

**NSERC USRA Summer Student Research Assistant Opportunity:  
Magnetic Impulses and Aurora**

**Start Date:** May 7, 2018

**Overview:**

The AUTUMNX array in Québec has established a link between harmonic distortion detected by the Hydro-Québec electric grid and impulsive magnetic events. In turn, a preliminary link to unusual auroras has been suspected. This project will have two aspects: (1) do case studies of AUTUMNX impulses and auroras detected by THEMIS cameras near or in Québec, and (2) study more generally streamer auroras detected by the THEMIS array in North America, looking at the magnetic fields associated with them.

The successful candidate will work with Dr. Martin Connors at Athabasca University.

**Student qualifications:**

A student eligible for a Natural Sciences and Engineering Research Council Undergraduate Student Research Awards program (NSERC USRA; [http://www.nserc-crsng.gc.ca/Students-Etudiants/UG-PC/USRA-BRPC\\_eng.asp](http://www.nserc-crsng.gc.ca/Students-Etudiants/UG-PC/USRA-BRPC_eng.asp)) is sought to work on a project involving studies of magnetic fields, auroras, and power network transients. A background in Physics at the third year level will be helpful. Analysis will be carried out on both Windows and linux systems. Experience with a programming language (C, Python) will be helpful, as will knowledge of Excel. In addition, custom software under IDL will be used.

The position is based in Athabasca, Alberta.

**How to apply:**

Qualified individuals are encouraged to submit their application by email to Dr. Martin Connors at [martinc@athabascau.ca](mailto:martinc@athabascau.ca). Applications should include a brief cover letter that summarizes your skills, interests and experience; a current resume or curriculum vitae; an unofficial copy of your transcript; and the contact information for 1-2 references.

Evaluation of applications will begin immediately and will continue until a suitable candidate is found. All applicants are thanked for their interest in this position; however, only candidates selected for an interview will be contacted.