

Postdoc position in Mass Spectrometry group at University of Pardubice

(1. 1. 2018 – 30. 6. 2018)

Job description

The postdoc will work on the development of new approach for the quantitation in the lipidomic and metabolomic analyses based on derivation reactions and subsequent measurements using UHPLC/MS or UHPSFC/MS. The developed method will be validated and applied for the analysis of body fluids (mainly plasma and urine) of cancer patients and healthy volunteers. This position is opened for 6 months.

Available analytical systems

- ultrahigh-performance supercritical fluid chromatography – mass spectrometry coupling (UHPSFC/MS),
- ultrahigh-performance liquid-chromatography – mass spectrometry (UHPLC/MS),
- shotgun MS analysis,
- matrix-assisted laser desorption/ionization (MALDI) mass spectrometry and mass spectrometry imaging with Orbitrap analyzer,
- several other UHPLC/MS, HPLC/MS and GC/MS systems with various types of mass analyzers (Q-TOF, quadrupole – linear ion trap, ion trap, ion mobility) are available as well.

Desired skills and experience

Required:

- Ph.D. degree in analytical chemistry
- Good theoretical knowledge of chromatography and mass spectrometry
- Experiences with electrospray ionization mass spectrometry
- Experiences with liquid chromatography and LC/MS coupling
- High level of independence and analytical accuracy
- Good communications skills in English language

Beneficial:

- Experiences with chemical derivatization
- Experiences with lipids and lipidomic analysis
- Experiences with sample preparation of biological samples
- Experiences with supercritical fluid chromatography – mass spectrometry
- Skills in multivariate data analysis (SIMCA software preferred), such as principal component analysis (PCA) and orthogonal partial least squares (OPLS)

About the employer

The group of prof. Michal Holčapek (h-index 35) at the Department of Analytical Chemistry (University of Pardubice, Czech Republic) is one of the leading groups in the lipidomic analysis. The focus is on the validated quantitation of various classes of lipids in biological samples, such as body fluids, human tissues, and cell lines. The goal of ERC CZ project “Mass Spectrometry in Cancer Research: Lipid Biomarkers for Early Diagnostics” is the search for lipid cancer biomarkers for selected types of cancer (pancreas, kidney, prostate, breast, and lung).

Equipment:

Mass spectrometers - Xevo G2-S QToF (Waters), Synapt G2-Si (Waters), QTrap 6500 (Sciex), LTQ Orbitrap XL (Thermo Scientific), MicrOTOF-Q (Bruker Daltonics)

Liquid chromatography - Agilent 1290 Infinity 2D-LC, Agilent 1290, Agilent 1260, etc.

Supercritical fluid chromatography - Waters ACQUITY UPC2 system (2 systems)

Gas chromatography - Agilent 5977A Series GC/MSD System

More information:

Prof. Michal Holčapek, Ph.D.

University of Pardubice

Faculty of Chemical Technology, Department of Analytical Chemistry

Studentská 573, 53210 Pardubice, Czech Republic

Phone: +420 466 037 087

Email: Michal.Holcapek@upce.cz

<http://holcapek.upce.cz/>