



**UNIVERSITY OF  
CALGARY**

## **Faculty Positions in Child and Youth Mental Health Mathison Centre for Mental Health Research & Education: Background information**

The ***Mathison Centre for Mental Health Research & Education*** is focused on understanding the causes of mental illness and determining the most effective approaches to prevention, early identification and early intervention, in order to reduce the burden of mental illness in youth so that youth and their families remain productive contributors to society.

The Department of Psychiatry (<http://www.ucalgary.ca/psychiatry/>), Hotchkiss Brain Institute (HBI; <http://www.hbi.ucalgary.ca/>) and the Alberta Children's Hospital Research Institute (ACHRI; <http://research4kids.ucalgary.ca>) invite applications for two (2) full-time academic positions, at the Assistant Professor level, to develop vigorous, independent, research programs in areas related to child and youth mental health.

We are seeking clinician-scientists with demonstrated excellence (as exemplified by publications in high impact journals in the field and peer-reviewed funding) in research related to child and youth mental health. Preference will be given to applicants with expertise in: 1) Clinical and treatment research in major childhood psychiatric disorders and 2) Neuroscience research into the etiology and pathogenesis of childhood psychiatric disorders .

The **University of Calgary** is a young and ambitious comprehensive research institution. Established in 1966, it is approaching its 50<sup>th</sup> anniversary with a clear strategic direction – *Eyes High* – to become one of Canada’s top five research universities. This plan aims to establish the University of Calgary as a global intellectual hub in Canada’s most enterprising city. University President, Dr. Elizabeth Cannon, and her leadership team have established a roadmap through the University’s Academic and Research Plans to achieve this goal. They are leading almost 4,700 faculty members across 14 faculties and 53 teaching departments. The student body includes 25,000 undergraduate and 6,000 graduate students enrolled across 100 different undergraduate, graduate or professional degree programs.

Six priority research initiatives have been named which represent the institution’s greatest research strengths, bringing together scholars from across a number of Faculties. The University of Calgary’s six strategic research themes are:

- **Brain and mental health**
- Engineering solutions for health: biomedical engineering
- Infections, inflammation and chronic diseases in the changing environment
- Energy innovations for today and tomorrow
- Human dynamics in a changing world: Smart and secure cities, societies, and cultures
- New earth-space technologies

Leading the Brain and Mental Health strategic research theme is the Hotchkiss Brain Institute, with its partners in the Cumming School of Medicine, including the Alberta Children’s Hospital Research Institute and the Department of Psychiatry. Together with the Faculties of Arts (Dept. of Psychology), Engineering, Kinesiology, Nursing, Science, Social Work and Veterinary Medicine, this initiative seeks to promote and enhance research collaborations.

Full details of the University’s Brain and Mental Health strategy can be found at:

[http://ucalgary.ca/research/files/research/15-unv-007-bmh-research-strategy.lowres.final\\_.pdf](http://ucalgary.ca/research/files/research/15-unv-007-bmh-research-strategy.lowres.final_.pdf)

### **About the Hotchkiss Brain Institute** (<http://www.hbi.ucalgary.ca/>)

The Hotchkiss Brain Institute (HBI)’s 2015 strategic plan launches the next decade for the Institute, with a revitalized vision of “*healthy brains for better lives*” and a renewed mission, “*to inspire discovery and apply knowledge towards innovative solutions for neurological and mental health disorders.*” This strategic plan also recognizes a new role for the HBI, as leaders of the University of Calgary’s Brain and Mental Health Strategic Research Theme.

