, oh sorry, I’m a PhD student at the Centre for Sleep Research and, what we do there is we look at how manipulating your sleep amount or sleep timing affects your performance and my specific research focus is on when you first wake up from sleep and you feel really groggy and you just want to fall back to sleep, and that’s called sleep inertia. And I’m looking at that topic from the perspective of emergency services workers who have to work on call and sort of get the call while they’re asleep and have to perform immediately doing safety critical tasks. And, this research topic sort of, I came into this because I worked for a fatigue risk management company for 5 years in the UK, and we worked with emergency services teams and pilots and commercial aviation who nap during the flight, so I was really interested in how we can minimise the performance impairment when you first wake, so how can we get people to be performing at their best as quickly possible after they wake up, cause it’s a really important safety issue.

Great, thank you Cassie. Over to Felicity. Hi everyone, so what I’m looking at called is dry needling which is quite similar to acupuncture, you use the same needles and things, but it’s guided by more Western medicine principles than the ancient Chinese medicine. So, the reason I’m interested in it is because I’m a physiotherapist and it is used quite commonly in that area, and so, I obviously have an interest in the human body, pain management and health as well. And, yeah, and the reason I became a researcher was because the clinical world can be quite repetitive but I think research is really great because it exposes you to new and exciting things almost every day so that’s why I chose to go down that path. More specifically about my project, we’re looking at improving research methods in dry needling because at the moment research hasn’t actually proven if it , if , that it really works, so there’s a bit of an ethical problem there with the prescribing that’s going on, it’s almost everywhere you go, any physio clinic will have a physiotherapist that’s doing it and if we’re taking people’s money for that when it’s not really proven, it’s a bit of a problem there, so I was really interested in helping to solve that problem.

Great, thank you Felicity. So now a question for Felicity, how did you get started with your research, what were the first steps that you took?

Alright, so the best advice I can give here is to pick something you’re really interested in, so read all about that topic and try and find areas that have gaps, so that, what I mean by that is, things that haven’t been answered. If you see a question pop up in your face when you’re doing that background reading, that is a great start because that will, you know lead you down a really original course, and people will want to read it. Another thing I can’t stress enough is to do lots and lots of planning, so once you’ve got your research question sorted, you need to plan meticulously what you’re going to do, because it’s like the handyman saying measure twice, cut once. You don’t want to get to the end of your project and be like, I should have done that, or I could have done that better. So, make sure you do that, make sure it’s feasible so, that means realistic, so within your time constraints and your resources as well, make sure you’ve got the equipment that you need, and all the funding you need to get that equipment. And, also I think a really good tip is risk management, so just make sure that you’ve got back up plans for things that you, like, look at what could possibly go wrong, and what you might do instead, alright, because, you don’t want to be at a dead end in your project.

Ok, I’m just going to ask Nathan the same question, can you give us a little bit of background about how you got started Nathan?

First, I wanted to add something to what Felicity said, so, I think that some people are very organised and that for them, that makes, and that is, I would say the best way, and the way you should absolutely approach any project, is with meticulous organisation. But I do also feel that, the most interesting questions, the things that you become passionate about, you might not know what those are when you begin your research, so as your research goes on, the project that you started will evolve into, into something that is yours and something that is, that you’re passionate about, and something that you want to do, and it’s not just an assignment for school, but something you want to spend time on because it’s interesting to you. So I would say that is the same for my research, that is, I started with a, with a plan, and my, we had to, had to have a plan to tell people what we were doing, and right now, I’m in the early stages of my research, so I’m working on that plan. But I do also hope, and I’m looking for opportunities for things that are, that, to branch me out and to bring me into areas that are very interesting to me.