University
of Pardubice
Faculty
of Chemical Technology

Pardubice, November 9, 2023

Four postdoc positions in the lipidomics group

Duration
12 months starting January 2024, possible extension up to 5 years for the duration of the whole project.

Where
Lipidomics group of Michal Holčapek, University of Pardubice, Faculty of Chemical Technology, Department of Analytical Chemistry, Czech Republic

Salary
The salary will be set according to the internal university rules taking into account the level of previous skills and experience.

What are you going to do?
The postdoc will work within the framework of the ERC Advanced project "Oncolipidomics: Why is lipidomic dysregulation pattern in blood similar for various cancers? (ONCOLIPID)" funded by the European Research Council and/or the OP JAK project "Saving lives through research in early cancer detection and prevention: Molecular, genomic and societal factors (SALVAGE)" funded by Ministry of Education, Youth, and Sports, Czech Republic.

Positions 1-3
The postdoc will learn and use the whole lipidomic workflow, which includes sample preparation of biological samples using our extraction protocols, measurements using ultrahigh-performance liquid chromatography – mass spectrometry (UHPLC/MS) or ultrahigh-performance supercritical fluid chromatography – mass spectrometry (UHPSFC/MS), data processing using LipidQuant software, and statistical evaluation of data using advanced multivariate data analysis tools (e.g., Simca, R-scripts).

Requirements for positions 1-3
1/ Ph.D. degree in (bio)analytical chemistry or closely related fields.
2/ Theoretical knowledge and experimental skills in mass spectrometry, liquid chromatography, and LC/MS.
3/ Passion for science, ambition to achieve difficult goals, reliability, and teamwork.

Studentská 573, 532 10 Pardubice 2, Czech Republic, phone +420 466 037 294, fax +420 466 037 068,
e-mail dekanat.fcht@upce.cz, internet http://www.uni-pardubice.eu

Position 4

The postdoc will be involved mainly in the bioinformatic and biostatistical workflow, which will include advanced statistical evaluation of the data using various tools for multivariate data analysis and visualization of results, and the use of metabolic pathway tools for data interpretation. The postdoc should implement available softwares into our data processing workflow or may be involved in the development of new software tools.

Requirements for position 4

1/ Ph.D. degree in bioinformatics, statistics, (bio)analytical chemistry, or related fields.
2/ Knowledge of multivariate data analysis, at least basic programming skills, preferably in Python or R, advanced work with Excel.
3/ Passion for science, ambition to achieve difficult goals, reliability, and teamwork.

Additional skills and experience

It would be advantageous to know, but it is not required.
1/ Lipidomic or metabolomic analysis.
2/ Supercritical fluid chromatography – mass spectrometry.
3/ Previous experience on the same type of instrumentation is welcome, especially for TIMS-TOF from Bruker and QTOF instruments from Waters
4/ Software tools for metabolomics/lipidomics (MZmine, Skyline, etc.).

Lipidomics research group

Our international group consists of around 15 young postdoctoral researchers and students. The work environment is friendly and open to anyone interested in cutting-edge research, high-end instrumentation, and ambitious goals. We are passionate scientists who also enjoy informal group activities. We will provide an initial training course in lipidomic analysis to new members. We focus on lipidomic analysis by mass spectrometry coupled with chromatographic techniques, and now also on the metabolomic analysis. Our key application is in lipid cancer biomarkers, where the translation of our patented methodology for the early detection of pancreatic cancer or other types of cancer is in progress within the activity of the spin-off company Lipidica. We will work on the investigation of the biological mechanism of lipidomic dysregulation in cancer.

Our research facilities

1/ 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), and Xevo TQD (Waters).
2/ Chromatographs: 2x ultrahigh-performance supercritical fluid chromatograph

Waters ACQUITY UPC2 system (Waters), ACQUITY Premier UPLC Bioinert System (Waters), and 2x UHPLC Agilent 1290 Infinity series (Agilent).
3/ Additional laboratory equipment: Microbiological Safety Cabinet Mars Class II (LaboGene), Microbiological Safety Cabinet Class II MSC-Advantage™ Class II (ThermoFisher), Lab freezers (Arctiko), Homogenizer Combo Precellys Evolution + Cryolys Evolution (Bertin), etc.
4/ Software for data processing: MarkerLynx (Waters), LipidQuant (our software), LipidView (Sciex), Simca (Umetrics), MetaboScape and TASQ ® Software (Bruker).

What should you do now

If you meet the requirements and feel enthusiastic to join my group, then please write a motivation letter and send it by email along with your CV that contains a description of skills and previous experience. The best candidates will be invited to the Zoom interview. Candidates without prior experimental experience with mass spectrometry and chromatography are unlikely to be selected. The job call will remain open until the best candidates are selected.

Prof. Michal Holčapek, Ph.D.
University of Pardubice
Faculty of Chemical Technology, Department of Analytical Chemistry
Studentska 573, 53210 Pardubice, Czech Republic
Phone: +420 466 037 087
Email: Michal.Holcapek@upce.cz
http://holcapek.upce.cz/