The primary strategic research goal of the HBI is to achieve internationally recognized key discoveries and transformative clinical research in the neurosciences and mental health. This goal will be reached with the introduction of a “NeuroDiscovery Framework”, which aligns research within three themes of Brain & Behaviour, Neural Injury & Repair and Healthy Brain Aging. Each theme is composed of a number of “NeuroTeams” organized in a translational continuum, which includes basic, clinical, population and public health researchers. The teams build on a springboard environment of NeuroTechnologies, Core Facilities and support programs that will allow them to pursue their research goals. The HBI education program aims to position the HBI as the premiere place to train in the neurosciences and mental health in Canada, by becoming a training centre of choice at all post-secondary training levels and offering enhanced opportunities that equip trainees to become successful leaders in their chosen career paths. The HBI is committed to engaging with the community and partners, as a locally relevant and internationally recognized centre of excellence for brain and mental health.

Full details of the HBI's strategic plan can be found at: <http://www.hbi.ucalgary.ca/strategic-plan>.

The HBI has an impressive track record in philanthropic support, having raised over \$110 million in support of brain and mental health research and education in the past ten years. These funds are used to support priority research areas in foundational and translational research, to provide leverage and matching for the acquisition of research infrastructure, to establish and outfit new research space, to provide funding for faculty and trainees and to support an enhanced research and education environment. The HBI has established a number of support programs for its members, including:

- an international scholar exchange program - partners include Oxford University, the University of Melbourne/Florey Institute and the Karolinska Institute, with over 40 travel awards given to date since 2011 in total to both HBI and visiting scientists and trainees
- competitive funding programs for students and fellows - \$400,000 available per year for PhD student and post-doctoral fellow stipends
- subsidized core resources for HBI members - including pilot funding programs, as well as support for a NeuroImaging Research Unit, Molecular Biology Core Facility and others

### **About the Department of Psychiatry (<http://www.ucalgary.ca/psychiatry/>)**

Members of the Department of Psychiatry have academic, clinical and administrative roles in the Cumming School of Medicine Department of Psychiatry at the University of Calgary and the Alberta Health Services, Calgary Zone Department of Psychiatry. Under the direction of Department Head, Dr. Beverly Adams, the mission of the Department of Psychiatry is to promote the highest quality care for individuals with mental disorders and their families and to promote a learning environment through psychiatric education and research. There are 20 GFTs currently in the Department of Psychiatry along with 169 affiliated clinical staff across the following divisions: Child and Adolescent; Forensic; Geriatrics; Addictions; Outpatients and Inpatients. The Department works across five inpatient sites and has an extensive outpatient program with specialized services in the community.

The vision of the Department of Psychiatry is to integrate innovative research programs with clinical services in order to advance our understanding of the origins and underlying mechanisms of mental disorders. This knowledge will lead to the development of novel and specific treatments to improve outcomes for patients and prevent the onset and progression of illness in high-risk youth. Central in achieving this vision are the collaborative links with complementary cross-disciplinary research through the participation in the Hotchkiss Brain Institute and the Mathison Centre for Mental Health Research & Education. In addition, the Department of Psychiatry collaborates with the Alberta Children's Hospital Research Institute as well as the O'Brien Institute of Public Health. Research mentorship and evidence-based innovative care position the Department of Psychiatry as an emerging leader in creating and disseminating new knowledge about the onset, course and treatment of mental disorders.

There is a Royal College accredited Residency Training Program with subspecialty and fellowship training available in Child and Adolescent, Geriatric and Forensic Psychiatry. A certification fellowship in NeuroPsychiatry is currently under development. Support programs including clinical and clinical research fellowships are established, and with its partners the Hotchkiss Brain Institute, the Mathison Centre for Mental Health Research & Education and the Cumming School of Medicine, the Department of Psychiatry is able to subsidize several educational and research initiatives.

### **About the Alberta Children's Hospital Research Institute (<http://research4kids.ucalgary.ca>)**

The Alberta Children's Hospital Research Institute (ACHRI) is a multi-disciplinary partnership Institute within the Cumming School of Medicine, governed by a Memorandum of Understanding between the University of Calgary, Alberta Health Services, and the Alberta Children's Hospital Foundation. ACHRI's membership encompasses a diverse community of scholars — over 90 full and 140 associate members - in the university's faculties of Arts, Education, Kinesiology, Medicine, Nursing, Science, Social Work and Veterinary Medicine.

