

Curriculum Vitae

Name: Matej HOŤKA

Place/date of birth: Bratislava, Slovakia, 11.07.1985

Work Address: Department of Neurophysiology and Neuropharmacology Center for Physiology and Pharmacology, Medical University of Vienna, Schwarzschanerstrasse 17, 1090 Vienna, Austria

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Academic titles: Masters degree in electrical engineering (Ing.)
Philosophiae doctor in biophysics (PhD.)

Education: (2005 - 2010) Ing, electrical engineering, Faculty of electrical engineering and information technology, Slovak University of Technology, Bratislava, Slovakia
(2010 - 2015) PhD, biophysics, Department of Biophysics, Faculty of Natural Sciences, Pavol Jozef Šafárik University, Košice, Slovakia
(2016 - present) Postdoctoral research fellow at the Department of Neurophysiology and Neuropharmacology, Center for Physiology and Pharmacology, Medical University of Vienna, Austria

Main research areas:

My research interests can be divided in two parts. I'm interested in the role of calcium influx in regulation of cellular metabolism with special emphasis on mitochondria.

The other field of my research is related to my degree in electrical engineering: By combination of electrophysiology and electrical circuit analysis, I'm developing methods by which we study cellular processes in real-time with high resolution. For example ligand binding and transport of substrates by plasma membrane proteins or exo/endocytosis.

Methods I use in my research include: laser-scanning confocal microscopy, patch-clamp electrophysiology and mathematical modeling.

Grants received:

Standalone FWF project (nr. P 33797), title: Regulation of mitochondrial ATP synthesis by neuronal Cav1.

Scientific talks and awards:

2018 – “*L-type, Ca²⁺ channels regulate mitochondrial ATP production in hippocampal neurons*”, 15th International Meeting of the European Calcium Society, Hamburg, Germany.

2018 – “*The interplay of mitochondrial dysfunction and epileptiform discharge activities*”, 13th European Congress on Epileptology, Vienna, Austria.

2017 – “*The link between mitochondria and epileptiform activity*”, 15th meeting of the Austrian Neuroscience Association, IST Klosterneuburg, Austria.

2017 – “*The link between mitochondria and epileptiform activity*”, MitoPorto, Porto, Portugal.

2017 – “A relation between mitochondria and epileptiform discharges”, FEPS, Vienna, Austria.

2016 – “*Investigating the link between mitochondria, Ca²⁺ and epileptiform activity*”, 14th European Calcium society meeting, Valladolid, Spain.

2016 - ECS Junior Travel Fellowship, 14th European Calcium Society meeting, Valladolid, Spain.

2014 - Best Oral Presentation, Young Biomedical Engineers and Researchers Conference Bratislava, Slovakia.

2012 - Education Committee award, 56th Annual Meeting at the San Diego Convention Center in San Diego, California, February 25-29, 2012.