

Recruiting Ph.D. student in modeling forest structure-function from lidar

I am recruiting a PhD student to join the Digital Forest Lab (digitalforestlab.ulaval.ca) within the Faculty of Forestry, Geography and Geomatics at Laval University. Our research focuses on developing a set of physically-based phytometrical methods using LiDAR data to describe the 3D geometry of forest canopies, and integrating these descriptors into physically-based models enabling the study of links between canopy structure, reflectance and functions. The research is highly interdisciplinary and involves integrating field work, ecosystem science principles, and computer modeling. The PhD project aims specifically at studying the influence of canopy structure on canopy reflectance and within-canopy microclimate at various forest sites in America and abroad. The modeling approach is mostly based on earlier work on terrestrial lidar data processing and integration into process models using voxels. The student will also work on processing lidar and hyperspectral data acquisitions from a drone platform.

Preferred Qualifications: A good background and interest in Ecosystem Ecology, Physical Geography, Geomatics, and/or Computer Science. Applicants should have an interest for intensive field work, strong skills in quantitatively processing and analyzing large volumes of data, and knowledge of scientific programming languages like MATLAB. Laval University is North America's first French-language university, nearly all lectures are in French (language development courses are offered), so knowledge of French is preferable but not mandatory. Graduate students have the option of writing their theses in English.

A 20,000 \$/year scholarship is available for 3 years. Additional funding sources are available through research centre fellowships, tuition remission (international students), and research and teaching assistantships. Further information about the position is provided by Prof Martin Béland: martin.beland@scg.ulaval.ca. Interested individuals should send a cover letter describing their research experience and publications along with a current CV and the names and contact information of three references. The preferred start date is January 2020.