

The IMP/IMBA/GMI Proteomics Facility is looking for a highly motivated

Master Student (m/w/d)

to perform a project on phosphoproteomics and automated sample preparation.

Our Group. In the Proteomics facility headed by Elisabeth Roitinger we provide mass spectrometry based characterization of proteins to the research groups of IMP, IMBA and GMI. Our service portfolio includes a wide variety of applications, such as the analysis of protein-protein interactions, system-wide protein and PTM profiling (Phospho-, Glyco-, Acetyl-, Ubiquitin), targeted protein analysis, crosslinking-MS and intact protein MS. We offer a full service—from sample preparation to data analysis—and work with diverse sample materials such as cultured cells, tissues, organoids, and plants. To be able to provide state-of-the-art service we need to implement new technologies and innovative workflows.

Project Description. Post-translational modifications (PTMs) play a key role in regulating protein function, but detecting them is challenging—they are rare and easily overlooked in complex samples. With the newest generation of fast scanning MS instruments, new methodologies are available to analyse PTMs, which we would like to establish and implement in our facility. This will include the set-up of an automated digest and PTM enrichment method on a robot to allow its application to lower sample amounts and higher sample numbers. Furthermore, the mass spectrometric measurement will be conducted using the novel data-independent acquisition (DIA) method, which requires fine-tuning of the data analysis pipeline to support accurate PTM discovery. The new workflow will be tested and optimized on biological samples that are challenging for our current protocols (by sample number and amount). This will open up our PTM workflow to new sample types.

Methods:

- Proteomics sample preparation methods
- Operation and programming of liquid handling robots
- Operation of nano-HPLCs and mass spectrometers
- MS Data analysis and spectrum interpretation

Requirements:

The successful candidate should hold a BSc degree in the fields of chemistry, biochemistry, molecular biology or a related field. Experience in mass spectrometry as well as in the wet lab are desirable. The candidate should be interested in technology development, operation of high-end instruments, data analysis and the biological questions that are the basis of our MS experiments. Training and supervision will be provided throughout the project, but a high level of motivation and independence is expected.

The proposed project is scheduled to be completed within one year and the successful candidate will be enabled to complete the master's thesis within this time. The position is open from **January 2025** and remains open until filled. The successful applicant will receive a monthly stipend. Please note that we do not offer a full master program. Applicants will need to enroll or be enrolled in a master program that allows for research to be conducted at external institutions.

Our Environment:

The IMP, IMBA and GMI are basic research institutes embedded in the vibrant environment of the Vienna Biocenter – one of Europe's largest science hubs conducting innovative research in all areas of the life sciences.

Have we sparked your interest? We look forward to receiving your online application (motivation letter, CV, contact details of at least one reference).

Apply Now

www.imba.oeaw.ac.at; www.viennabiocenter.org