Towards personalised medicine: Investigating Colon Cancer Tissue glyco-microheterogeneity in individual CRC specimens using FFPE-sections

PhD position in glycobiology

**Network description**

**GlyCoCan** is a Marie Curie European Training Network composed of 15 leading European partners in the fields of glycobiology, glyco-immunology and biomarker research. It provides a multidisciplinary training, bridging academic and industrial sectors, for a new generation of researchers in the young field of glyco-oncology.

The main scientific objective of the network is enhancing our understanding on the structure-function relationship of glycosylation in colorectal cancer (CRC) for finding improved diagnostic and prognostic biomarkers and pave the way for novel therapeutic targets.

**Project description**

M. Curie projects are embedded in a comprehensive program of courses and Exchange visits between the partner institutions. This is a multidisciplinary project comprising several European laboratories with different expertise. Research will be carried out at the Department of Biomolecular Systems, Max Planck Institute of Colloids and Interfaces (MPIKG), Potsdam/Berlin, Germany with secondments at the Clinical Institute of Pathology, Medical University Vienna, Ludger Ltd., Oxford, Great Britain and Center for Proteomics and Metabolomics, Leiden University Medical Center (LUMC), Leiden, The Netherlands. The successful candidate will participate in the network’s training activities and work placements at the laboratories of the participating academic and industrial teams. Regular meetings and workshops within the EU-funded GlyCoCan will supplement the training and support provided at MPIKG.

As part of this project the candidate will use our group’s novel, highly sensitive and selective glycomics methods for investigating the N- and O-glycosylation signatures in the microenvironment of CRC tissue section. As glycoproteins are major drivers of cell-cell interactions and signalling molecules, further insights into the CRC specific glycosylation signatures in a tumour microenvironment specific manner is providing novel insights into onset and progression of colorectal cancer.

The samples of interest will be obtained from well defined FFPE tissue sections using laser capture microdissection. The FFPE histopathological specimens will be carefully selected to identify and correlate CRC glycosylation dynamics in relation with tumour severity and progression. The envisaged secondments will provide the successful applicant with further insights into clinical tissue handling, high throughput glycomics using various technology platforms and large-scale data analysis and statistical data evaluation. The training will provide the successful applicant with comprehensive knowledge on the clinical, industrial and academic aspects of glycomic biomarker analysis as well as handling and evaluation of large and complex datasets obtained from clinical specimens.

**Appointment details**

The candidate will be enrolled in the PhD programme at the Freie Universität Berlin, after having passed the standard selection procedure.

**Requirements**

The candidate should hold a master degree in Biochemistry, Biotechnology or closely affiliated disciplines. Experiences in the field of glycobiology, proteomics or associated fields are highly desired. A good level of English (spoken and written) is mandatory.

**Eligibility according to EU regulations**

Please be aware that candidates should comply with the general mobility criteria for Marie Curie early-stage researchers. In particular, the fellows to be appointed must not have resided or carried out their main activity in the host organization’s country for more than 12 months in the 3 years immediately prior to the appointment date. Short stays such as holidays are not taken into account.

**How to apply**

Applications should be sent in by Email to: daniel.kolarich@mpikg.mpg.de and include a CV, copies of academic degrees received and a cover letter including motivation and expectations from participation in GlyCoCan. Please also provide the names of two referees. Further information can be found on www.mpikg.mpg.de/glycoproteomics.