

## **Post-Doctoral Position at the UNB Faculty of Forestry and Environmental Management and MDA**

MDA (Richmond, BC) and the Faculty of Forestry and Environmental Management, University of New Brunswick (UNB), Fredericton (NB) are looking to fill a post-doctoral position in the area of forest fire mitigation using spaceborne SAR imagery. We are looking for a candidate who has a recent Ph.D. in remote sensing, forestry, or environmental management.

The successful candidate will be working on a project with the overarching objective to investigate the use of SAR data for forest fire mitigation, response, and recovery, with a primary focus on forest fire mitigation. The primary source of SAR data will be RADARSAT-2, but data from the Sentinel SAR and optical data will be considered as well.

### **Job Description**

The objective of the mitigation portion is to investigate the use of RADARSAT-2 data to estimate the fuel moisture codes, specifically the Drought Code (DC) that are used as input to the Canadian Forest Fire Weather Index (FWI) System. The temporal moisture variability of the DC is not well understood, so the focus of the mitigation is to estimate the relative change in the DC during the fire season based on differences in the radar backscatter.

The mitigation aspect is segmented into three components. The first component is to build on previous work to better understand the variability of the DC as a function of radar parameters such as polarization and how the radar responds to the properties of the organic layer (e.g. depth, soil properties). The second component is to simulate selected compact polarimetry (CP) modes and compare the CP response to changes in the DC. The third component is to use a time series of RADARSAT-2 data that was acquired before, during, and after the Fort McMurray Fire with the aim to compare radar changes and DC changes. It is expected that the successful candidate will be able to focus on one or all of the mitigation subtasks based on the individual's interest and expertise. The candidate will also participate to the fire extent mapping part of the study.

### **Requirements**

Candidates should have demonstrated expertise in one or more of the following areas:

- Experience with the application of SAR data
- Knowledge of SAR image analysis
- Knowledge of radar polarimetry
- Ability to use image processing and GIS software
- Ability to use Matlab or equivalent
- Excellent writing and oral communication skills

The candidate will be funded through a MITACS scholarship that requires spending part of the post-doctoral time working at MDA. As such, a security clearance issued by the Government of Canada will be required.

## Application

Interested applicants should send before **March 15<sup>th</sup> 2017** **as a single pdf file** a CV, a copy of academic transcripts (including TOEFL score if non-English speaking applicants), the list of publications, and the names/contact information for three references by email. Uncompleted applications will not be considered. We thank all the applicants, but only the short-listed candidates will be contacted.

For more information or application, please contact

- Prof. Brigitte Leblon ([bleblon@unb.ca](mailto:bleblon@unb.ca) )
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