

TITLE OF STUDY: Effects of aerobic exercise on cognition and brain health in older adults at increased risk of Alzheimer disease and dementia: probing the biological mechanisms using translational physiology.

INVESTIGATORS: *University of Calgary (Dr Marc J Poulin, Dr Michael D Hill, Dr David B Hogan, Dr Stewart Longman, Dr. Jillian Parboosingh, Dr. Tolulope T Sajobi) and Dalhousie University (Dr Gail Eskes).*

We are looking for a **doctoral student** and a **postdoctoral fellow** in **genetics** who are interested in completing a studentship/fellowship as part of a CIHR-funded project investigating the effects of exercise on cerebrovascular function and cognition in older adults.

These positions will be based in the Laboratory of Human Cerebrovascular Physiology (PI is Professor Marc Poulin) at the University of Calgary. Research activities will take place within the Cumming School of Medicine at the University of Calgary. Responsibilities will include being part of an interdisciplinary research project that is enrolling human volunteers with one or more risk factors for developing Alzheimer disease or dementia, aged 50-80 years old, measuring several factors (physiologic, cognitive, genetic, etc.), and implementing an exercise intervention. The successful candidate will be involved with laboratory-based experiments, helping coordinate the exercise training intervention, and presenting the research at local and international scientific meetings, and preparing manuscripts that emerge from this research.

The candidate should have some or all of the following attributes: i) a strong background in integrative human physiology and genetics ii) good communication skills (written/spoken English), iii) an excellent academic record, iv) a keen desire to learn, and v) previous research experience working with human volunteers and/or patients in a research environment. Prior experience with ultrasound imaging, exercise training programs, biochemistry laboratory techniques (e.g., blood sampling, centrifugation, storage, and assay analyses) and/or cognitive aging or neuropsychology will be major assets. However, additional training will be provided to ensure that the successful applicant has the skills required to meet the objectives of the project.

For more information about our research program, please visit our website:

<http://www.ucalgary.ca/poulin>

Sample publication leading up to this project:

- Tyndall AV et al. The Brain-in-Motion study: effect of a 6-month aerobic exercise intervention on cerebrovascular regulation & cognitive function in older adults. *BMC Geriatrics* 2013. PMID: 23448504.
- Gill et al. Association between lifetime physical activity and cognitive functioning in middle-aged and older community dwelling adults: results from the Brain in Motion Study. *J Int Neuropsychol Soc* 2015. PMID: 26581793
- Tyndall AV et al. Cardiometabolic risk factors predict cerebrovascular health in older adults: results from the *Brain in Motion* study. *Psychological Reports* 2016. PMID: 27117804
- Drogos LL et al. Evidence of association between sleep quality and APOE ε4 in healthy older adults: A pilot study. *Neurology* 2016. PMID: 27777343
- Garber et al. Association between glycemic load and cognitive function in community-dwelling older adults: results from the Brain in Motion study. *Clin Nutr* 2017. PMID: 28756038

Candidates should submit a letter of intent outlining their qualifications and career objectives, an unofficial transcript of academic record, complete list of publications and awards, along with names of 3 referees who have agreed to be contacted. Applications will be accepted until the position is filled. Funding is secured for 2-years with the possibility of extension for an additional 3 years. Salary will be commensurate with University of Calgary policies.

Send your complete application package to:

Professor Marc Poulin, PhD DPhil

Department of Physiology & Pharmacology, University of Calgary

HMRB-210, 3330 Hospital Drive NW, Calgary, Alberta, T2N 4N1, CANADA

or by email to: poulin@ucalgary.ca



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