

Subject: PhD opportunity in statistical fire ecology (reposting)

The goal of this project is to model the relationship between vegetation, climate and the number and size distribution of forest fires in boreal Canada. This is important for reasons of forest management, biological conservation and adaptation to climate change. It is challenging because the historical record of observed fire events is affected by size-biased sampling and fire management. In much of the north, until quite recent times, many small fires were likely undetected. Many of the fires that were detected were subject to fire suppression, the effectiveness of which remains poorly quantified.

We seek a PhD student to apply advanced statistical analysis to explore the true relationships between fire, vegetation and weather by accounting for the detection and suppression processes. We offer a 3yr PhD scholarship at C\$23,000/yr. The student will be supervised by Steve Cumming, Université Laval, in collaboration with David Martell (University of Toronto). The scholarship is tenable at Laval, with one or more stages at Dr. Martell's Fire Management Systems Laboratory. Funding through the Canadian Statistical Sciences Institute will afford the student opportunities to work with some of Canada's most prominent statistical scientists. The project may include a data assembly stage, where historical indicators of the fire management system will be acquired from project collaborators in fire management agencies. The position is to start by September 2016.

The qualifications are strong quantitative skills and an interest in applied or statistical ecology, independent of disciplinary background. An interest in spatial simulation and some programming experience (e.g. in R, Python) would be an asset, but modelling courses are available in the lab. The language of instruction at Université Laval is French, but theses may be written in English. Québec's francophone cultural environment provides non-francophone students an excellent opportunity to improve French language skills. Québec City is also well known for its exceptional outdoor recreational opportunities, natural beauty, historical interest and vibrant cultural life.

Applicants should submit by email a short statement of interest, a current CV, and the names of three references. Applications received before March 1st 2016 will receive full consideration. For further information, contact the undersigned:

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