ACHRI's vision is, "a healthier and more prosperous future for your children through research", and its mission is "to foster healthy biological and psychological trajectories for babies, children and youth through excellence in research, innovation, knowledge transfer and education".

Translational research is at the core of ACHRI's vision and Institute experts are committed to increasing our understanding of the biological and psychosocial development of babies, children and youth. With our partners, we will create new knowledge to change practice and shape policy in ways that improve child health outcomes and enhance the potential of children to mature as active, engaged and productive adults.

The research activities of ACHRI members are organized into three priority themes which drive research from the bench-to-bedside-to-community: a) *Genes, Development and Health*, b) *Behaviour and the Developing Brain*, and c) *Healthy Outcomes*. Full details of the ACHRI 2015-2020 strategic plan can be found at: <http://research4kids.ucalgary.ca/files/research4kids/alberta-childrens-hospital-research-institute-strategic-plan.pdf>.

ACHRI's primary operational function is to create an optimal research environment. The Institute has placed particular emphasis on recruitment of high quality research faculty and personnel, investment in fundamental infrastructure (space and equipment) and establishment of four research platforms that were foundational for programmatic success:

- Functional Imaging – the Adolescent and Child Imaging Research program (CAIR) is supported by 5 image scientists with more than 20 graduate and post-doctoral students, new purpose built space, a 3T MRI scanner and a Mock Scanner devoted to research in child imaging, developmental pediatrics, child behavior, youth mental health, neurology and neurosurgery.
- Genomics and Informatics - ACHRI, with financial support from the Alberta Children's Hospital Foundation and the Cumming School of Medicine has built a genomics-bioinformatics platform, which supports the research programs of investigators within institutes across the school. ACHRI will lead the development of a strong collaborative partnership amongst CSM, multiple institutes and faculties in support of the university's strategic direction, culminating in a CSM Centre for Health Genomics and Informatics.
- ACHRI Training Program - ACHRI has committed \$950,000 annually for competitive graduate and post-doctoral training awards, which have been leveraged by participation in the Cumming School of Medicine and University of Calgary graduate and post-doctoral training programs, thereby enhancing training capacity within ACHRI, promoting recruitment of excellent trainees to our University, and providing a nurturing training environment to propel our trainees to professional success.
- Support for Clinical Research – ACHRI supports faculty and support personnel building capacity in clinical methods, biostatistics, data storage and manipulation.

Neurodevelopmental and child mental health disorders are a key element of the Behaviour and the Developing Brain theme's research focus and are supported by the resources of ACHRI's Owerko Center. The Owerko Center for neurodevelopmental and child mental health research was opened in 2015. It is physically designed as a 'dry lab' to support ACHRI's clinical, health services and population health research in this field; however, it will be the hub of a larger network of Institute investigators

encompassing the full range of bio-psychosocial neurodevelopmental and child mental health research (i.e. all four CIHR pillars: basic science, clinical, health services and population health research). The Centre's operations and resources provide significant support for the research and training programs of this broad network of investigators: chairs, start-up, matching, bridge, training and operational funds.

Neurodevelopmental disorders constitute one of the fastest-growing health problems in the world and developmental, behavioural and emotional problems are now collectively the leading cause of disability affecting children. Neurodevelopmental disorders arise from the disruption of the normal growth and maturation of the brain and nervous system - the science encompasses the disciplines of embryology, developmental biology, neuropathology, psychology and psychiatry. Additionally, there is an interaction between environmental and genetic factors that significantly impacts the life course. The etiology of most of these conditions is unclear and there is an urgent need to devote resources to uncover the developmental origins of these disorders and to develop effective interventions for children and their families. Current research in the program:

