EMPLOYMENT OFFER
Tenure-Track Faculty Position in Photogrammetry

Application period: July 18 to September 23, 2022

Background Information

Located in the heart of Quebec City, itself recognized by UNESCO as a World Heritage City, Laval University is a major university known for its culture of excellence in both research and teaching. The Department of Geomatics Sciences (www.scg.ulaval.ca), which is part of the Faculty of Forestry, Geography and Geomatics (www.ffgg.ulaval.ca). The Department consists of 14 professors as well as more than 150 undergraduate students and about 60 graduate students (M.Sc. and Ph.D.). The Department currently offers seven university curriculums, with those two at the bachelor's degree level being the only officially recognized programmes in the province that lead to the professions of land surveyor or geomatics engineer, as certified by the relevant professional corporations. Research activities in the Department are highly interdisciplinary in nature as well as aligned with the global research initiatives of the University and are organized in relation to the Centre for Research in Geospatial Data and Intelligence (www.crdig.ulaval.ca). The Department is also equipped with a Metrology-GNSS Laboratory that is unique in Canada, high-tech equipment for the acquisition and processing of geospatial data and imagery. This research infrastructure benefits from the contribution of significant funding in agile forestry, which has enabled the acquisition of drone platforms and various airborne sensors (color and hyper-spectral cameras, LiDAR scanner).

Description of the position

The Department of Geomatics Sciences invites applications for a tenure-track faculty position in photogrammetry, which requires advanced knowledge of photogrammetric sciences and current technologies of geospatial imagery and static and dynamic vision systems. The expertise sought refers to the sciences of precision measurement on georeferenced images and point clouds acquired by imaging sensors (color, multispectral, hyperspectral, thermal cameras) and LiDAR scanners, installed on various static and mobile platforms (land, naval, airborne and satellite). This expertise is the basis of the unique training programs taught at Laval University and supporting the professions of land surveyor and geomatics engineer, as well as innovative research initiatives in this field. Maintaining and improving training and research in photogrammetry are at the heart of the priorities of this vacant position.

The candidate must demonstrate his ability to carry out high impact innovative research activities such as the development of tools, applications and new methodologies based on geospatial imagery and point clouds for the purpose of capturing, constructing, and representing 3D scenes, fusion of multimodal images and change detection. In addition to mastering classic photogrammetric techniques, the candidate must also be aware of the latest scientific advances in artificial vision (inspection, identification, positioning), in terms of automatic correlation, pairing of images and point clouds, and simultaneous localization and mapping (SLAM).

Similarly, the candidate will have to develop and implement his own research program, join research teams, obtain research funding, and participate in multidisciplinary research initiatives in collaboration with the other areas of expertise present at the Department, the Faculty, and the University, which are of strong strategic interest (such as forestry, agriculture and smart cities) and which meet the growing needs for geospatial data for different events and in different environments. This person is expected to contribute to the activities of the metrology laboratory, especially those aimed at keeping photogrammetry geospatial imaging, and artificial vision equipment up to date.

The candidate must be able to develop a range of services for the community and take advantage of the equipment in place in the laboratory.

The selected candidate will be required to teach at all three academic levels (undergraduate, masters and doctoral studies). He or she will carry out state-of-the-art scientific research in the field of the position offered. The candidate must be keen to interdisciplinary collaborations both in teaching and in research. That person will also supervise undergraduate and graduate students and is expected to apply for and obtain competitive funding from the appropriate research funding agencies, including the implementation of public and private collaboration projects. Finally, the successful candidate will also be expected to take part in administrative functions in relation to the Department, the Faculty, and the University. He or she may eventually be called upon to assume teaching outside his/her field of specialty, in the other fields of geomatics in which the Department is active.

Selection criteria

Interested persons must have an engineering background and hold a Ph.D. in a relevant discipline. A previous postdoctoral internship in a related field related, or an equivalent practical experience, will also be considered an asset. Applications will be evaluated according to the candidate's ability to:

- exercise the four main academic functions: teaching, research and supervision of graduate students, internal participation, external outreach;
- exhibit leadership in both university-level teaching and research;
- ability for team working;
- Supervise students in the context of research training;
- Contribute to administrative functions within the university environment and manage research projects;
- Demonstrate commitment towards the broader professional and scientific communities (e.g. via publications, conferences, participation in peer evaluation, training initiatives, etc.).

The successful candidate must be eligible to a Canadian Corporation of Engineers (acknowledged by Engineers Canada, https://engineerscanada.ca), or, alternatively, willing to undertake the necessary procedures to become so within an initial period of 2 years. The teaching language at Laval University is French; the selected candidate must be able to teach in French or willing to do what is necessary to become proficient in French according to the Appendix B of the current Collective Agreement. Knowledge and competency in English is also a requirement for the position.

Hiring and salary

These are determined as a function of experience in relation to the current Collective Agreement.

Candidacy and Application

- Deadline for application: September 23rd, 2022
- Deadline for starting the position: January 1st, 2023

All interested persons must send the following documents (in PDF format):

- A curriculum vitæ.
- A presentation letter that highlights pertinent experience and explains how the candidate meets the selection criteria (max. 3 pages).

- The names and contact information for three persons who have agreed to provide a reference for the candidate (ie. a letter of recommendation).
- A list of publications and copies of three representative publications of the candidate's scientific production.
- A letter stating the candidate's motivations and vision for teaching and research (max. 3 pages).

These documents must be forwarded by email to the following address direction-geomatique@scg.ulaval.ca, to the attention of:

> Francis Roy (Department Head)
> Département des sciences géomatiques
> Université Laval
> Pavillon Louis-Jacques-Casault, bureau 1315
> 1055, avenue du Séminaire
> Québec (Québec), Canada, G1V 0A6
> direction-geomatique@scg.ulaval.ca

Valuing equity, diversity and excellence, Université Laval is strongly committed to provide an inclusive work and living environments for all its employees. For Université Laval, diversity is a source of wealth, and we encourage qualified individuals of all origins, sexes, sexual orientations, gender identities or expressions, as well as persons with disabilities, to apply.

Université Laval also subscribes to an equal access to employment program for women, members of visible or ethnic minorities, Aboriginal persons, and persons with disabilities. Adaptation of the selection tools can be offered to persons with disabilities according to their needs and in complete confidentiality. In accordance with Canadian immigration requirements, priority will be given to qualified individuals with Canadian citizenship or permanent residency.