PERL Research Internship – Prucalopride Study
Kate Partridge – 3rd year Experimental Psychology

On the 6th of August 2018 I joined PERL (Psychopharmacology and Emotion Research Laboratory) in the Department of Psychiatry for 5 weeks. The research conducted at PERL explores how the brain processes emotional information and how this is influenced by neurotransmitters in the brain. This research contributes to a better understanding of emotional disorders such as depression and anxiety and how these may be helped by drug treatments that affect neurotransmitter function.

I spent the majority of my time at PERL working on one study in particular, investigating the effect of seven-day Prucalopride administration on emotional processing in healthy volunteers. Prucalopride is a licensed drug currently prescribed for chronic constipation. This research follows evidence from animal studies suggesting that agonists of the serotonin receptor subtype 4 (5-HT4) have rapid effects on depression and anxiety behaviours (Lucas et al., 2010). The exciting thing about these effects is that they are seen after a short period of time (about 3 days) compared to a 2-3 week period that we usually see with conventional anti-depressants such as SSRIs. The study at PERL is investigating whether emotional processing effects, such as a positive processing bias, will be seen in healthy volunteers after taking Prucalopride (a partial 5-HT4 agonist) for just 7 days. A finding such as this could demonstrate that 5-HT4 receptor agonism might be a potentially useful avenue for antidepressant drug development in the future.

I joined the research team fairly early in the testing process so spent most of my time on the internship screening participants for eligibility and administering behavioural tests. Eligibility screenings involved taking a participant’s demographic information, medical and psychiatric history, and suitability for fMRI scanning. Since the study was only recruiting healthy volunteers there were very strict exclusion criteria such as BMI, history of psychiatric disorders, pregnancy and many more. For the behavioural testing we used the Emotional Test Battery, this was primarily computer based and involved both emotional processing tasks and memory tasks. Aside from screening and testing participants, I also worked on test scoring, data entry and data checking involving statistical analysis for another study.

I had to complete a certain level of training to be a researcher on this study so during my internship I completed training in Good Clinical Practice, fMRI Magnet Safety and delivering the Structural Clinical Interview for DSM-V Disorders (SCID). As well as these qualifications I also received training from the study research assistant Lucy Wright to conduct eligibility screenings and behavioural testing.

As well as my involvement in the prucalopride study I also managed to speak to many more researchers in the department of psychiatry about their respective projects. Much of the research in the department involves testing on participants who are experiencing specific psychiatric disorders such as bipolar, depression and psychosis. I have learnt about the extra challenges that researchers face with such studies including challenges in obtaining ethical approval and ensuring a detailed protocol to cover all possible issues they may face.
I would like to thank everyone in the PERL group for allowing me to do an internship with them this summer and for being so welcoming and accommodating. In particular I would like to thank Professor Catherine Harmer, Dr Susannah Murphy and Lucy Wright for all their help. I would also like to thank Pembroke College for providing me with Rokos Award Internship funding for the duration of my internship. During my time at PERL I learnt a huge amount about research design, management and testing procedures among other things. I have also gained a great insight into the exciting research happening here in Oxford. The internship has really helped me to form a better idea of what I would like to do in terms of research after I graduate.