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Call for Applications

CANADA EXCELLENCE RESEARCH CHAIR (CERC) IN PHOTONICS

Posted on: 2025-06-26

Closing date: 2025-09-16

Université Laval invites applications for a Canada Excellence Research Chair (CERC) in Photonics. This position will be attached to one of the departments of the Faculty of Sciences and Engineering and the selected candidate will be a member of the Centre for Optics, Photonics and Lasers (COPL). Université Laval is a major Canadian university committed to developing intersectoral research and supporting the spheres of excellence emerging from those results. Université Laval is home to several research centers and institutes working in partnership to conduct high impact research. The COPL is an interdisciplinary center whose research program focuses on photonic materials, optical fibers and devices, laser sources and laser-matter interaction, biophotonics, optical télécommunications, photonic systems and microsystems, and, more recently, quantum photonics. The COPL brings together some twenty experienced researchers, including ten research chairs. Owing to its first-class experimental infrastructure, COPL offers research laboratories unique in Canada, including fabrication facilities for optical fibers and optical elements, very high-speed transmission testbeds for optical communications, and several state-of-the-art facilities for the fabrication and characterization of photonic devices. The Institute for Intelligence et Data (IID) at Université Laval unites and supports expertise and innovation in artificial intelligence and data exploitation. Researchers at IID contribute to the development and enrichment of knowledge in multiple fields of applications, and many opportunities for collaboration exist.

As the Chair holder of the CERC in Photonics, the successful candidate will be responsible for developing a major research program aimed at increasing the impact and scope of COPL research. The CERC will define a vision for the future exploiting the expertise of the Chair holder in synergy with the strengths of the institution. The person selected by the Nomination Committee must successfully pass an internal selection at Université Laval as well as the national selection as part of the 2026 Canada Excellence Research Chair competition. The person selected will be expected to make a significant contribution to the writing of the proposal to be submitted to this competition. For more information on the program and eligibility criteria, please visit the Canada Excellence Research Chair website.

The chair holder of the CERC in Photonics will receive:

- a full professor position;
- $8 million over 8 years ($1 million/year including the chair holder's salary) in funding from the CERC Program;
- an allocation of $800,000 from the Canada Foundation for Innovation (CFI) to equip its laboratory ($2M worth of equipment);

Equity, Diversity, and Inclusion Statement

Université Laval rejects all forms of discrimination, promotes excellence in research and research training, and guarantees equal opportunity for all candidates. We support the principle that excellence and equity are compatible and complementary. We welcome and encourage applications from racialized people, visible minorities, women, Indigenous Peoples (in Canada), people with disabilities, ethnic minorities, 2SLGBTQ+ communities, and all qualified individuals with the skills and knowledge to engage productively with diverse communities.

By choosing Université Laval, you will benefit from the following integration measures:

- welcome days for new professors
- peer mentoring
- free French courses for you and your partner
- support for settling in Quebec City and job search assistance for your partner

Career Interruption and Special Circumstances

Université Laval acknowledges that career interruption and special circumstances (e.g., maternity or parental leave, leave for prolonged illness, clinical training, care for a family member, the COVID-19 pandemic) as well as a disability may influence productivity and contributions in research. Applicants are invited to explain, as appropriate and if they wish so, these effects, so that they are considered in the assessment of their applications.

Accommodation

In complete confidentiality, accommodation can be offered to candidates according to their needs in this competition, including accessibility. If you need accommodation, we invite you to contact the equity officer using contact information below.

Marie-José Naud
Advisor, Equity, Diversity and Inclusion in Research
marie-jose.naud@vrr.ulaval.ca

Job Description

The CERC holder will carry out a major research program in photonics related to the stated priorities of the CERC program. The candidate for the CERC must propose a vision for the future that will increase synergy between COPL's research axes, drawing on his/her expertise, to develop one of the following emerging themes:

- *Artificial Intelligence (AI) for photonics design and photonic devices for AI*. The use of AI is revolutionizing the design of complex optical systems and photonic devices. AI makes it possible to achieve novel designs that break with conventional frameworks and offer unrivalled performance. These design techniques need to be optimized to reduce the computational resources required and improve their accuracy for photonic applications.
- *Photonic nanomaterials.* This evolution in materials science offers numerous opportunities for innovation in the design of optical elements, coatings, waveguides, photovoltaic cells, nanolasers and biosensors.
- *Photonics applied to quantum sciences*. Photonic technologies here have the potential to revolutionize secure communications through the transmission of quantum keys, information processing through the speed of quantum computers, and precision measurement through the availability of quantum sensors.
- *Metrology and photonics instrumentation.* Photonic instrumentation enables precision measurement of a wide range of parameters, improving the quality of information available for decision-making. For example, precision spectral measurement is of interest for the remote sensing of environmental parameters, for the measurement of biomarkers in the health sciences, or for the measurement of chemical elements in astronomy.

