



Agriculture and
Agri-Food Canada
Science and Technology
Branch

Agriculture et
Agroalimentaire Canada
Direction générale des sciences
et de la technologie

A graduate student opportunity is available at the Department of Biology of the University of Western Ontario, and Agriculture and Agri-Food Canada, London Research and Development Centre in London, Ontario, in Frédéric Marsolais' laboratory. The preferred start date is January 2018. Ph. D. level is preferred.

1- One (1) Graduate Student Position: Effects of Common Bean Peptides on Health

Common bean is the most important grain legume crop worldwide. This project seeks to identify and characterize biological effects of bean derived peptides on a murine adipocyte cell line (3T3-L1). For this work, we propose to use bean genetically related lines differing in protein composition, as well as purified proteins (Osborn et al. 2003 Crop Sci. 43, 1570; Marsolais et al. 2010 J. Proteomics 73, 1587-1600). Effects will be monitored with specific biomarkers as well as with transcriptomic, metabolomic and proteomic approaches. Peptide bioavailability will be studied using intestinal CaCO-2 cells. This work is part of a project funded by the Ontario Research Fund – Research Excellence Round 8 entitled “Applying Genomic Ideotype Breeding to Increase Bean Productivity, Healthfulness and Sustainability”, in which we will try to link health related attributes to specific genotypes of bean so that this information can be used in breeding. This project receives co-funding from Agriculture and Agri-Food Canada and the bean industry. The student will be involved in collaborations, both in-house and with researchers at the University of Guelph. Knowledge and experience of protein biochemistry or mammalian cell culture is an asset.

Research will be conducted at the London Research and Development Centre (<http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1180640801098&lang=eng>), a state of the art facility offering a full range of instrumentation and expertise for research in biochemistry, genomics, bioinformatics and chemistry, including FPLC and HPLC systems, an Orbitrap Q Exactive mass spectrometer and access to a dedicated Unix biocluster. The Centre is located within a short distance from the University of Western Ontario. A successful application to the Faculty of Graduate Studies at the University of Western Ontario will be required (see http://grad.uwo.ca/prospective_students/index.html). The candidates may be expected to participate in some teaching assistantship at the Department of Biology. Recruitment incentives/scholarships may be available for some candidates.

Please send a detailed CV with cover letter, summary of research activities and technical expertise along with contact of references to

Dr. Frédéric Marsolais

Research Scientist

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519-953-6718

<http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1181850719700&lang=e>