

Research/art/teacher profile of a person

Name and surname	PharmDr. Katarína Maráková, PhD.
Document type:	Research/art/teacher profile of a person
The name of the university	Comenius University Bratislava
The seat of the university	Šafárikovo námestie 6, 818 06 Bratislava
The name of the faculty	Faculty of Pharmacy
The seat of the faculty	Odbojárov 10, 832 32 Bratislava

I. - Basic information

I.1 - Surname	Maráková
I.2 - Name	Katarína
I.3 - Degrees	PharmDr., PhD.
I.4 - Year of birth	1984
I.5 - Name of the workplace	Department of Pharmaceutical Analysis and Nuclear Pharmacy, Faculty of Pharmacy, Comenius University in Bratislava
I.6 - Address of the workplace	Odbojárov 10, 832 32 Bratislava
I.7 - Position	Associate Professor
I.8 - E-mail address	marakova@fpharm.uniba.sk
I.9 - Hyperlink to the entry of a person in the Register of university staff	www.portalvs.sk/regzam/detail/5274
I.10 - Name of the study field in which a person works at the university	Pharmacy
I.11 - ORCID iD	0000-0003-2170-6582

II. - Higher education and further qualification growth

II.1 - First degree of higher education

II.2 - Second degree of higher education

II.a - Name of the university or institution	Faculty of Pharmacy, Comenius University in Bratislava
II.b - Year	2007
II.c - Study field and programme	Pharmacy

II.3 - Third degree of higher education

II.a - Name of the university or institution	Faculty of Pharmacy, Comenius University in Bratislava
II.b - Year	2011
II.c - Study field and programme	Pharmaceutical Chemistry

II.4 - Associate professor

II.5 - Professor

II.6 - Doctor of Science (DrSc.)

III. - Current and previous employment

III.a - Occupation-position	III.b - Institution	III.c - Duration
Assistant Professor	Faculty of Pharmacy, Comenius University in Bratislava	2011-2022
pharmacist	Pharmacy Na korze	2008-2009
pharmacist	Pharmacy U dvoch levov	2007-2008
Associate Professor	Faculty of Pharmacy, Comenius University Bratislava	2022 - to date

IV. - Development of pedagogical, professional, language, digital and other skills

IV.a - Activity description, course name, other	IV.b - Name of the institution	IV.c - Year
Development of LC-MS methods for small molecules	School of Mass Spectrometry (Czech Spectroscopic Society)	2019
Statistical Data Evaluation	School of Mass Spectrometry (Czech Spectroscopic Society)	2019, 2022
Basics of proteomics	School of Mass Spectrometry (Czech Spectroscopic Society)	2023
Biologics by Mass Spectrometry	School of Mass Spectrometry (Czech Spectroscopic Society)	2023

V. - Overview of activities within the teaching career at the university

V.1 - Overview of the profile courses taught in the current academic year according to study programmes

V.1.a - Name of the profile course	V.1.b - Study programme	V.1.c - Degree	V.1.d - Field of study
Analytical Chemistry	Pharmaceutical chemistry	III.	Pharmacy
Chemical diagnostic and medical devices, their properties and standardization	Medical and Diagnostic devices	I.	Medical Sciences

V.2 - Overview of the responsibility for the delivery, development and quality assurance of the study programme or its part at the university in the current academic year

V.2.a - Name of the study programme	V.2.b - Degree	V.2.c - Field of study
Medical and Diagnostic devices	I.	Medical Sciences

V.4 - Overview of supervised final theses

V.4.1 - Number of currently supervised theses

V.4.b - Diploma (second degree)	6
V.4.c - Dissertation (third degree)	2

V.4.2 - Number of defended theses

V.5 - Overview of other courses taught in the current academic year according to study programmes

V.5.a - Name of the course	V.5.b - Study programme	V.5.c - Degree	V.5.d - Field of study
Analysis of Substances in Biological Systems	Pharmacy	II.	Pharmacy
New Trends in Analytical Chemistry	Pharmacy	II	Pharmacy
Analytical Chemistry 1	Pharmacy	II.	Pharmacy
Analytical Chemistry 2	Pharmacy	II.	Pharmacy

VI. - Overview of the research/artistic/other outputs

VI.1 - Overview of the research/artistic/other outputs and the corresponding citations

