

EMPLOYMENT OPPORTUNITY  
**Independent Scientist for  
Knowledge Management Krembil Centre  
for Neuroinformatics**

The Krembil Centre for Neuroinformatics is hiring world-leading specialists to transform our understanding of mental health by organizing, integrating, analyzing, visualizing and modeling data across all levels of the brain —from genes to circuits to behaviour. This multimodal data is gathered across the clinical environment including genetic, epigenetic, wearables, mobile apps, brain imaging and electronic medical record data. Teams employ state-of-the-art techniques including artificial intelligence, machine learning, and multiscale computational modeling to accelerate identification and treatment of mental health disorders. Research is performed in an open, team science environment, with an emphasis on reproducible data-driven research and a patient-centric approach. A focus on global collaboration is key to transforming our understanding of mental health and its treatment.

**Job Description:**

The Independent Scientist for Knowledge Management will build a team to establish and populate a knowledge graph for brain health. Data from the knowledge graph will be used in machine learning and AI tools to enable advanced clinical decision support. This includes identifying existing data models, ontologies, and tooling to facilitate the integration and dissemination of data, models and literature. A key aspect of this work is to collaboratively define and refine ontologies related to the definition and treatment of mental health and brain disorders to support both researchers and clinicians. The team will use these ontologies to link data, analyses, visualizations, literature and models in the knowledge graph to enable discovery, search, inference, and machine learning.

You have expertise in clinical and/or basic neuroscience and biomedical ontologies. You should have an active interest in mental health, brain disorders and the development of systems to enable the categorization and prediction of mental health conditions. You will lead a team responsible for identifying and integrating relevant data, models and literature from around the world and integrating the scientific findings of the centre. You will support a workplace that embraces diversity, encourages teamwork and complies with all applicable regulatory and legislative requirements. This position will be located at 250 College Street, Toronto.

**Key Accountabilities:**

Leading a team of scientists and students your responsibilities include iteratively designing and implementing a brain health knowledge graph, by;

- Populate and maintain the knowledge graph by integrating state-of-the-art brain health data, literature and computational models
- Establishing global collaborations to engage diverse expertise in populating and maintaining the knowledge graph
- Establish pipelines and processes to integrate knowledge and data from around the world.
- Work with all teams across the centre to understand and integrate their results and findings.
- Participating in adjacent projects related to human pathophysiology and neuropsychiatric disorders.
- Identify and develop strategic partnerships and collaborations
- Collaborate with software engineers to integrate analyses, visualizations and models with the web-based knowledge dissemination platform.
- Collaborate with the Machine Learning and Data Analytics teams to implement large-scale analytics, clustering, and multidimensional visualizations.
- Collaborate with the Knowledge Engineering and Data Stewardship Teams on identifying data curation and data model requirements to support integration, reasoning and inference.
- Working closely with and incorporating results from a team that is building a knowledge representation and reasoning framework.

**Qualifications:**

- MD and/or PhD degree in Neuroscience, Neurology, Psychiatry, Medical Physics or related field.
- Three (3) years of relevant post-doctoral experience plus two (2) years of independent research and leading teams.
- Strong background in clinical neuroscience, bioinformatics, neuroscience.
- Strong organizational ability and outstanding communication skills.
- Strong interpersonal and collaborative abilities.
- Must obtain an academic appointment with the University of Toronto (appointment must remain active).
- Experience in fostering collaborations between diverse research and clinical groups (both internally and externally).
- Track record that demonstrates competence publishing in high impact peer reviewed journals, obtaining funding from various sources, disseminating research at formal scientific meetings, and participation in the education and supervision of students and trainees.

**Desired:**

- Machine learning and text mining expertise
- Background in ontologies and/or using semantic technologies
- Expertise in bioinformatics applications or neuroscience
- Familiarity with neuroimaging data models, data structures, data organization and best-practices.
- Knowledge of algorithm, data structure and object-oriented programming skills
- Proficiency in R and/or Python
- Experience in processing and reviewing large amounts of data
- Bilingualism (French/English) and/or proficiency in a second language would be an asset

**Please note:** This full-time, permanent position is NOT part of any bargaining unit.

**Salary range:** Competitive salary and benefits package.

**CAMH is a Tobacco-Free Organization**

**CAMH is fully affiliated with the University of Toronto and is a teaching hospital and research institute. As a CAMH employee you will be expected to actively support CAMH's teaching and research activities, in addition to supporting the clinical work of the hospital.**

**As an employment equity employer CAMH actively seeks Aboriginal peoples, visible minorities, women, people with disabilities, (including people with who have experienced mental health and substance use challenges), and additional diverse identities for our workforce.**