

### **Why did you apply for the Osler award?**

I applied for the *Osler Graduate/ Postdoctoral Research Travel Award* because it enabled me to pursue a research project that would complement and extend on themes of my PhD research at McGill University. Specifically, it would provide me the opportunity to work with Dr. Charlotte Stagg (head of the Physiological Neuroimaging Group) and Dr. Sarosh Irani (a neurologist specializing in autoantibody-linked disorders), both at the University of Oxford. This collaboration enabled me to study the pathophysiology of a set of severe, yet remarkably immunotherapy-responsive, neurological conditions. Beyond access to these intriguing clinical populations, being at Oxford enabled me to access to an ultra-high field human neuroimaging scanner. Compared to field strengths typically used for clinical and research purposes, ultra-high field (i.e. 7 T) scanners enable visualization of the brain in exceptional detail and provide improved resolution of chemical information, including neurotransmitter levels. While McGill University is currently in the process of setting up an ultra-high field human magnetic resonance imaging and spectroscopy facility, this type of scanner will not be available in Montreal within the timeframe of my doctoral studies.

### **How is doing research at Oxford different than at McGill? How is it similar?**

Both McGill University and University of Oxford are world-class research institutions with a particular strength in neuroscience. Each offers a unique array of resources and research teams with their own highly specialized expertise. I have been very fortunate to be exposed to both exceptional research communities.

### **What was your experience with the culture there?**

My colleagues at Oxford consisted of a diverse international group of researchers. Because of this, I had the opportunity to meet individuals a wide variety of cultural backgrounds, all of whom had been brought to Oxford for a common reason: neuroscience research. I also really enjoyed experiencing some of the more traditional aspects of Oxford, such as attending events and concerts at the old colleges. The atmosphere in restaurants, pubs, and cafes often had a slightly different feel than what you'd typically come across in Montreal. It was a wonderful experience to be exposed to this beautiful, historical university town.

### **How has this experience been beneficial? What do you hope it will lead to?**

The experience at the University of Oxford during the final year of my PhD has made a highly valuable contribution to my development as a neuroscientist. I have had the opportunity to work with the Physiological Neuroimaging Group, headed by Dr. Charlotte Stagg. This group was also part of the larger Plasticity Group headed by Heidi Johansen-Berg. During my 3.5 month stay, I analyzed a multimodal neuroimaging dataset on a newly recognized form of epilepsy linked to autoantibodies directed at an important neuronal protein. I plan to present this work at an upcoming conference and have also drafted a manuscript we hope will be published in the coming months. Additionally, I started the first phase of data collection for an exciting study investigating the brains of individuals recovering from anti-N-methyl-d-aspartate (NMDA)

receptor encephalitis. This condition, discovered less than a decade ago, is characterized by antibodies that act against a critical receptor for the brain's predominant excitatory neurotransmitter, glutamate. My research at Oxford will shed light on the pathophysiology of severe autoimmune disorders for which very little is currently known.

I also had the opportunity to engage with the scientific community at Oxford through my research with Dr. Stagg's group and by participating in internal academic events during this time. Professional relationships fostered during my stay at Oxford could facilitate international collaborations further on in my scientific career. My research experience at Oxford has further strengthened my desire to pursue a career in clinical neuroscience research and to collaborate internationally in the future.

**Would you recommend other students pursue research opportunities outside of McGill or specifically at Oxford? Why?**

I would highly recommend other graduate research trainees at McGill to pursue research opportunities at a foreign research center. If feasible within the scope and timeline of your PhD, gaining experience at an international institution can be a fantastic way to extend your research skills, build your professional or academic network, as well as explore a new city! For me, Dr. Charlotte Stagg's research group at Oxford was the perfect fit to extend on my PhD work at McGill. Oxford has a fantastic neuroimaging centre for those in my field of work.

**Anything else to add?**

I am fortunate to have had interesting research projects and great mentors both at McGill University and at the University of Oxford. I am thankful to my supervisor at McGill, Dr. Lisa Koski, who supported my pursuit of this additional project. I am also very grateful to the Plasticity Group at the Oxford Centre for Functional MRI of the Brain (FMRIB) for welcoming me into their research team this year.