RÉKA BOD

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CURRENT AND PREVIOUS POSITIONS

September 2022 – Present

Graduate student, Institute for Cognitive Neuroscience and Psychology, Research Centre for Natural Sciences

- In vitro electrophysiology: signal processing
- artificial intelligence-aided signal processing
- histological sample evaluation

April 2018 – July 2022

Undergraduate student, *Experimental Neurophysiology Lab, University of Medicine and Pharmacy of Târgu Mureș*

- In vitro electrophysiology: signal processing
- artificial intelligence-aided signal processing
- behavioral studies and surgeries on animal models

EDUCATION

September 2022 – Present

PhD student, Szentágothai János Doctoral School of Neuroscience

- Program: Functional Neurosciences
- Project title: Investigation of neuronal activity in epileptic patients in vivo and in genetically modified human organotypic slice cultures

Doctoral advisor: Lucia Wittner, PhD, DSc

September 2016 – July 2022

Doctor of Medicine, University of Medicine and Pharmacy of Târgu Mureș

- Thesis: Automated detection and prediction of interictal epileptiform discharges in rat hippocampal in vivo recordings

Scientific advisors: Tibor Szilágyi, MD, PhD; Károly Orbán-Kis, MD, PhD and István Mihály, MD, PhD

- Received Erasmus internship in 2019, 2020, 2021 and 2022: Research Centre for Natural Sciences, Budapest

TEACHING EXPERIENCE

March 2023 –

Neurophysiology teaching assistant, *Faculty of Information Technology and Bionics, Pázmány Péter Catholic University, Budapest*

September 2019 – July 2022

Demonstrator, *Department of Physiology, University of Medicine and Pharmacy of Targu Mureș*

- leading practical classes
- major topics: blood, cardiovascular and nervous system physiology

September 2017 – July 2021

Demonstrator, *Department of Biophysics, University of Medicine and Pharmacy of Targu Mureș*

- assisting practical classes
- operating principles behind medical devices

PUBLICATION LIST

- Bod, R., Rokai, J., Meszéna, D., Fiáth, R., Ulbert, I., & Márton, G. (2022). *From end to end: gaining, sorting and employing high-density neural single unit recordings*. Frontiers in Neuroinformatics, 16.
- Gáll, Z., Kelemen, K., Tolokán, A., Zolcseák, I., Sável, I., Bod, R., Ferencz, E., Vancea, S., Urkon, M., Kolcsár, M. (2022). *Anticonvulsant Action and Long-Term Effects of Chronic Cannabidiol Treatment in the Rat Pentylenetetrazole-Kindling Model of Epilepsy*. Biomedicines, 10(8)
- Mihály, I., Berki, Á. J., Orbán-Kis, K., Gáll, Z., Bod, R. B., & Szilágyi, T. (2021). *The effect of amygdala low-frequency stimulation on inter-hippocampal connectivity in the pilocarpine model of epilepsy*. Acta Marisiensis-Seria Medica, 67(1), 27-33.
- Mihály, I., Molnár, T., Berki, Á. J., Bod, R. B., Orbán-Kis, K., Gáll, Z., & Szilágyi, T. (2021). *Short-Term Amygdala Low-Frequency Stimulation Does not Influence Hippocampal Interneuron Changes Observed in the Pilocarpine Model of Epilepsy*. Cells, 10(3), 520.
- Mihály, I., Orbán-Kis, K., Gáll, Z., Berki, Á. J., Bod, R. B., & Szilágyi, T. (2020). *Amygdala low-frequency stimulation reduces pathological phase-amplitude coupling in the pilocarpine model of epilepsy*. Brain sciences, 10(11), 856.
- Mihály, I., Bod, R. B., Orbán-Kis, K., Berki, Á. J., & Szilágyi, T. (2020). *The Effect of Deep Brain Stimulation on High Frequency Oscillations in a Chronic Epilepsy Model*. Bulletin of Medical Sciences, 93(2), 63-70.

SELECTED CONFERENCE PAPERS

- Réka Bod, Ágnes Kandrács, Kinga Tóth, Estilla Zsófia Tóth, Loránd Erőss, Attila Bagó, Gábor Nagy, Dániel Fabó, István Ulbert and Lucia Wittner (2023): Automated detection of spontaneous population activity on human in vitro recordings. Joint Meeting of the Hungarian Neuroscience Society and the Austrian Neuroscience Association, Budapest, Hungary
- Réka Bod, Krisztina Kelemen, Tibor Szilágyi, Károly Orbán-Kis, Zsolt Gáll (2022): Automated cell counter algorithm for hippocampal histological analysis. Erdélyi Múzeum-Egyesület Orvos- és Gyógyszerésztudományi Szakosztály XXX. Tudományos Ülésszaka, Marosvásárhely, Románia. Award for the best experimental research presentation.
- Réka Bod, István Mihály, Károly Orbán-Kis and Tibor Szilágyi (2021): Interictal Epileptiform Discharge Detection and Prediction with Deep Learning Algorithms. 28. Tudományos Diákköri Konferencia, Marosvásárhely, Romania. Invitation to the 2023 OTDK Conference
- Réka Barbara Bod, Ádám József Berki, István Mihály, Károly Orbán-Kis, Tibor Szilágyi (2021): Deep brain stimulation's effect on hippocampal High Frequency Oscillations in the pilocarpine model of epilepsy. 5th HBP Student Conference on Interdisciplinary Brain Research, February 1-4, 2021, virtual event.
- Ádám József Berki, Réka Barbara Bod, István Mihály, Károly Orbán-Kis, Tibor Szilágyi (2021): Measuring Phase-amplitude coupling in amygdala-stimulated pilocarpine-treated rats. 5th HBP Student Conference on Interdisciplinary Brain Research, February 1-4, 2021, virtual event.
- István Mihály, Károly Orbán-Kis, Tímea Molnár, Réka Barbara Bod, Ádám-József Berki, Tibor Szilágyi (2020): The effect of deep brain stimulation of the amygdala in the pilocarpine model of temporal lobe epilepsy. FENS 2020 Virtual Forum

GRANTS RECEIVED

2022-2023   SE 250+ Doctoral Scholarship for Excellence (2 semesters)

2021-2022   ELTE Márton Áron Special College Grant
Carpathian Basin Talent Research Foundation Grant