## Research Interests

Throughout the past year, I've been involved in some exciting, innovative research. I've been able to pursue research in the field of unilateral magnetic resonance and using small handheld magnetic resonance devices to measure flow velocity. This research is important, and I believe that it spans far beyond simple flow measurements. In general, I've gained an appreciation for magnetic resonance methods. I've also gained a large appreciation for small unilateral magnets, and their capabilities. I believe that magnetic resonance methods and tools have been able to propagate throughout industry and help the population. For example, when I think of MRI, the first thing I think about is an MRI machine found in a hospital. It is such a useful tool, that almost anyone across Canada is going to recognize what you mean when you say, "an MRI machine".

My research interest is how unilateral magnetic resonance, or in general small magnetic resonance devices can impact industries where magnetic resonance methods are already employed. The MRI machine, like I've said is a very useful tool. However, it is very expensive and not portable. This means that in areas of the world where an expensive MRI machine may not be practical, cheap and small devices will be helpful. A small unilateral magnetic resonance device will never reach the capabilities of an industry MRI machine, but a small device that can gather data on material properties is a useful thing. A small device preserves the non-invasive method of magnetic resonance, which makes it especially useful in biomedical application. Any advancement towards that concept is a good thing for society.

The goal of my research is to advance unilateral magnetic resonance. This process will involve innovation and careful design of magnet arrays and radio frequency coils. I'm interested in small magnetic resonance devices to measure flow velocity, as that can potentially have an impact in the biomedical field. The long-term objective of this research is for unilateral magnetic resonance to be used in material characterization, and biomedical pursuits.