

Diana Mechtcheriakova, Associate Professor, Dipl.-Ing., PhD

Medical University of Vienna, Center for Pathophysiology, Infectiology & Immunology

Department of Pathophysiology and Allergy Research

Währinger Gürtel 18-20, A-1090 Vienna, Austria

Phone: +43-1-40400-28600; Fax: +43-1-40400-51300

Email: diana.mechtcheriakova@meduniwien.ac.at

URL: <https://www.meduniwien.ac.at/hp/ipa/forschung/forschungsgruppen/mechtcheriakova-diana-molecular-systems-biology-and-pathophysiology/>

ORCID: <https://orcid.org/0000-0002-8737-3592>

Curriculum vitae

Year of Birth: 1964

Place of Birth: Moscow, Russia

Education and Academic milestones:

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|----------------|--|
| 1981 – 1987 | Study and Degree from Moscow Engineering Physics University, Moscow, Russia; Dipl.-Ing., speciality: biophysics |
| 1986 – 1987 | Diploma work at the Institute of Immunology, Moscow, Russia |
| 1988 – 1993 | Ph.D. studies at the Institute of Immunology, Moscow, Russia |
| 1992 – 1993 | Staff Scientist; Head of the research group/ project leader at the Institute of Immunology, Moscow |
| 1994 – 1996 | Visiting scientist, Sandoz Research Institute, Vienna, Austria |
| 1996 – 2001 | Post-doctoral scientist/Project leader at the Institute of Vascular Biology and Thrombosis Research, VIRCC, University of Vienna |
| 2002 – 2007 | Laboratory head at Novartis Institutes for Biomedical Research, Vienna |
| 2007 – 2010 | Project leader at the Department of Pathophysiology and Allergy Research, Medical University of Vienna |
| 2010 | Venia docendi/ Habilitation at the Medical University of Vienna |
| 2010 – present | Head of the Research Group “Molecular Systems Biology and Pathophysiology” |
| Since 2015 | Associate Professor, Medical University of Vienna |
| 2017 – present | Head technology subunit, BioImaging Austria |
| 2018 – present | Head of Systems Medicine at Austrian Platform for Personalized Medicine |

Main research areas and most important results achieved to date:

Systems biology/systems medicine; B-cell biology; tumor immunology; developing of integrative systems biology-based strategies in a process of discovery of novel disease-/immune-associated checkpoints; special interest referred to the AID/APOBEC-associated biological events and the cellular sphingolipid/lysophosphatidate system in immunity, cancer, and bone (patho)biology.

Within the area of sphingolipid signalling and immune response, significant contribution was made to delineation of the mode of action of FTY720 (fingolimod) resulting in its approval as drug for relapsing multiple sclerosis. Innovative contribution to the understanding of the role of sphingolipid/lysophosphatidate system and the AID/APOBEC family in immune- and cancer-associated processes leading to nomination of novel checkpoints and stratifying and targeting strategies.

Scientific output:

More than 60 publications in journals such as Blood, FASEB J, BMC Genomics, Computational and Structural Biotechnology J, Oncotarget, Circ. Research, Cell Signal., Biochim. Biophys. Acta, Cancer Immunol Immunotherapy, J Immunol., Journals of Russian Academy of Science.

Inventor of six patents. H-factor 28; Citations (Scopus) 2937

PhD students of the last five years

1. July 2019, Anastasia Meshcheryakova “Deciphering novel cancer-associated checkpoints in the sphingolipid system with special focus on interrelations with on-site immune response”
2. 2015-ongoing, Felicitas Mungenast “Integrative approach to define B cell-attributed checkpoints at the tumor site”

10 most important publications of the academic career

1. Meshcheryakova A, Svoboda M, Jaritz M, Mungenast F, Salzmann M, Pils D, Castillo-Tong DC, Hager G, Wolf A, Braicu EI, Sehouli J, Lambrechts S, Vergote I, Mahner S, Birner P, Zimmermann P, Brindley DN, Heinze G, Zeillinger R, Mechtcheriakova D. Interrelations of sphingolipid and lysophosphatidate signaling with immune system in ovarian cancer. Computational and Structural Biotechnology Journal. 2019 Apr 5. doi.org/10.1016/j.csbj.2019.04.004
2. Svoboda M., Meshcheryakova A., Heinze G., Jaritz M., Pils D., Cacsire Castillo-Tong D., Hager G., Thalhammer T., Jensen-Jarolim E., Birner P., Braicu I., Sehouli J., Lambrechts S., Vergote I., Mahner S., Zimmermann P., Zeillinger R., Mechtcheriakova D. AID/APOBEC-network reconstruction identifies pathways associated with survival in ovarian cancer. BMC Genomics. 2016 Aug 16;17(1):643. doi: 10.1186/s12864-016-3001-y.
3. Meshcheryakova A., Svoboda M., Tahir A., Köfeler HC., Triebel A., Mungenast F., Heinze G., Gerner C., Zimmermann P., Jaritz M., Mechtcheriakova D. Exploring the role of sphingolipid machinery during the epithelial to mesenchymal transition program using an integrative approach. Oncotarget. 2016. doi: 10.18632/oncotarget.7947.
4. Meshcheryakova A., Tamandl D., Bajna E., Stift J., Mittlboeck M., Svoboda M., Heiden D., Stremitzer S., Erika Jensen-Jarolim E., Grünberger T., Bergmann M., Mechtcheriakova D. (2014) B cells and ectopic follicular structures: novel players in anti-tumor programming with prognostic power for patients with metastatic colorectal cancer. PLoS One Jun 6;9(6):e99008. doi: 10.1371/journal.pone.0099008. eCollection 2014.
5. Mechtcheriakova D, Sobanov Y, Holtappels G, Bajna E, Svoboda M, Jaritz M, Bachert C, Jensen-

