2027 Campaign

Student Recruitment

in Maternal and Child Health



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Postdoctoral Fellow – ENIGMA Global Transdiagnostic Resting-State fMRI Initiative

Desired profiles

☐ Internship (CEGEP / undergrad) ☐ M.Sc. ☐ Ph.D. ☒ Postdoc

Research Team

Clara Moreau, Ph.D.
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BRIGHT Lab: bright-psy.org

Research Interests

The BRIGHT Lab uses large-scale neuroimaging to study functional brain connectivity across neurodevelopmental and psychiatric conditions. Pr. Moreau chairs the resting-state fMRI methods working group within the ENIGMA Consortium, an international effort to standardize and harmonize resting-state fMRI analyses across major neurodevelopmental and psychiatric conditions (https://enigma.ini.usc.edu/ongoing/enigma-rsfmri/).

Description of the research project

We are recruiting a Postdoctoral Fellow to play a central role in the **ENIGMA Global rs-fMRI Initiative**. The project will bring together resting-state fMRI data from more than 35,000 participants worldwide, spanning children, adolescents, and adults across eight

conditions: schizophrenia, bipolar disorder, major depressive disorder, post-traumatic stress disorder, obsessive-compulsive disorder, anorexia nervosa, autism spectrum disorder, and attention-deficit/hyperactivity disorder, as well as healthy controls.

The Postdoctoral Fellow will coordinate analytic harmonization and reproducibility efforts of rs-fMRI data across disorder-specific ENIGMA working groups and participating sites. The overarching objective is to identify common and distinct functional connectivity signatures across disorders, while addressing long-standing challenges related to analytic variability, reproducibility, and harmonization in large-scale functional neuroimaging.

The Postdoctoral Fellow will work closely with the ENIGMA rs-fMRI working group chairs and collaborators, including Lune Bellec and Lea Waller (CR-IUGM, Montréal), Frank Hillary (Pennsylvania State University), and Paul Thompson (University of Southern California).

Scientific aims

- Assess how analytic choices affect atlas-based functional connectivity results by quantifying the robustness and reproducibility of disorder-specific patterns across workflows.
- Identify transdiagnostic and diagnosis-specific connectivity alterations through cross-disorder similarity analyses at both group and individual levels.
- Quantify the influence of age, sex, and medication exposure on functional connectivity signatures and cross-disorder similarities.

Study programs

Individuals who have completed or are about to complete training in the following areas are invited to apply:

- Ph.D. in computational neuroscience, bioinformatics, neurosciences, psychology, biomedical engineering, or a related field.

Required expertise and skills

- Strong expertise in resting-state fMRI analysis.
- Experience working with large and/or multi-site neuroimaging datasets.
- Advanced programming skills in Python and/or R.
- Experience with high-performance computing environments.
- Excellent organizational and communication skills, with the ability to coordinate analyses across multiple international teams.
- Fluency in English; French proficiency or willingness to learn French is expected.

Funding

Approximately $65,000 to $70,000 CAD per year, commensurate with the experience and expertise level of the candidate.

Appointment duration: 1 to 3 years.
Start date: within the next 6 months.
This is an on-site position at CHU Sainte-Justine (Montréal); remote work is not available.

Keywords

Resting-state fMRI; functional connectivity; transdiagnostic; psychiatry; neurodevelopmental disorders; ENIGMA Consortium; reproducibility; harmonization; big data; neuroimaging

Address

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