- Advances our understanding of biological and psychosocial development of children and improve health outcomes through translational research
- Determines prenatal and early childhood social-environmental predictors of neurodevelopmental and behavioural disorders
- Identifies mechanisms (e.g., neural, endocrine, genetic, metabolic) underlying the relationships among antecedents, predictors and neurodevelopmental and behavioural disorders
- Improves the early identification and diagnosis of child neurodevelopmental and mental health disorders using imaging, genomics, and metabolomic approaches
- Evaluates and improves clinical, supportive and rehabilitative treatments for children and families at risk for, and affected by neurodevelopmental and behavioural disorders

## About the Mathison Centre for Mental Health Research & Education

(<http://www.mathison.ucalgary.ca/>)

A **transformational gift** of \$10 million was made in March 2012 by a Calgary businessman, Mr. Ronald P. Mathison, to support mental health research and education at the University of Calgary. A 1000 m<sup>2</sup> facility that includes a clinical research setting for mental health patients to participate in research studies on the causes of illness and the impact of interventions was renamed in honour of this donation, to provide a central home for the University's mental health researchers. This donation recognized the tremendous unmet need in mental health research, particularly in disorders affecting child and youth populations. The mission of the Mathison Centre is to promote the highest quality research and education on the early identification, treatment and prevention of mental disorders. A key focus on youth mental health has been named in order to ensure that youth remain productive contributors to society and that the personal, family and societal costs of mental disorders are reduced. The Mathison Centre promotes a multidisciplinary approach to early identification, treatment and prevention through translational research encompassing basic science, clinical, health services and population health approaches.

Membership of the Mathison Centre (<http://mathison.ucalgary.ca/members>) draws primarily from the Faculties of Medicine, particularly: the Department of Psychiatry, the HBI, ACHRI, and the O'Brien Institute for Public Health. These institutes have built a **strong foundation in basic, clinical, health services and population research in child and youth mental health** and provide the leading-edge infrastructure and expertise required for international-calibre research in this field. Three areas where members have established expertise and are applying new collaborative approaches are: a) the study of psychoses and depression visualized by brain imaging using high field magnetic resonance (MR) scanners; b) the prediction, prevention and diagnosis of mental illness in the clinical realm, c) the genetics of

childhood neuropsychiatric disorders. MR-based research programs benefit from access to two 3T MR scanners, located at the Foothills Medical Centre (in the Seaman Family MR Research Centre) and at the Alberta Children's Hospital. The Cumming School of Medicine Clinical Research Unit provides experienced research staff with expertise in clinical research design, data analysis, and clinical study management, in support of neurological and mental health clinical studies at reduced cost to its researchers. Research in genetics of psychiatric disorders benefits from access to extensive core facilities through ACHRI and the University of Calgary.

To capitalize on the momentum of the Mathison family's transformational gift, initial funding programs for the Mathison Centre have been established that are intended to enhance collaboration and leverage external funding opportunities. A dedicated stream of funding for Mathison Centre trainees is available including support for graduate students and postdoctoral fellows. Recently funding has been extended to include summer students and visiting trainees, the latter program having attracted applicants worldwide. Funding is also available for visiting speakers who present at both HBI seminars and Department of Psychiatry Rounds. The flagship annual event is a symposium entitled Youth Mental Health Day which features cutting edge research presentations from world leaders in child and adolescent mental health research. The visiting speaker and symposium funding programs support the educational mandate of the Mathison Centre.

The newly formed Mathison Trainee Organization (MTO) has adopted a range of responsibilities that greatly contribute to the sense of community in the Centre. These responsibilities include: organizing monthly speakers (external and internal) to present at Psychiatry Rounds; running and publicizing a monthly journal club; coordinating monthly meeting of the Academic Investigator Mentorship Program for trainees; coordinating the shadowing of physicians by trainees; running a regular lecture series by trainees for trainees; and a social program that includes breakfasts, hikes and charity events.

New Faculty of the Mathison Centre have a tremendous opportunity to build a world-class program whose advances in the landscape of prediction, prevention and intervention in mental health research and education will be felt both here in Calgary and beyond. A collaborative environment has been cultivated across the Cumming School of Medicine and across the University in this domain, and the community is eager to participate in the activities and programs of the Mathison Centre.

