

## Assessing prostate-specific antigen (PSA) for prostate cancer (PCa) detection combined with glycoform quantitation aiming at patient stratification

PhD position in clinical mass spectrometry for glycoprotein analysis

### Network description

**GlySign** is a **Marie Curie Innovative Training Network** composed of 3 leading European partners in the fields of glycobiology, glyco-immunology and biomarker research. As a European Industrial Doctorate (EID), it exploits the key translational synergies between excellent academic and non-academic partners to the fullest extent. The **main scientific focus** of the network is **glycomic clinical markers** as well as assay development for **Precision Medicine (PM)**. We aim to **bring known glycomics markers to the clinic**.

### Project description

Research will be carried out at the Center for Proteomics and Metabolomics (CPM) at the Leiden University Medical Center (LUMC) in Leiden, the Netherlands. A substantial part of the training will be also carried out at Ludger Ltd. (UK)

The aim of the project is the development of a “next-generation prostate-specific antigen (PSA) assay”, ready-to-use in clinical laboratories, for prostate cancer detection and patient stratification as an attractive alternative for biopsies. The initial development of an integrated clinical mass spectrometry assay for PSA protein/glycoform quantitation from patient biofluids will be followed by a pilot study, carried out in a small cohort. The assay will then be validated on a larger cohort in a case-control setup as well as with longitudinal samples for the early detection and differentiation of malignant and benign forms of prostate hyperplasia.

The candidate will receive training in bottom-up and top-down (glyco)proteomics strategies (LC-MS, CE-MS, MALDI-TOF-MS, ultraHR-MS, HR/AM-MS); sample preparation techniques (PSA purification, glycan and glycopeptide derivatization and enrichment); industrial assay development; data analysis automation; requirements and regulations for clinical chemistry tests; clinical data management and analysis; statistical data analysis; basic scientific background on prostate physiology and malignancies; strategies for transfer of technology into clinical application; scientific writing as well as non-academic reporting; teaching and mentoring a Bachelor’s/Master’s student is also part of the experience the candidate will gain.

This is a multidisciplinary project comprising several European laboratories with different expertises.

The 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 GlySign will supplement the training and support provided at the LUMC in Leiden, the Netherlands. Marie Curie projects are embedded in a comprehensive program of courses and exchange visits between the partner institutions.

**The candidate, at the end of the project, will be a researcher trained in mass spectrometry for protein- and glycosylation analysis, translational research, potentially transcriptomics, and will have a sound experience in industrial diagnostic assay development**

### Appointment details

Appointment is for the duration of 4 years, of which 36 months will be covered by the H2020-MSCA-ITN grant.

### Requirements

The candidate should hold a Master’s degree in life sciences (e.g. biochemistry or biology) or analytical chemistry. Experiences in protein chemistry and mass spectrometry are highly desired. A good level of English (spoken and written) is mandatory. The candidate should be a good communicator with the ability to develop work relationships and have strong analytical skills particularly with an attention to detail. They should be an independent thinker with a proven ability to project manage their work and meet deadlines. They should be able to work efficiently as part of a team and to build upon our collaborations

### 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. Early-Stage Researchers (ESRs) shall, at the time of recruitment by the host organisation, be in the first four years (full-time equivalent research experience) of their research careers and have not been awarded a doctoral degree.

### How to apply

Application should include a CV and a cover letter stating motivation and expectations from participation in GlySign, and listing the names of two referees.

Applications sent via email will not be taken into consideration. To apply, click [here](#).

### For questions contact

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