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Emília Bősz

Nationality: Hungarian
Date of birth: 1993.07.05.

Education

2016 Budapest University of Technology and Economics, Faculty of Natural Sciences**,** MSc in Cognitive Science

2012-2016 Eötvös Loránd University, Faculty of Natural Sciences, BSc in Biology

Languages

English

German

Research experiences

2014 Student research assistant at the Institute of Experimental Medicine HAS, Laboratory of Thalamus Research, supervisor: Dr. László Acsády

Scientific Awards/ Scholarships

2017 Stephen W. Kuffler Research Scholarship

2017 Excellent Student Award, Faculty of Natural Sciences, Budapest University of Technology and Economics

2017 Scientific Scholarship of the Budapest University of Technology and Economics, Faculty of Natural Sciences

2017	XXXIII Hungarian Scientific Conference and Competition for Students, Neurobiology section (2nd prize)
2017	Volunteer on the Brain Awereness Week
2016	Budapest University of Technology and Economics, Faculty of Natural Sciences, Scientific Conference and Competition for Students, Cognitive Science section (3rd prize)
2016	Acknowledgement for Excellent Scientific Activities of the Eötvös Loránd Universitiy, Faculty of Natural Science
2016	Scientific Scholarship of the Eötvös Loránd University, Faculty of Natural Sciences
2016	Bolyai College Honorary membership
2015	Eötvös Loránd University, Scientific Conference and Competition for Stundents, Neurobiology section (1st prize)
2015	Bolyai College Special Award (best lecturer in Scientific Conference and Competition for Stundents)
2015	Spring School in Biology, Master course, Leányfalu
2011	Kitaibel Pál Competition in Biology and Conservation Biology for Students, participant
2010	Dobó Katalin Secondary Grammar School, Taxonomy Competition
2008	Hungarian Red Cross – Regional Infant-care Competition (3rd prize)
2007	Hungarian Red Cross – Regional First Aid Competition (2nd prize)

Conference attendance

Presentations

Investigation of motor afferents in the pontine reticular formation at light- and electronmicroscopic level *(Eötvös Conference 2017, Budapest)*
Emília Bősz, Viktor Plattner, László Acsády

Optogenetics – light controlled neurons *(3. Elevator Speech Festival in Life Sciences 2017, Budapest)*
Emília Bősz

Motor afferents in the pontine reticular formation *(Bolyai College, Biologist Seminar, Special Award 2016, Budapest)*
Emília Bősz, Viktor Plattner, László Acsády

Control of glycinerg neuronal activity by motor cortex in the pontine reticular formation *(19th IEM Days 2015, Balatonfüred)*
Viktor Plattner, E. Bősz, H. Bokor, L. Acsády

Posters

Cortical control of the inhibitory pathway from the brainstem to the thalamus (Inhibition in the CNS, Gordon Research Conference 2017, Les Diablerets, Switzerland)
Viktor Plattner, Emília Bősz, Marco A Diana, László Acsády

Motor afferents in the pontine reticular formation *(HunDoc 2016, Budapest)*
Emília Bősz, Viktor Plattner , László Acsády

Role of an ascending inhibitory pathway – motor or arousal system? (*Bolyai Conference 2016, Budapest)*
Emília Bősz, Viktor Plattner, László Acsády

Research interest

I have joined the Laboratory for Thalamus Research of the Institute of Experimental Medicine in the second year of my BSc. As a student reserach assistant I have learned basic neuroanatomic methods, like immunhistochemistry, retrograde and anterograde tracing, light- and electronmicroscopy. Using these techniques I investigated the morphological properties of a cortico-brainstem connection. In the pontine reticular formation (PRF) of the brainstem there is an inhibitory cell population, which can cause bahivoral arrest via the thalamus. This strong motor response is surprising given that the PRF has been implicated in arousal but not in motor control. I mapped the sources of the afferents of these inhibitory cells and found that they originate in higher order motor corticies and in deep cerebellar nuclei as well. These data suggest that the PRF could be involved not only in arousal but also in motor control.
In the future I am planning to acquire in vivo electrophysiological methods and learn to design basic behavior tasks to investigate the role of thalamus in motor functions. Next year's challenges for me are combining optogenetic manipulation, EEG/EMG recording with behavior studies.