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| **Tomáš ADAM** |

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Janáčkova 29, 787 01 Šumperk, Czech Republic

**Senior researcher, Professor, Biochemistry and Metabolomics**

**Main areas of research**

Prof. Tomas Adam started working in diagnosing metabolic diseases as well as in development of diagnostic biochemical methods based on modern separation and mass spectrometry techniques. This led to subsequent development of metabolomic laboratory and relevant working pipelines.  He is involved in research of nucleotide metabolism in relation to inherited metabolic disorders, expanded newborn metabolic screening, developing novel statistical approaches to metabolic data and drug metabolism research in relation to cancer. In the last period he is focused on clinical applications and data analysis in metabolomics.

From a technological point of view is skilled in techniques such as liquid chromatography, capillary electrophoresis, mass spectrometry (QqQ, Orbitrap, ESI, high-throughput flow injection analysis, MS2/MS3 HR/AM fragmentation).

Last couple of years he has focused on metabolomics (targeted/untargeted approach - data processing, interpretation, analysis of bodyfluids, cells, tissues – clinical applications).

**Work experience**

1988 – 1990 Food-control laboratory, Šumperk

(1990-2021) Medical Hospit. Olomouc, Dept. of Biochemistry, Laboratory for Inherited  Metabolic  Disorders

2010-today Institute of Molecular and Translational Medicine, Palacky University Olomouc

**Education**

1979 – 1983 High School – Šumperk

1983 – 1988 Palacký University Olomouc, Faculty of Nat. Scien., Analytical Chemistry

1996 – 1999 Doctoral studies - Palacký University Olomouc, Medical Faculty

Theme: Capillary electrophoresis in diagnosing purine and pyrimidine metabolic disorders.

2006 Associate Professor of Biochemistry

2013                    Professor of Biochemistry

Teaching: Teaching clinical genetics for Faculty of Medicine UP. Teaching clinical biochemistry for Science UP and International Students Faculty of Medicine UP. Teaching within PGS. Leadership doctoral and master's theses.

**Most important peer review activities, editorships and memberships in academic organisations**

1. Membership in editorial board of Clinical biochemistry and metabolism
2. Membership in council of Medical genetics, Medical Faculty, Palacky University in Olomouc
3. Membership in council of Bioanalytical Chemistry, Pharmaceutical Faculty, Charles University in Hradec Králové
4. Membership in council of Biochemistry, Faculty of Natural Sciences, Palacky University in Olomouc
5. Membership in International Federation of Clinical Chemistry (since 1993)

**Organisational skills**

1. **Biomedicine for regional development and human resources. (BIOMEDREG)**

(OPVK CZ.1.05/2.1.00/01.0030)

Fund provider: Ministry of Education, Youth and Sports

Partners: University Hospital in Olomouc, the Institute of Chemical Technology in Prague and the Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic.

1. **Studies of genes and molecular mechanisms involved in regulation of hematopoiesis, their clinical impact and targeted treatment** (MSM6198959205)

Fund provider: Ministry of Education, Youth and Sports

Partners: Palacky University in Olomouc

1. **Personalised treatment of chronic myeloproliferative disorders and myelodysplastic syndrome – a cellular metabolomics study** (IGAMZČR NT12218)

Fund provider: Internal grant agency, Ministry of Health, Czech Republic

Partners: University Hospital Olomouc

1. **The role of cellular transport mechanisms in efficacy of imatinib mesylate treatment in patients with chronic myeloid leukemia (**IGAMZČR NS9627)

Fund provider: Internal grant agency, Ministry of Health, Czech Republic

Partners: University Hospital Olomouc

1. **Diagnosing inherited metabolic disorders by metabolomic approaches** (A/CZ0046/2/0011)

Fund provider: EEA Grants

Partners: Norwegian University of Science and Technology

1. **Statistics in metabolomics for research of biomarkers in medicine** (15-34613L)

Fund provider: Czech Science Foundation

Partners: Technical University Vienna

**Names and institutions of key international cooperation partners in the last 5 years**

1. **Per Bruheim/Norges teknisk-naturvitenskapelige universitet, NTNU Trondheim, Norway**

