

Two Postdoctoral Positions in Lipidomics and Glycomics

Start Date: January 2025 (or as soon as possible)

Duration: 12 months, with a possibility of extension until the end of the project (August 2028)

Location: Lipidomics Group of Prof. Michal Holčapek, University of Pardubice, Faculty of Chemical Technology, Department of Analytical Chemistry, Czech Republic

Salary: Competitive, based on university guidelines, and commensurate with experience and skills.

About the Projects

You will be joining the dynamic **Lipidomics Group** at the University of Pardubice, working on high-impact research funded by prestigious grants:

1. **ERC Advanced grant** “Oncolipidomics: Why is lipidomic dysregulation pattern in blood similar for various cancers? (ONCOLIPID)”
2. **OP JAK grant** “Saving lives through research in early cancer detection and prevention: Molecular, genomic and societal factors (SALVAGE)”

Position Descriptions

1. Lipidomics Postdoc

You will be involved in the complete lipidomic analysis workflow, including:

- Sample preparation using established extraction protocols.
- Ultrahigh-performance liquid chromatography - mass spectrometry (UHPLC/MS).
- Data processing using [LipidQuant](#) software.
- Advanced statistical evaluation using multivariate analysis tools (e.g., Simca, R-scripts).

This role offers hands-on experience with state-of-the-art instrumentation and in-depth exposure to lipidomics applied to cancer biomarker discovery.

2. Glycomics Postdoc

You will focus on the glycomic analysis of glycans enzymatically released from glycosphingolipids, including:

- Sample preparation including enzymatic cleavage of glycans.
- UHPLC/MS.
- Identification of glycan sequences from MS/MS spectra, retention behavior, and ion mobility data, and quantitation.
- Advanced statistical evaluation using multivariate analysis tools (e.g., Simca, R-scripts).

This position offers the opportunity to innovate in data processing workflows and contribute to cutting-edge glycomics research.

Requirements for Both Positions

- **Ph.D.** in (bio)analytical chemistry or a closely related field.
- Proficiency in **mass spectrometry** and **liquid chromatography**.
- Strong passion for scientific research, reliability, and the ability to work collaboratively in a dynamic team.

Preferred but not required:

- Experience in **lipidomic, metabolomic, or glycomic analysis**.
 - Familiarity with **supercritical fluid chromatography-mass spectrometry**.
 - Experience with **TIMS-TOF (Bruker)**, **QTOF (Waters)**, or **QQQ (Sciex, Agilent)** instruments.
 - Knowledge of software tools for metabolomics/lipidomics (e.g., MZmine, Skyline).
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About the Lipidomics Research Group

Our group is an international, collaborative team of over 15 postdoctoral researchers and students. We offer a supportive and intellectually stimulating environment, with access to cutting-edge technology. We specialize in lipidomics and metabolomics by mass spectrometry, focusing on cancer biomarker discovery. Our [patented methodology](#) for the early detection of [pancreatic](#) and [other cancers](#) is currently being translated into clinical applications through our spin-off company, [Lipidica](#).

We provide comprehensive training in lipidomic techniques to all new members, including hands-on experience with the latest instruments and software.

Our Research Facilities

- **Mass Spectrometers:** timsTOF Ultra (Bruker), QTOF Synapt G2Si (Waters), QTOF Xevo G2-XS (Waters), QTOF micrOTOF-QII (Bruker), MALDI LTQ Orbitrap XL (Thermo), 6500 QTRAP (Sciex), QqQ 6495D (Agilent), and Xevo TQD (Waters).
- **Chromatographs:** 2x ultrahigh-performance supercritical fluid chromatograph Waters ACQUITY UPC2 system (Waters), ACQUITY Premier UPLC Bioinert System (Waters), 2x UHPLC Agilent 1290 Infinity series (Agilent), and UHPLC Agilent 1290 Infinity II Bio (Agilent).
- **Laboratory Equipment:** Microbiological Safety Cabinet Mars Class II (LaboGene), Microbiological Safety Cabinet Class II MSC-Advantage™ Class II (ThermoFisher), Lab freezers (Arctiko and ThermoFisher), Homogenizer Combo Precellys Evolution + Cryolys Evolution (Bertin), etc.
- **Data Processing Software:** MarkerLynx (Waters), LipidQuant (our software), LipidView (Sciex), Simca (Umetrics), MetaboScape and TASQ ® Software (Bruker), etc.

How to Apply

If you are enthusiastic about joining a world-class research team, please send the following documents:

1. A **motivation letter** detailing your research interests and why you want to join our group.
2. Your **CV**, including a description of your skills and relevant experience.

Candidates with strong experimental skills in mass spectrometry and chromatography will be prioritized. Shortlisted candidates will be invited to a Zoom interview.

Note: The position remains open until filled. Early applications are encouraged.



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