LURA/USRA Posting Information	
Position Type:	☑ Lassonde Undergraduate Research Award- summer research ☑NSERC USRA ☐ Other (please specify)
Position Title:	Research Assistant/summer researcher
Location:	BCEE 328
Professor:	**Hossein Kassiri**
Department:	**Electrical Engineering and Computer Science**
Contact for Professor (Email, phone):	**Email: Hossein@eecs.yorku.ca**
# of positions available:	**2**
Project Description (200-500 words maximum)	Development of wireless data and power telemetry links for implantable brain machine interfaces: Epilepsy, Parkinson and Alzheimer's disease are a few examples of neurological disorders that affect over 100 million people across the world. Many of these patients cannot be cured by pharmacological treatments or brain surgery, and their only option is brain machine interfaces (BMIs) that are used to monitor brain activity and suppress undesired neurological events using detection-triggered electrical stimulation. In Integrated Circuits and Systems Lab, we are developing various implantable brain neural interface microsystems used for various applications. A common need for all of these devices is the ability to receive power and communicate data wirelessly. This requires design, simulation, and experimental validation of circuits and systems for low-power high-throughput data communication and inductive power reception.
Duties and Responsibilities of the student:	The successful candidate(s) will work with a PhD student to simulate and characterize various prototypes of described design and evaluate their performance in terms of power transfer efficiency, bit error rate, and transmission throughput.

Skills and Qualifications:	The student should have the following qualifications: - Familiarity with electronic circuits and systems. - Good understanding of electromagnetism. - Experience with COMSOL or HFSS would be a big plus! - Self-driven and interested in the field of radio-frequency electronics.
Degrees, courses and Disciplines prerequisite*:	- Required: EECS 2210 - Preferred: EECS 3611 and 3604
Stipend	TBD
Duration:	16 weeks minimum
Start Date:	05/01/2017 (estimated)
End Date:	08/31/2017 (estimated)
Materials required for application:	TBC

**The projects will be available for viewing to students outside of Lassonde School of Engineering; please be clear what type of programs/pre-requisites are required for the projects.*