Curriculum Vitae

Personal Information:

Name: Gergely Szarka
Place of birth: Budapest
Date of birth: 1994. February 22.
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Education:

2001-2003. Piarista Highschool, Budapest
2003-2007. International School of the Hague, the Netherlands
2007-2008. Faculty of Aerospace engineering, Delft, the Netherlands
2008-2010. Szent István University, Faculty of Veterinary Sciences, Budapest
2014- University of Pécs, Faculty of Natural Sciences, Pécs

Trainings and research abroad:

2013. GVI, Hoedspruit, South Africa - Volunteer work
2018. Institute of Neuroscience, Newcastle University - research
2018. School of informatics, University of Edinburgh - training in programming and data analysis

Research:

2016-2017. University of Kaposvar, Faculty of Wildlife and Ethology
Supervisor: Dr. Vilmos Altbäcker
Research topic: Diet choice of red deer

2018-2019. University of Pécs, Retinal neurobiology research group
Supervisor: Dr. Béla Völgyi
Research topic: Strategic positioning of Connexin36 gap junctions across human retinal ganglion cell dendritic arbors
2019-: University of Pécs, Retinal neurobiology research group
Supervisor: Dr. Béla Völgyi
Research topic: Communication between parallel retinal information pathways

Publications

First author:

Kántor, O., **Szarka, G**., Benkő, Z., Somogyvári, Z., Pálfi, E., Baksa, G., Völgyi, B. (2018). Strategic Positioning of Connexin36 Gap Junctions Across Human Retinal Ganglion Cell Dendritic Arbors. Frontiers in Cellular Neuroscience, 12. doi:10.3389/fncel.2018.00409

Co-author:

Kovács-Öller, T**., Szarka, G**., Ganczer, A., Tengölics, Á., Balogh, B., & Völgyi, B. (2019). Expression of Ca2+-Binding Buffer Proteins in the Human and Mouse Retinal Neurons. International Journal of Molecular Sciences, 20(9), 2229. doi:10.3390/ijms20092229

Awards and honors:

2018 New National Excellence Program Scholarship
2019 Stephen W. Kuffler Research Scholarship

Teaching:

2018-2019: University of Pécs, Animal physiology practical demonstrator

Languages:

English	advanced (C1)
Dutch	intermediate
German	beginner

Skills:

- Multielectrode Array
- Calcium Imaging
- Immunohistology / Confocal microscopy
- Cell injection
- PCR

Research interest:

My research (Retinal neurobiology research group, Szentagothai Research Centre, Pécs) is focused on the retina, principally we are interested in how the retinal code is generated and the roles of the partaking gap junction connections. Since vision is the primary sense in humans, responsible for approximately 80% of the information perceived from our surroundings, it's important to learn how visual perception is formed in humans. Our current knowledge is already quite extensive, however there are many details yet to be discovered. The research we undertake will potentially lead to medical and technological advances. We deploy a three-prong approach, genetical tools, imaging and electrophysiology. We do most of our research by exploiting advances of several available mouse strains that we keep and cross. The combination of our morphological and electrophysiological data leads to a wider understanding of retinal signal processing. My current research is focused on the interaction by parallel signaling pathways of the retina. Information about certain features, such as movement or

contrast travel via separate information pathways, however it is largely unknown whether these channels interact or interfere with each other. My project took an ambitious goal and addressed questions in this topic. I hope to be able to continue my research on different aspects of the retina for the foreseeable future.