Development new methods for analysis metabolites, metabolomics experiments focused on Inborn Errors of Metabolism, Czech-Norwegian Research Programme (CZ09)

1. **Danuta Radzioch/McGill University Health Centre, Montreal, Canada**]

Metabolomics of cystic fibrosis and asthma, testing on mice

1. **Tomáš Kopecký/Institute of Physiology AS CR, v.v.i., Prague, Czech Republic**

Metabolomics of mice treated by different diets

1. **Edgar Faber/Hemato-Oncology Clinic, University Hospital Olomouc, Czech Republic**

Metabolomics of plasma samples from patients with Chronic Myeloid Leukemia, Metabolite profiling of tyrosine kinase inhibitors, new methods for high-throughput determination of tyrosine kinase inhibitors

1. **Yingying Huang/Thermo Scientific, Santa Clara, USA**

Development new methods for identification of unknown metabolites (Spectral trees)

**List of all scientific publications in the last 5 years**

1. Najdekr L., Friedecky D., Tautenhahn R., et al. ANAL CHEM 2016; 88(23): 11429-435.
2. Karlikova R., Siroka J., Jahn P., et al. VET J 2016; 216: 125-132.
3. Karlikova R., Siroka J., Friedecky D., et al. J PROTEOME RES 2016; 15(9): 3158-3166.
4. Vrobel I., Janeckova H., Faber E., et al. THER DRUG MONIT 2016; 38(4): 516-524.
5. Gardlo A., Smilde A. K., Hron K., et al. METABOLOMICS 2016; 12(7): 117.
6. Pilka R., Marek R., Adam T., et al. ANTICANCER RES 2016; 36(6): 2909-2922.
7. Studentova H., Indrakova J., Petrova P., et al. ONCOLOGY LETTERS 2016; 11(2): 939-944.
8. Faber E., Divoka M., Skoumalova I., et al. LEUKEMIA LYMPHOMA 2016; 57(2): 370-375.
9. Zezulova M., Bartouskova M., Hlidkova E., et al. CLIN CHEM LAB MED 2016; 54(2): 305-314.
10. Ligasova A., Liboska R., Friedecky D., et al. OPEN BIOLOGY 2016; 6(1): 150172.
11. Zezulova M., Bartouskova M., Hlidkova E., et al. ANTICANCER RES 2016; 36(1): 287-292.
12. Pilka R., Marek R., Melichar B., et al. PTERIDINES  2015; 26(4): 161-172.
13. Friedecky, D., Micova K., Faber E., et al. J CHROMATOGR A 2015; 1409: 173-181.
14. Najdekr L., Gardlo A., Madrova L., et al. Talanta 2015; 139: 62-66.
15. Janeckova H., Kalivodova A., Najdekr L., et al. BIOMED PAP 2015; 159(4): 582-585.
16. Bacovsky J., Myslivecek M., Minarik J., et al. BIOMED PAP 2015; 159(1): 135-138.
17. Kalivodova A., Hron K., Filzmoser P., et al. J CHEMOMETR 2015; 29(1): 21-28.
18. Kanagaratham C., Kalivodova A., Najdekr L., et al. AM J RESP CELL MOL 2014; 51(6): 783-792.
19. Wojtowicz P., Janeckova H., Friedecky D., et al. Chem Papers. 2013; 107(1):3-11.
20. Rohon P., Faber E., Divoka M., et al. Biomed Pap Med Fac Univ Palacky Olomouc Czech Repub. 2013; 157(2):181-8.
21. Cizkova M., Bouchalova K., Friedecky D., et al. Tumori. 2012 ;98(1):162-5.
22. Faber E., Friedecký D., Micová K., et al. Ann Hematol. 2012; 91: 923-9.
23. Mičová K., Friedecký D., Faber E., et al. Talanta. 2012; 93:307-13.
24. Janecková H., Hron K., Wojtowicz P., et al. J Chromatogr A. 2012; 1226: 11-7.
25. Wojtowicz P., Dostálová E., Adam T. Klin Biochem Metab 2012; 20: 38–40.
26. Wojtowicz P., Zrostlikova J., Šťastná J., et al. In B. SALIH. Gas Chromatography – Biochemicals, Narcotics and Essential Oils. Rijeka, Croatia: InTech, 2012, p. 236.