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### **Research**

H-Index: 15; Citations: 685

Scientific publications in journals with IF 68

Presentations at conferences and seminars, author 108

#### **Inherited metabolic disorders (IMD)**

- Expanded newborn screening for IMD
- Development of new multicomponent LC/MS methods for the diagnosis of IMD
- New biomarkers by metabolomics/lipidomics

#### **Therapeutic drug monitoring**

- Development of LC/MS methods for routine analysis of selected classes of drugs: tyrosine kinase inhibitors, antihypertensives, immunosuppressants
- methods for direct analysis to MS for TDM

#### **Metabolomics and lipidomics**

- Clinical applications targeting metabolomics and lipidomics in the areas of DMP, lung, kidney, pancreatic cancer, neurodegenerative diseases, selected transgenic models, etc.
- Search for new biomarkers for selected diseases
- workflow development, processing and statistical evaluation

#### **Metabolic profiling of drugs**

- Identification and structural elucidation of novel metabolites
- Pharmacometabolomics approach for drug metabolism

#### **Statistics**

- univariate/multivariate statistical methods for the analysis of biological data
- Data transformation, normalization and scaling

6 PhD students, lectures at Faculty of Medicine and Dentistry and Faculty of Science, Palacký University