

Postdoctoral position available in glycoproteomics at Liege University

Object. The laboratory of Mass Spectrometry of the ULiège is currently recruiting a full-time scientist in glycoproteomics, at the postdoctoral level.

Context. The Postdoctoral researcher will be fully implicated in the GlycoCell project. This project, supported by the Walloon region in the frame of the Wallinov initiative, groups academic (University of Louvain and Liège Université) and industrial partners (GlaxoSmithKline) around a common and ambitious thematic. GlycoCell aims at studying the influence of the glycosylation patterns of viral proteins on the immunogenicity response. The researcher will be in charge of the MS-based analytical developments of innovative strategies to reach the full characterization of the produced glycoproteins. By full characterization, understand the verification/ elucidation of the primary protein sequences, the localization of the glycosylated sites, the purification and structural description of the glycans as well as the tridimensional structures of the full glycosylated proteins. Top-Down approaches using a 9.7T FT-ICR and hydrogen-deuterium exchange experiments are two of the main techniques to be considered for achieving these tasks. Comparison of production batch allowing a fine tuning of the protein production conditions will also constitute a non-negligible part of the proposed work.

For a better understanding, here is an extract of the public abstract of GlycoCell: *“The goal of the GLYCOCELL project is to gain a better understanding of the influence of the glycosylation profile on the immunogenicity of viral glycoproteins produced in genetically engineered BY-2 cell lines in the N-glycosylation pathway. In parallel, the project aims to optimize the culture conditions of BY-2 cells in order to increase their productivity. This dual approach should allow the production in sufficient quantity and in a controlled manner of an immunogenic viral glycoprotein having a predefined glycosylation profile more homogeneous and simplified with respect to the same glycoprotein produced in animal CHO cells.”*

Profile of the candidate. We are looking for a post-doctoral scientist with a strong experience in mass spectrometry of biomolecules and in proteomics. An advanced knowledge in glycoproteomics constitutes an important plus for the project.

Scientific environment. The Mass Spectrometry platform is very well equipped, including purification systems (HPLC, UPLC, capillary electrophoresis, SDS-PAGE facility...), mass spectrometers (QTOF, Q-Exactive, MALDI-TOF/TOF and FTICR-MS). Ion mobility is available both as the TWave and TIMS versions. A HDX and cross-link dedicated set-up is being acquired and will be installed during the project. A training period will be provided on the instruments of the MS platform.

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