

RESEARCH PROJECT TITLE

A new adaptive-neuroprosthetic treatment to shape post-stroke plasticity and facilitate motor recovery.

EDUCATION LEVEL

All levels (Master or doctoral students and post-doctoral researchers)

AREA OF EXPERTISE

Neurosciences

Neurophysiology

Motor systems plasticity and rehabilitation

Neural circuits and systems

Cerebrovascular accidents, stroke

Behavioral science, psychology

Life sciences research related to human health and disease

Medical sciences

Biomedical engineering

Applied mathematics

DEPARTMENT

Département de Neurosciences , Université de Montréal

Programs of neurosciences or biomedical engineering

OFFER DETAILS:

The motor control and recovery lab's (PI. Numa Dancause) main interests are the study of fundamental mechanisms involved in the cortical control of movements, brain plasticity after

brain injuries, such as the ones caused by stroke, and new, promising ways to promote motor recovery after a stroke.

This posting of positions is related to a newly funded project in collaboration with Profs Guillaume Lajoie and Dale Corbett that will leverage a machine-learning algorithm we've developed (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3925256) to create an adaptive neuroprosthetic that facilitates post-stroke recovery. The studies will be conducted in our rat model of ischemic stroke and involves the close integration with the development of machine learning algorithms for neural modulation optimization.

We seek highly motivated scientists from the fields of neuroscience, biomedical engineering, rehabilitation or other related disciplines. Candidates must have a competitive CV to apply for provincial and national salary award competitions. Previous experience with related experiments on animal models, as well as coding skills in Python or Matlab for analyses of neural signals are strong assets. In addition, knowledge of machine-learning, AI, and computational neuroscience are also valuable assets. Different roles in the project, with varying degrees of experimental versus theoretical/algorithmic focus are possible. Candidates with diverse skills and career objectives will be considered.

Our group offers a highly collaborative environment striving to maintain interdisciplinary teams built with members from diverse professional as well as personal backgrounds. We are committed to provide equal opportunities to women and minorities and a supportive training setting to all members of our team.

Montreal is well regarded by students for its friendly atmosphere, great public transportation and multicultural makeup. It is a diverse and inclusive multilingual city with a vibrant arts and culture scene. Come and join our team at the Université de Montréal!