

Post-doctoral fellowship available

Université catholique de Louvain, Brussels, Belgium

Project: Direct and indirect mechanisms controlling glucagon and insulin secretion: therapeutic implications for diabetes

The endocrine pancreas plays a key role in glucose homeostasis. It is organized in islets mainly composed of beta, alpha- and delta-cells, secreting, respectively, insulin, glucagon and somatostatin. Insulin is the major hypoglycemic hormone whereas glucagon is hyperglycemic. Somatostatin potently inhibits the secretion of both insulin and glucagon. Diabetes is characterized by an impaired glucose homeostasis and results from a deficit in insulin which is absolute in type 1 diabetes (due to beta-cell destruction) or relative in type 2 diabetes (as a result of decreased beta-cell mass and insulin resistance). Diabetes is also characterized by a defective glucagon secretion (hypersecretion and altered response to hypoglycemia) of unknown origin. All the cell types of the islets influence each other, but the nature of these heterologous interactions is still poorly understood. The objectives of the project are to study the direct and indirect mechanisms controlling glucagon and insulin secretion, using various approaches, from the gene to the cell and to the whole organism in healthy states and in diabetes. One goal will be to identify new therapeutic targets to help to normalize glucose homeostasis in diabetes. Studies will be performed on both human and mouse tissue.

Fellowship: The postdoctoral position can start in January 2021 (but will remain open until suitable candidates are found). Position is for two years, with a possibility of one-year extension. Fellowship starts from approximately 2500 €/month after tax

Profile: The applicant should have a PhD thesis in medical/biological sciences or equivalent that is not from our University. He/she should be in a position of international mobility, which requires that he/she should have spent at least one year outside Belgium during the 3 years preceding the beginning of the post-doc fellowship, and he/she cannot have defended his/her thesis more than 6 years before the start of the post-doc fellowship. The applicant should have a strong knowledge in biology and cellular physiology. Experience in bioinformatics is a plus. The ability to write and speak in English is mandatory. Good communication skills and the ability to work both independently and as part of a team are required. The candidate should have demonstrable track record of research excellence.

Techniques used in the lab: Cell culture, Fluorescence-Activated Cell Sorting (FACS), gene expression analysis, secretion assays, live cell imaging, conventional and confocal fluorescence microscopy, patch-clamp, cloning and adenovirus construction, transgenic mouse models, ... The students will work in collaboration with researchers of the laboratory.

Environment: Our lab is composed of ~15 researchers including PhD students and post-docs from various nationalities. The lab is located in a pleasant area in Brussels.

Procedure: The applicant should rapidly send, in a single PDF file, to the email address below (i) a motivation letter, (ii) a detailed *curriculum vitae* mentioning a phone number, an e.mail address, the birthdate, copies of relevant university degrees, and (iii) names, addresses, e.mail addresses and phone numbers of at least 2 (ideally 3) persons of reference.

To Dr. P. Gilon patrick.gilon@uclouvain.be