VI.1.1 - Number of the research/artistic/other outputs

VI.1.a - Overall 148

VI.1.b - Over the last six years 51

VI.1.2 - Number of the research/artistic/other outputs registered in the Web of Science or Scopus databases

VI.1.a - Overall 36

VI.1.b - Over the last six years 15

VI.1.3 - Number of citations corresponding to the research/artistic/other outputs

VI.1.a - Overall 505

VI.1.b - Over the last six years 91

VI.1.4 - Number of citations registered in the Web of Science or Scopus databases

VI.1.a - Overall 505

VI.1.b - Over the last six years 91

VI.1.5 - Number of invited lectures at the international, national level

VI.1.a - Overall 2

VI.1.b - Over the last six years 2

VI.2 - The most significant research/artistic/other outputs

- ADC: K. Maráková, A.J. Rai, K.A. Schug, Effect of difluoroacetic acid and biological matrices on the development of a liquid chromatography-triple quadrupole mass spectrometry method for determination of intact growth factor proteins, Journal of Separation Science. Vol. 43, No. 9-10 (2020), p. 1663-1677. (invited paper to Special Issue: Emerging Thought Leaders in Separation Science)
- ADC: K. Maráková, J. Piešťanský, Z. Zelinková, P. Mikuš, Simultaneous determination of twelve biogenic amines in human urine as potential biomarkers of inflammatory bowel diseases by capillary electrophoresis - tandem mass spectrometry. Journal of Pharmaceutical and Biomedical Analysis, Vol. 186 (2020), p. 1-12
- ADC: S.L. Thomas, J.B. Thacker, K.A. Schug, K. Maráková, Sample preparation and fractionation techniques for intact proteins for mass spectrometric analysis. Journal of Separation Science Vol. 44, No. 1 (2021), p. 211-246. (invited paper to Special Issue Reviews 2021)
- V3: K. Maráková, M. Opetová, R. Tomašovský. Capillary electrophoresis-mass spectrometry for intact protein analysis: Pharmaceutical and biomedical applications (2018-March 2023). Journal of Separation Science 2023, 2300244. (invited paper to Special Issue "Reviews 2023")