## **MENTAL HEALTH RESEARCH STRENGTH AT THE UNIVERSITY OF CALGARY**

Expertise in mental health research at the University of Calgary, focusing on child and youth populations, spans the trajectory of development from perinatal and infancy into adolescence, and emphasizes the understanding that negative outcomes can be prevented with early identification and intervention. This emphasis on healthy development and resiliency as opposed to focusing only on pathological states has the potential for enormous impact on reducing the burden of mental health problems on individuals, families and society as a whole. Examples of researchers from across the University of Calgary who are recognized leaders, contributing to these research goals from various disciplines include:

## Genomics of Childhood Neuropsychiatric Disorders

**Paul Arnold, MD, PhD, FRCPC:** Dr Arnold is Director of the Mathison Centre and holds the Alberta-Innovates Health Solutions (AIHS) Chair in Translational Chair in Child and Youth Mental Health. His research focuses on the genetics of childhood neuropsychiatric disorders, particularly childhood obsessive-compulsive disorder

## Clinical Research in Mental Disorders of Children and Youth

- **Jean Addington, PhD:** Dr. Addington is the Alberta Centennial Mental Health Research Chair and Novartis Chair in Schizophrenia Research. Her work aims to identify predictors and mechanisms of psychosis onset for young people at high risk of psychosis.
- **Anne Duffy, MSc, MD, FRCPC:** Dr. Duffy was recruited to the University of Calgary as the Campus Alberta Innovates Professor in Youth Mental Health. Her work focuses on individuals at high-risk for mood disorders and includes early intervention, clinical and translational research in this domain.
- **Nicole Letourneau, PhD, RN;** Dr. Letourneau holds the Palix/Alberta Children's Hospital Foundation Research Chair in Parent-Infant Mental Health. Her CHILD Studies Program develops and tests interventions that support the development of vulnerable infants, children and youth.

## Child/Youth Brain Development and Application of Advanced Imaging Technology

- **Signe Bray, PhD:** Dr. Bray uses functional and structural magnetic resonance imaging (MRI) to study learning and cognition, with a focus on cognitive development and the imaging correlates of neurodevelopmental disorders.
- **Catherine Lebel, PhD:** Dr. Lebel uses magnetic resonance imaging to study brain development in children and adolescents with a focus on how brain structure and function change with age, or in response to treatments and interventions.
- **Frank MacMaster, PhD:** Dr. MacMaster held the Cuthbertson & Fischer Chair in Pediatric Mental Health until June 30, 2015. He is currently the Scientific Director of the Addiction and Mental Health Strategic and Clinical Network. His research focuses on the neurobiology of mental health in children and adolescents, with a core focus on mood disorders. He is currently co-leading a pilot study on the use of transcranial magnetic stimulation for the treatment of depression in adolescents.

## Basic Science of Mental Health

- **Jaideep Bains, PhD:** Dr. Bains studies how physiological and behavioural challenges, such as stress, lead to long-term changes in neural circuitry in the hypothalamus.
- **Matthew Hill, PhD:** Dr. Hill is a Tier II Canada Research Chair in the Neurobiology of Stress. He studies the role of the endocannabinoid system in stress and has translational interests in the role of endocannabinoids in mood disorders and anxiety.

## Epidemiology and Population Health

- **Scott Patten, MD, PhD:** Dr. Patten is an expert in the epidemiology of mood disorders, conducting analyses using extensive data on both the general population of Canada and Albertans as well as patients receiving care.
- **Jian Li Wang, PhD:** Dr. Wang is a psychiatric epidemiologist with expertise designing, implementing, and evaluating workplace mental health interventions.

## QUALIFICATIONS OF THE APPLICANTS

Qualified applicants will be Psychiatrists or clinical Psychologists holding an MD, PhD or MD/PhD, and who are eligible for independent licensure in their discipline. The positions provide at least 50% protected time for research, and will include expectations to contribute to teaching and clinical service provision. This is an excellent opportunity to develop an independent externally-funded research program within a collaborative environment.

