Master student position in proteomics at CHU de Québec – Université Laval

Over the last two decades, the huge expansion of omics technologies, including proteomics, has revolutionized medical research and allowed the elucidation of a plethora of biological questions. Consequently, the translation of these novel technologies to clinical proteomics, the real-life application of proteomics in the clinic, has emerged as promising for the discovery of early biomarkers of disease that can be used for diagnosis or as targets of novel therapies.
Our proteomics and bioinformatics lab has been recently founded by the Canadian Foundation for Innovation to acquire the latest generation instrumentation whose improved sensitivity, resolution and accuracy enable the high-throughput and in-depth analysis required in clinical proteomics.
This new core platform will be essential for a large-scale project developed in collaboration with the department of gynaecology and obstetrics of CHU de Quebec – Université Laval, which aims to apply clinical proteomics strategies for the detection of predictive biomarkers of the Great Obstetrical Syndromes (GOS: preterm birth, preeclampsia, fetal growth restriction, gestational diabetes and stillbirth-perinatal death). The GOS affect more than 1.6 million pregnant women every year in the world, leading to about 60 to 80,000 maternal deaths and more than 400,000 perinatal deaths.

In order to evolve our conventional proteomics methods to high-throughput clinical proteomics applied to a cohort of more than 20,000 pregnant women in the next few years, we are seeking a highly motivated master student. He/she will participate in the development of high-throughput sample preparation protocols, in the optimization of data acquisition methods on our new instrumentation (High-throughput Evosep chromatography system and Orbitrap Exploris 480 mass spectrometer) and in the comparison of software tools using DDA and DIA proteomic data. Finally, these new strategies will be used to obtained preliminary data for a better comprehension and identification of potential biomarkers of preeclampsia, a hypertensive pregnancy disorder that affects 2% to 5% of pregnant women in North America and up to 8% of pregnant women in developing countries.

The student will benefit of training by highly qualified research professionals on our proteomics platform equipped with last generation mass spectrometers. He/she will be also in closed contact with the members of our computational biology laboratory specialized in the analysis of large-scale omics data.

The internship will take place at CHU de Québec – Université Laval Research Center, one of the most important biomedical research center in Canada (http://www.crchudequebec.ulaval.ca). Our lab is located in the 400 years old city of Québec, one of the most beautiful city in North America surrounded by mountains, lakes and forests (http://www.quebec-cite.com).

Duration: 6-8 months
Location: Québec city, Québec, Canada
Student grant: 950 $CAN / months (about 600 euros)

Applicants can send their CV and motivation letter to Dr. Arnaud Droit and Florence Roux-Dalvai:
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