

Post-doctoral Fellows

University of Alberta, Faculty of Medicine and Dentistry

Department of Pharmacology and Alberta Diabetes Institute

The MacDonald Lab at the University of Alberta in Edmonton, Canada is looking to fill two postdoctoral positions within one or more of the following areas: cell physiology, single-cell biology, cell imaging, electrophysiology, and computational biology. The positions will be held within the Department of Pharmacology and the Alberta Diabetes Institute (ADI), Canada's largest stand-alone diabetes research centre (adi.ualberta.ca).

Several exciting projects focus on understanding normal and pathophysiologic variation at both the cell and tissue levels, multi-modal profiling, metabolic signalling, and mechanistic studies of diabetes risk genes (see www.bcell.org). Successful candidates will be encouraged to develop independent lines of research in broad areas of pancreatic islet biology, supported by an outstanding technical staff, infrastructure, unique resources and datasets, international collaborations, and a vibrant national training and research exchange network (www.islets.ca).

The MacDonald Lab and University of Alberta are committed to an equitable, diverse, and inclusive workforce. We welcome applications from all qualified persons. We encourage women; First Nations, Métis and Inuit persons; members of visible minority groups; persons with disabilities; persons of any sexual orientation or gender identity and expression; and all those who may contribute to the further diversification of ideas and the University to apply.

We will be happy to support a visit to Edmonton by strong candidates (COVID-19 travel restrictions-permitting) or arrange virtual meetings with team members and colleagues.

Details

The MacDonald Lab (www.bcell.org) is a team of senior scientists, technical staff, fellows, and graduate students focused on understanding cellular mechanisms controlling the secretion of insulin and other energy-regulating hormones from the pancreatic islets of Langerhans. We use approaches that include biochemical and molecular assays, cellular imaging, electrophysiology, transgenic mice, and human cell and tissue isolations. Increasingly, we are leveraging multi-modal single-cell (e.g. dual electrophysiology-scRNAseq) and computational modelling approaches to identify targets and pathways relevant to hormone production in both type 1 and type 2 diabetes. A full list of preprints and published papers can be found at www.bcell.org/publications.html.

We are expanding our work in single-cell multi-modal profiling (see [Camunas-Soler et al., Cell Metab](#) and [Dai et al, BioRxiv](#)), *in situ* characterization of human islet cells, and the study of iPS and ES-derived β -like cells. Much of this is supported by a large international network of collaborators across North America and Europe.

Ideal candidates will be either nearing completion of their PhD in a relevant field or will have completed it within the last three years. Applicants with experience and expertise in any area related to the above description are welcome to apply, however a demonstrable record of leading successful research projects within a team environment is required.

Resources and Support

Successful candidates will have access to extensive resources for research through the MacDonald Lab, the ADI, and the University of Alberta Faculty of Medicine and Dentistry. This includes core facilities for molecular biology and biochemistry, sequencing and single-cell work, live-cell imaging, animal services, and more. Our group oversees the ADI Molecular Biology Core facility and the MacDonald Lab itself is equipped for electrophysiology, imaging, and standard molecular, biochemical and animal studies. Technical staff will be made available to assist and support research projects.

The MacDonald Group also runs one of the world's foremost human pancreas and islet isolation programs, the ADI IsletCore (www.isletcore.ca; www.bcell.org/adi-isletcore.html). This provide a unique resource available to the successful candidates with access to banked tissue, live human islets, and phenotyping data in support of established or emerging research projects.

The ADI offers potential for a broad range of collaborations, housing investigators from four faculties and training opportunities, such as those available through the ADI Trainee Working Group. The MacDonald Group is also leading a new national training and research exchange program, the Canadian Islet Research and Exchange Network (CIRTN; www.islets.ca), that will further support training and exchange opportunities amongst islet biology laboratories across the country.

We offer a competitive salary at the postdoctoral level, along with health and supplementary benefits (see here: <https://www.ualberta.ca/research/research-support/post-doctoral-office/index.html>).

Successful applicants will also be encouraged and supported in applications for external funding support. The position will be tenable for an initial 1 year with the possibility of renewal up to 4 years.

How to Apply

Informal inquiries may be directed to Dr. Patrick MacDonald (pmacdonald@ualberta.ca) at any time.

Applications should include a cover letter/research statement, CV, and contact information for three potential references. These should be sent to Dr. Patrick MacDonald via email (pmacdonald@ualberta.ca).

Applications will be accepted until Sept 10th or until the positions are filled.

Starting dates are flexible between Sept 2021 and Jan 2022.

All qualified candidates are encouraged to apply; however, Canadians and permanent residents will be given priority. If suitable Canadian citizens or permanent residents cannot be found, other individuals will be considered. The University of Alberta is committed to an equitable, diverse, and inclusive workforce. We welcome applications from all qualified persons. We encourage women; First Nations, Métis and Inuit persons; members of visible minority groups; persons with disabilities; persons of any sexual orientation or gender identity and expression; and all those who may contribute to the further diversification of ideas and the University to apply.