## THE OPPORTUNITIES IN PLACE FOR THE TWO NEW FACULTY

**Positions:** We are seeking clinician-scientists with demonstrated excellence (as exemplified by publications in high impact journals in the field and peer-reviewed funding) in research related to child and youth mental health. Preference will be given to applicants with expertise in: 1) Clinical and treatment research in anxiety, depression, ADHD, OCD or other major childhood psychiatric disorders and 2) Neuroscience research into the etiology and pathogenesis of childhood psychiatric disorders including (but not limited to) genetics, epigenetics and neuroimaging approaches.

**Appointment and Salary:** An appointment at the Assistant Professor level in the Department of Psychiatry with a GFT salary.

**Startup packages:** Generous startup packages are available through the Mathison Centre and ACHRI.

**Space:** The Mathison Centre is a 1000 m<sup>2</sup> facility that includes a clinical research setting for mental health patients to participate in research studies on the causes of illness and the impact of interventions. This is located in the “Teaching, Research, and Wellness” building at the Foothills Campus of the University of Calgary, which is adjacent to the Foothills Medical Centre. Office spaces will be provided within the footprint of the Mathison Centre

**Infrastructure:** In addition to the clinical research setting provided by the Mathison Centre itself, the Cumming School of Medicine’s Clinical Research Unit and the HBI’s NeuroImaging Research Unit, the MR facilities at the Seaman Family MR Research Centre and at the Alberta Children’s Hospital, and the core genomics and bioinformatics facilities of ACHRI and the University of Calgary provide outstanding experimental research facilities required by members of the Mathison Centre.

**Access to a Diverse Set of Trainees:** The Mathison Centre has the goal of building capacity in mental health research by training students and fellows. Alongside the training opportunities emanating from the Department of Psychiatry, there are numerous training and education initiatives from across the partner Departments, Institutes, and Faculties who are strong supporters of the Mathison Centre. These include: undergraduate and graduate degree programs in neuroscience, psychology, medicine, community health sciences, social work and other related disciplines, as well as a resident-physician graduate education program. ACHRI and the HBI are both committed to supporting their members and trainees in a number of ways: through competitive funding streams for graduate students and fellows; through an innovative program that personalizes the graduate program experience with the goal of maximizing professional development alongside their research training; and through international exchange opportunities via the Rebecca Hotchkiss International Scholar Exchange program.

**Provincial partners in research and care:** Strategic Clinical Networks were created by the provincial health system (Alberta Health Services) to establish pan-Alberta teams that bring together the experiences and expertise of health care professionals, researchers, government, communities and patients and their families to improve our health care system. Each network will focus on a different area of health with the goal to improve the patient experience, ensure care is available when it is needed, and provide Albertans with the best possible health care. Alberta Health Services aims to establish 12 Strategic Clinical Networks. The Strategic Clinical Network in “Addiction and Mental Health” was one of the first to be established, and members of Campus Alberta Neuroscience are already working closely with this network to align their research goals where possible. Additional Strategic Clinical Networks in “Newborn, Child and Youth Health” and “Population Health and Health Promotion” are being launched.

## **JOIN THE UNIVERSITY OF CALGARY TO ACHIEVE ITS GOALS IN MENTAL HEALTH RESEARCH AND EDUCATION**

Taken together, the opportunities in place for the two new faculty at the University of Calgary are significant and tangible. This document provides an overview of points of interest to prospective candidates for this position. We welcome potential applicants to discuss these positions further in order to truly appreciate the collaborative and innovative environment in place at the University of Calgary.

Review of applications for these positions will begin May 2016 and will continue until September 16, 2016. We encourage you to consider this opportunity and forward a cover letter, academic CV, a statement of research interests (not to exceed 2 pages) and the names of three (3) referees to:

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