

Maria Fedorova, PhD

1 | General information

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Current position: Group Leader, Lipid metabolism: analysis and integration, Center of Membrane Biochemistry and Lipid Research, University Hospital and Faculty of Medicine Carl Gustav Carus of TU Dresden

Researcher unique identifier(s): ORCID-ID: 0000-0002-4692-3885

2 | Academic education

1999 – 2003 Bachelor study, Faculty of Biology and Soil Science, St. Petersburg State University, Russia

3 | Advanced academic qualifications:

2006 – 2010 PhD study, Bioanalytical Chemistry, *“Analysis of protein modifications formed by oxidative stress in vivo”*, Institute of Bioanalytical Chemistry, Faculty of Chemistry and Mineralogy, University of Leipzig, Germany (Mentor: Ralf Hoffmann)

2004 – 2006 Master study, Biochemistry, *“Oxidative modification of actin after action of general X-ray radiation”*, Department of Biochemistry, Faculty of Biology and Soil Science, St. Petersburg State University, Russia (Mentor: Nadezda Kuleva)

4 | Postgraduate professional career:

Since 2021 Research Group Leader, Lipid Metabolism: Analysis and Integration, Center of Membrane Biochemistry and Lipid Research, University Hospital and Faculty of Medicine Carl Gustav Carus of TU Dresden, Germany

2012 – 2021 Research Group Leader, Center for Biotechnology and Biomedicine, University of Leipzig, Germany

2010– 2012 Postdoctoral fellow, Institute of Bioanalytical Chemistry, Faculty of Chemistry and Mineralogy, University of Leipzig, Germany

2006 – 2010 PhD study, Institute of Bioanalytical Chemistry, Faculty of Chemistry and Mineralogy, University of Leipzig, Germany

2004 – 2006 Master study, Department of Biochemistry, Faculty of Biology and Soil Science, St. Petersburg State University, Russia

5 | Other:

- Vice-Chair of COST Action 19105 EpiLipidNET – Pan-European Network in Lipidomics and Epilipidomics (since 2020)
- Project Committee member within BMBF nationwide research program e:Med (since 2020)
- Leader of the Project Group “Mass spectrometry based Omics” within BMBF nationwide research program e:Med (since 2019)
- Member of LIPID MAPS Advisory Board
- Member of the steering committee of Lipidomics Standards Initiative as an Interest Group within International Lipidomics Society
- Co-organizer of LIPID MAPS Training Spring School, 12th - 16th April 2021
- PI and organizer of the Training School “LipoSysMed: Integration of large scale lipidomics data in systems medicine research”, 18-22 March 2019, Leipzig (funded by BMBF within e:Med consortium)
- Co-organizer of 7th European Lipidomics Meeting, 26-27th September 2018, Leipzig

- Grants reviewer for German Research Consul (Deutsche Forschungsgemeinschaft, DFG), German Federal Ministry for Education and Research (Bundesministerium für Bildung und Forschung, BMBF), Austria Science Fund (Fonds zur Förderung der wissenschaftlichen Forschung, FWF)
- Associated Editor for *Frontiers in Endocrinology* (Section Systems Endocrinology)
- Member of Editorial Advisory Board of *Chromatographia* (Springer)
- Section editor (Section Oxidized lipids) for *Encyclopedia of Lipidomics* (Springer)
- Guest Editor for the Special Issue on “Oxidized lipids in food and nutrition” in *NFS Journal* (2021), Research Topic collection on “Epilipidomics regulation in biological systems” in *Frontiers in Systems Endocrinology* (2020), Special Issue on 7th European Lipidomics Meeting in Chemistry and Physics of Lipids (2019), special issue on “Redox lipidomics and adductomics - advanced analytical strategies to study oxidized lipids and lipid-protein adducts” in *Free Radical Biology and Medicine* (2019)

6 | Selected publications:

1. Gladine C and **Fedorova M**. The clinical translation of eicosanoids and other oxylipins, although challenging, should be actively pursued. **J Mass Spectrom Adv Clin Lab** 2021; 21:27-30
2. Griesser E, Vemula V, Mónico A, Pérez-Sala D, **Fedorova M**. Dynamic posttranslational modifications of cytoskeletal proteins unveil hot spots under nitroxidative stress. **Redox Biol** 2021; 102014
3. Aldrovandi M, **Fedorova M**, Conrad M. Juggling with Lipids, a Russian Roulette. **Trends Endocrinol Metab** 2021; 32(7): 463-473
4. Lange M, Angelidou G, Ni Z, Criscuolo A, Schiller J, Blüher, **Fedorova M**. AdipoAtlas: a reference lipidome of human white adipose tissue. **Cell Rep Med** 2021; 2(10): 100407
5. Lange M, **Fedorova M**. Evaluation of lipid quantification accuracy using HILIC and RPLC MS on the example of NIST® SRM® 1950 Metabolites Human Plasma. **Anal Bioanal Chem** 2020; 412(15): 3573-3584
6. Ni Z, Goracci L, Cruciani G, **Fedorova M**. Computational solutions in redox lipidomics – current strategies and future perspectives. **Free Radic Biol Med** 2019; 144: 110-123
7. Coliva G, Duarte S, Perez-Sala D, **Fedorova M**. Impact of inhibition of the autophagy-lysosomal pathway on biomolecules carbonylation and proteome regulation in rat cardiac cells. **Redox Biol** 2019; 23: 101123
8. Ni Z, Angelidou G, Hoffmann R, **Fedorova M**. LPPTiger software for lipidome-specific prediction and identification of oxidized phospholipids from LC-MS datasets. *Sci Rep* 2017; 7(1): 15138
9. Ni Z, Angelidou G, Lange M, Hoffmann R, **Fedorova M**. LipidHunter Identifies Phospholipids by High-Throughput Processing of LC-MS and Shotgun Lipidomics Datasets. **Anal Chem** 2017; 89 (17): 8800–8807
10. Griesser E, Vemula V, Raulien N, Wagner U, Reeg S, Grune T, **Fedorova M**. Cross-talk between lipid and protein carbonylation in a dynamic cardiomyocyte model of mild nitroxidative stress. **Redox Biol** 2017; 11: 438-455