Call for Applications

CANADA EXCELLENCE RESEARCH CHAIR (CERC) IN
INTEGRATIVE NEUROSCIENCE FOR SUSTAINABLE MENTAL HEALTH

Publication of the call: April 6 2022

Description

Understanding the complexity of the brain and its causal relation to the workings of our mind as well as finding and implementing ways to foster sustainable mental health are among the greatest scientific challenges of our time. The massive burden of psychological stress and neuropsychiatric disorders is acute and growing; the recent pandemic and opioid addiction crisis have highlighted more than ever the paramount importance of attending to, and promoting the mental well-being of our population. There is a critical need to develop sustainable health strategies, beyond chasing classical pharmacological treatments, or applying short term crisis management plans. We need to build durable approaches towards prevention, resilience, and lasting mental health.

To undertake this challenge, Université Laval proposes to create a <u>Canada Excellence Research Chair (CERC) in Integrative Neuroscience for Sustainable Mental Health</u>. Université Laval is well-positioned to support this endeavour as it is at the convergence of several research strengths within our university and its affiliated research and clinical centres. The proposed CERC will build on Université Laval's ability to bring together, in a genuine transdisciplinary effort, the necessary disciplines to undertake the challenge of developing and validating novel evidence-based approaches to empower people and societies with the means to develop better resilience towards sustainable mental health. This includes fostering a better understanding of the impact of our activities and the environment on mental health, promoting interventions to improve cognitive and emotional development, nurturing our natural biological rhythms, managing pain and minimising suffering, developing complementary approaches —both pharmacological and non-pharmacological— to stimulate brain plasticity and repair, improving lifestyle, and detecting early signs of vulnerability to intercept the development of mental disorders.

The proposed strategy will rely on the development and exploitation of an ensemble of technologies to monitor and modulate brain activity, cognition, and behaviour in the least invasive and most ecological manner. The objective is to reveal with these approaches the neurological and psychological processes that underlie how the brain reacts to environmental challenges and to different types of interventions towards recovery from physical and mental injury. In turn, this knowledge can be used to nurture long term mental balance and develop stress-resistance and resilience. Within the interdisciplinary biopsychosocial framework model, the proposed CERC will strengthen the interconnection between clinical neuroscience, neurobiology, neuropsychology, philosophy, neuroethics,

anthropology, and sociology. All these aspects will be integrated in a translational approach towards improvement of mental health and sustainable human development.

The candidate sought is an internationally recognized leader in fields relevant to the proposed CERC program, with accomplishments that have had a major societal impact. The ideal candidate should have the ability to bridge multiple disciplines, from applying leading-edge neurotechnologies to translating knowledge into real-life clinical settings and addressing psychosocial and ethical determinants of mental health and well-being.

The CERC will be embedded within a highly collaborative group across five research centres funded by the Fonds de recherche du Québec, affiliated with Université Laval, and located in close proximity to each other within an innovation sector, InnoVitam, prioritized by Quebec City: the Centre CERVO, the Centre interdisciplinaire de recherche en réadaptation et intégration sociale (Cirris), The Centre de recherche en santé durable VITAM, the Centre de recherche sur les jeunes et les familles (CRUJeF), the Centre de recherche du CHU de Québec-Université Laval.

Université Laval, first francophone university in North America, also offers a vibrant environment with complementary expertise relevant to the proposed program, with researchers belonging to:
- *Groupe de recherche sur l'inadaptation psychosociale chez l'enfant,*
- *Centre d'études et d'interventions en santé mentale,*
- *Centre NUTRISS - Nutrition, santé et société,*
- *Centre d'Optique, Photonique et Laser,*
- *Institut Intelligence et Données,*
- *Centre de recherche en robotique, vision et intelligence Machine,*
- *Centre de recherche en Données Massives,*
- *Centre interdisciplinaire en modélisation mathématique de l'Université Laval,*
- *Centre de recherche Cultures-Arts-Sociétés,*
- *Centre interuniversitaire d'études et de recherches autochtones,*
- *Institut d'éthique appliqué.*

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 Canada Excellence Research Chair competition. For more information on the program and eligibility criteria, please visit the Canada Excellence Research Chair website.

The successful candidate will receive:
- a full professor position in the Faculty of Medicine;
- $8 million over 8 years ($1 million/year) in funding from the CERC Program;
- a 2M$ allocation for equipment from the Canada Foundation for Innovation and partners;
- competitive and attractive start-up funds.

The CERC will also have access to leading-edge infrastructures in the domain of neuro-technologies at CERVO, CHU and Cirris, including an advanced research-dedicated Brain Imaging Facility for multimodal imaging (Siemens 3-T Prisma for structural and functional imaging), MRI-compatible non-invasive neurostimulation and neuromodulation systems (transcranial magnetic stimulation TMS and transcranial direct current stimulation tDCS), MRI-compatible psychophysiology measurements including biopotential recordings (EEG, ECG, Electromyography), Electroretinography, Electrovestibulography, and Galvanic Skin Response monitoring, MRI-compatible Near-IR spectroscopy systems, virtual and augmented reality systems, hand-held multimedia interfaces, fibre-optics facility for the design of wearable technologies, wireless physiological monitoring systems, movement assessment platforms, and *in vivo* optical imaging systems.