Jarolim E (2011) Activation-induced cytidine deaminase (AID)-associated multigene signature to assess impact of AID in etiology of diseases with inflammatory component. PLoS One 6: e25611. 10.1371/journal.pone.0025611 [doi];PONE-D-11-10751 [pii].

6. Mechtcheriakova, D., Wlachos, A., Sobanov J., Kopp T., Reuschel, R., Bornancin, F., Cai, R., Zemann, B., Urtz, N., Stingl, G., Zlabinger, G., Woisetschläger, M., Baumruker, B., Billich, A. (2007) Sphingosine 1-phosphate phosphatase 2 is induced during inflammatory responses. Cell Signal. 19, 748-760

7. Zemann, B., Kinzel, B., Muller, M., Reuschel, R., Mechtcheriakova, D., Urtz, N., Bornancin, F., Baumruker, T., and Billich, A. (2006) Sphingosine kinase type 2 is essential for lymphodepletion induced by the immunomodulatory drug FTY720. Blood 107, 1454-1458

8. Mechtcheriakova D., Bochkov V., Lucerna M., Huber J., Malli R., Graier W., Hofer E., Binder B.R. and Leitinger N. (2002) Oxidized phospholipids stimulate tissue factor expression in human endothelial cells via activation of ERK/Egr-1 and Ca²⁺/NFAT. Blood , 99, 199-206

9. Mechtcheriakova D., Schabbauer G., Lucerna M., Clauss M., deMartin R., Binder B.R. and Hofer E. (2001) Specificity, diversity and convergence in VEGF and TNF-alpha signaling events leading to tissue factor upregulation via EGR-1 in endothelial cells. FASEB J., Vol. 15, 230-242

10. Mechtcheriakova D., Wlachos A., Holzmüller H., Binder B. R., and Hofer E. (1999) Vascular endothelial cell growth factor-induced tissue factor expression in endothelial cells is mediated by EGR-1. Blood, Vol. 93, No 11, 3811-3823

10 most important additional scientific/scholarly achievements

1. Award of Russian Academy of Science for the best PhD thesis of the year (1993)

2. Aventis/Sanofi Award for contribution to Basic Medical Science (2000)

3. Otto-Kraupp-Preis for Venia docendi „Habilitation des Jahres“, Vienna, Austria (2010)

4. Research grants/Highlights:

Medizinisch-Wissenschaftlichen Fonds des Bürgermeisters der Bundeshauptstadt Wien/Stiftungsfonds zur Förderung der Bekämpfung der Tuberkulose und anderer Lungenkrankheiten. Special call: SARS-CoV-2 / COVID-19; Funding period: 2020-ongoing

“Tracing antiviral AID/APOBEC Family in coronavirus-targeted tissues and cells: a Systems biology based study”

OeNB - the Austrian central bank; Funding period: 2017-2019

“B cell-attributed immune checkpoints at the tumor site”

FWF - the Austrian Science Fund; Stand Alone projects; Funding period: 2010-2014 and 2011-2016

“ Activation induced cytidine deaminase: from immunity to cancer”

“ Definition of novel breakpoints in the sphingolipid machinery”

5. PhD supervisor of Anastasia Meshcheryakova, who received multiple prestigious prizes including the Dissertation Award and the Researcher of the Month Award

6. Head of imaging technology subunit at BioImaging Austria as part of Imaging Modalities for

Biological and Preclinical Research (since 2017)

7. Head of Systems Medicine subdivision at Austrian Platform for Personalized Medicine (since 2018)

8. Consultant at INUNIMAY – The international network of universities for molecular allergology and immunology (since 2018)

9. Active member of the international society of sphingolipid specialists and of Deaminet consortium

10. Mentor of three mentees within mentoring programme “Frauen nez.werk Medizin” (2019-2021)