Upon taking up the position, and in order to deliver the proposed research program, the Chair holder will be required to:

- Generate research results with a major societal or scientific impact;
- Recruit and supervise personnel;
- Recruit and supervise master's and doctoral students;
- Obtain funding and setting up research infrastructures;
- Establish partnerships and collaborations commensurate with a leadership role at the national and international level;

As a professor at Université Laval, the selected candidate will also:

- Participate in the activities of the Centre for Optics, Photonics and Lasers (COPL);
- Teach at the undergraduate and graduate levels (some teaching release is provided). *If necessary, French courses will be offered by Université Laval to allow the person to acquire the necessary skills to teach in French;*
- Participate in the pedagogical and administrative activities of the Department of Electrical and Computer Engineering; and
- Participate in external activities of an academic nature that contribute to the reputation of the departments, the faculty and the University.

Depending on the selected person's expertise and preference, the CERC holder's home department will be either the Department of Physics, Engineering Physics and Optics, the Department of Electrical and Computer Engineering or the Department of Chemistry.

Requirements

Applicants must meet the CERC eligibility requirements. They must be full professors or associate professors who will become Full professors in one- or two-years following nomination. Applicants from outside academia must have the necessary qualifications to be nominated as full professors.

The full application package must include:

- A cover letter of no more than three pages.
- A curriculum vitae stating the impact and outcomes of the achievements, including publications, refereed conferences and other scientific contributions. The curriculum vitae must include the names of five persons who can provide written references, including at least two persons who have not collaborted with the candidate. Candidates are invited to include explanations of any career breaks, and to indicate their duration.
- The UL self-identification form
- The application must be submitted to the Dean of the FSG, Mr. Stéphane Boudreau, by e-mail at doyen@fsg.ulaval.ca

Competition Stages and Evaluation Criteria

1. Competition Stages and Submission Deadlines

Full application deadline	**September 16th, 2025**
Results announcement	**November 7th, 2025**
Application deadline at VPR Office	**November 15th, 2025**
Final results announcement	**December 2025**
Full application deadline at CERC Program	**March 18, 2026**
CERC Program results announcement	**No later than January 2027**

2. Evaluation: first step

A Nomination Committee, at the Faculty level, will select one application based on the following criteria:

1. Ph.D. in either electrical engineering, physics, engineering physics, chemistry or another discipline relevant to photonics research.

2. Relevance of scientific training and experience in the field of photonics research.

3. Quality and impact of publications, refereed conferences and other scientific contributions in photonics, taking-into-account the applicant's professional experience.

4. The quality of testimonials or recommendations, work accomplished within the scientific community and other elements reflecting excellence, leadership and previous level of professional commitment.

5. Demonstration of autonomous and original research activity related to photonics.

6. Experience and potential for mentoring undergraduate and graduate students.

7. Teaching experience and potential, versatility and foreseeable commitment in this regard.

8. Matching of professional skills with the key competencies required for professorship, which have been identified as:

- Analysis, ability to synthesize, judgment
- Creativity and innovation
- Communication skills
- Interpersonal skills and openness
- Ability to work in a team and with partners
- Autonomy and sense of responsibility
- Sense of ethics and duty
- People management

9. Ability to take-into-account the principles of equity, diversity and inclusion in teaching, research and coaching activities (interview discussion).

The Nomination Committee is composed of Professors Frédéric Grillot, Younès Messaddeq and Simon Thibault from the Department of Physics, Engineering Physics and Optics; Professors Christian Gagné and Sophie LaRochelle from the Department of Electrical and Computer Engineering; and Professors Denis Boudreau and Jean-François Morin from the Department of Chemistry.

In addition, an equity officer will take part in the committee meetings to ensure the conformity of the evaluation process. All committee members receive clear instructions on their role, the expected definition of excellence as well as on the impact of career interruptions and special circumstances in the evaluation of applications. Members must also complete unconscious bias training in peer review.

3. Evaluation: second step (Vice-President Research (VPR) Office)

The application of the selected candidate will be sent to the VPR Office for a final internal selection according to the selection criteria of the CERC Program.

Starting Date : up to 12 months following CERC Program results announcement.

Contacts

Application call process
Prof. Sophie LaRochelle
Director, Centre d'optique, photonique et laser (COPL)
Sophie.larochelle@gel.ulaval.ca

Questions related to EDI principles
Marie-José Naud
Advisor, Equity, Diversity and Inclusion in Research
Office of the Vice Rector, Research and Innovation
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