The Chairholder research program will also benefit from major investments in big data analysis and artificial intelligence infrastructure at Université Laval, with its data storage, management, and processing infrastructure (VALERIA and associated PULSAR initiatives).

Equity, Diversity, and Inclusion Statement

Valuing equity, diversity and excellence, Université Laval is strongly committed to provide an inclusive work and living environment 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, Indigenous 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.

By choosing Université Laval, you will benefit from the following benefits to help ease the transition into our institution and Québec City:
- 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,
- for professors from abroad, a tax exemption (under certain conditions).

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 have an effect on productivity and contributions in research. Applicants are invited to explain, as appropriate, these effects so that they are taken into account in the assessment of their applications, by including a specific section to this effect in their CV within the application package (see below).

Accommodation

In complete confidentiality, accommodation can be offered to people with disabilities 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.
Patricia Neitthoffer
Equity Officer
patricia.neitthoffer@edi.ulaval.ca

Job Description

The Chairholder will foster the development of a world-class, collaborative, and integrated translational transdisciplinary research program aimed at validating and unifying neurological, bio-psychological, and social-psychological interventions to promote sustainable mental health. To achieve this, the Chairholder will engage in supporting the implementation and dissemination of evidence-based integrative therapeutic and preventive interventions taking advantage of innovative multimodal neuro-technologies to monitor and modulate brain and mental function non-invasively and in ecological conditions. The Chair will also engage in knowledge translation activities to demystify complementary medical approaches to health professionals and the public. Towards this goal the Chairholder will build an inclusive research training (graduate and post-graduate) environment to foster excellence and best practices in research.

Requirements

Applicants must meet the CERC eligibility requirements. They must be full professors or associate professors who are close to obtaining tenure. Applicants from outside academia must have the necessary qualifications to be nominated as full professors.

The full application package must be sent to vdres@fmed.ulaval.ca and includes:
- ➢ A Cover letter outlining the reasons for the candidate's interest in the position, vision for integration within the Quebec City research ecosystem and the foreseen added value of their contribution to enrichment of the existing expertise at the institution and in Canada.
- ➢ The Applicant's CV (which can include a section describing career interruptions, in number of months, and their impact on the applicant's career path and research progress)
- ➢ A research statement (5 pages max)
- ➢ A statement on how the proposed program will embed Equity, Diversity and Inclusion (EDI) considerations (2 pages max). Refer to the CERC competition guidelines for more information on the expectations in terms of EDI practices.
- ➢ the UL self-identification form (in French only)

Competition Stages and Evaluation Criteria

    1. Competition Stages and Submission Deadlines

Full application deadline	**May 9, 2022**
Interview period for shortlisted candidates	**Mid to end of May, 2022**
Results announcement	**June 3, 2022**
Application deadline at VPR Office	**June 13, 2022**
Final results announcement	**June 2022**
Full application deadline at CERC Program	**October 13, 2022**
CERC Program results announcement	**Spring 2023**

    2. Evaluation #1

A Nomination Committee, at the faculty and department level, selects one application based on the selection criteria of the CERC program. This includes:

- Research/academic merit and leadership skills (accomplishments that have made a major societal impact, including their record of service to the research community; record of attracting and mentoring a diverse group of students, trainees and research personnel; plan for establishing and maintaining a diverse core team and an environment that is safe and inclusive and allows all team members to reach their full research potential)

- Quality of the research program, including alignments with one or more of the Government of Canada's Science, Technology and Innovation Priorities for the program (promise of the proposed field of research; extent to which the proposed research program enhances knowledge mobilization and translation so that all sectors of society; extent to which the Chair fills a gap within Université Laval's existing expertise and in Canada; Quality of the proposed research program in terms of how it has embedded EDI considerations (including GBA+ or SGBA+) at each stage of the research process)

- Potential contribution to the excellence of the Canadian and international research ecosystem (advancing the frontiers of research in the field on a global scale; developing opportunities for collaboration regionally, nationally and internationally; bringing Canada at the forefront of international collaboration on complementary approaches to mental health; planning of the Chair and core team members to communicate the research results and their impacts to the world and a variety of audiences; potential to apply the research results to advance public policy and/or the potential to commercialize research discoveries to create social and economic advantages for Canada)

The Nomination Committee is composed of 9 professors representing the diverse disciplines, participating faculties and research centres involved in the recruitment. 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 #2 at Vice-President Research (VPR) Office

The application of the selected candidate will be sent to the Vice-President Research (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 in Spring 2023.

Contacts

Application call process
Yves De Koninck
Scientific Director, CERVO Brain Research Centre
Yves.dekoninck@neuro.ulaval.ca

Questions related to EDI principles
Patricia Neitthoffer
Equity Officer
EDI Office
Vice-rectorate for equity, diversity, inclusion, and human resources
patricia.neitthoffer@edi.ulaval.ca