5	V3: K. Maráková, B.J. Renner, S.L.Thomas, M. Opetová, R. Tomašovský, A.J. Rai, K.A. Schug. Solid phase extraction as sample pretreatment method for top-down quantitative analysis of low molecular weight proteins from biological samples using liquid chromatography – triple quadrupole mass spectrometry. <i>Analytica Chimica Acta</i> 2023, 1243, 340801.
VI.3 - The most significant research/artistic/other outputs over the last six years	
1	ADC: K. Maráková, A.J. Rai, K.A. Schug, Effect of difluoroacetic acid and biological matrices on the development of a liquid chromatography-triple quadrupole mass spectrometry method for determination of intact growth factor proteins, <i>Journal of Separation Science</i> . Vol. 43, No. 9-10 (2020), p. 1663-1677. (invited paper to Special Issue <i>Emerging Thought Leaders in Separation Science</i>)
2	ADC: K. Maráková, J. Piešťanský, Z. Zelinková, P. Mikuš, Simultaneous determination of twelve biogenic amines in human urine as potential biomarkers of inflammatory bowel diseases by capillary electrophoresis - tandem mass spectrometry. <i>Journal of Pharmaceutical and Biomedical Analysis</i> , Vol. 186 (2020), p. 1-12
3	ADC: S.L. Thomas, J.B. Thacker, K.A. Schug, K. Maráková, Sample preparation and fractionation techniques for intact proteins for mass spectrometric analysis. <i>Journal of Separation Science</i> Vol. 44, No. 1 (2021), p. 211-246. (invited paper to Special Issue <i>Reviews 2021</i>)
4	V3: K. Maráková, M. Opetová, R. Tomašovský. Capillary electrophoresis-mass spectrometry for intact protein analysis: Pharmaceutical and biomedical applications (2018-March 2023). <i>Journal of Separation Science</i> 2023, 2300244. (invited paper to Special Issue "Reviews 2023")
5	V3: K. Maráková, B.J. Renner, S.L.Thomas, M. Opetová, R. Tomašovský, A.J. Rai, K.A. Schug. Solid phase extraction as sample pretreatment method for top-down quantitative analysis of low molecular weight proteins from biological samples using liquid chromatography – triple quadrupole mass spectrometry. <i>Analytica Chimica Acta</i> 2023, 1243, 340801.
VI.4 - The most significant citations corresponding to the research/artistic/other outputs	
1	Swiner, D.J. - Jackson, S. - Burris, B.J. - Badu-Tawiah, A.K.: <i>Analytical Chemistry</i> , Vol. 92, No. 1, 2020, s. 202
2	Beutner, A. - Herl, T. - Matysik, F.M.: <i>Analytica Chimica Acta</i> , Vol. 1057, 2019
3	Rutkowska, M. - Plotka-Wasyłka, J. - Morrison, C. - Wieczorek, P.P. - Namiesnik, J. - Marc, M.: <i>TrAC - Trends in Analytical Chemistry</i> , Vol. 102, 2018, s. 102
4	Khalikova, M.A. - Skarbalius, L. - Naplekov, D.K. - Jadeja, S. - Švec, F. - Lenčo, J.: <i>Talanta</i> , Vol. 233, 2021, art. no. 122512
5	Li, H. - Gan, J. - Yang, Q. - Fu, L. - Wang, Y.: <i>Talanta</i> , Vol. 234, 2021, art. no. 122706
VI.5 - Participation in conducting (leading) the most important research projects or art projects over the last six years	
1	VEGA 1/0483/20 <i>"Novel Approaches in Pretreatment of Biological Samples for Analysis of Intact Proteins as Disease Biomarkers"</i> • principal investigator • Variable protein expression in biological fluids can correlate with the progression of numerous diseases, including cancer. Thus, reliable analysis of proteins in biological samples is important, since these molecules can serve as potential disease biomarkers. Trace intact protein biomarker analysis in complex biological samples is still a very challenging research area, where a successful analytical procedure requires use of an efficient sample preparation prior to high efficiency separation and high specificity detection. Sample preparation is a necessary, crucial and often the most time-consuming part in a proteomic workflow. In the current project, we aim to develop simple, reliable and innovative sample preparation approaches based on extraction, coacervation, as well as more advanced preparative isotachopheresis. These studies will fill a gap in providing proper rapid solutions for targeted analysis of intact proteins as disease biomarkers in biological samples
2	VEGA 1/0463/18 <i>"New approaches in analytical evaluation of drugs, their biodegradation products and metabolic markers in biological matrices related to optimization of therapy of inflammatory bowel diseases"</i> • co-investigator

3	APVV-15-0585 „Analytical Evaluation of Clinical Sample Profiles and Markers Related to Optimization Thiopurines Therapy of Nonspecific Bowel Disease“ • co-investigator
4	VEGA 1/0514/22 „Advanced analytical monitoring of thiopurine nucleotides and anti-drug antibodies in combined biological therapy of inflammatory bowel diseases“ • co-investigator

VII. - Overview of organizational experience related to higher education and research/artistic/other activities

VII.a - Activity, position	VII.b - Name of the institution, board	VII.c - Duration
member of organization committee of international conference	46th EuroCongress on Drug Synthesis and Analysis	09/2016 - 09/2017

VIII. - Overview of international mobilities and visits oriented on education and research/artistic/other activities in the given field of study

VIII.a - Name of the institution	VIII.b - Address of the institution	VIII.c - Duration (indicate the duration of stay)	VIII.d - Mobility scheme, employment contract, other (describe)
University of Texas at Arlington	Arlington, Texas, USA	10/2018 - 03/2019	National Scholarship Programme of the Slovak Republic
University of Texas at Arlington	Arlington, Texas, USA	01/2021 - 07/2021	Fulbright scholarship

IX. - Other relevant facts

IX.a - If relevant, other activities related to higher education or research/artistic/other activities are mentioned	2017 Scientific Degree IIa (Slovak Academy of Science) 2017, 2018 Slovak semifinal of the international program “For Women in Science” 02/2021 – present EuChemS-DAC Sample Preparation Study Group and Network (member) 02/2019 – present American Society for Mass Spectrometry (ASMS) (member) 08/2022 - present Czech Association of Mass Spectrometry (member) 06/2023 - present Slovak Chemical Society (member)
Date of last update	18.09.2023