

PERSONAL INFORMATION

Name (Family, first, middle name):	Komlósi, Gergely Sándor
Date of Birth (MM/DD/YYYY):	08/06/1982
Nationality:	Hungarian
Workplace:	HUN-REN Institute of Experimental Medicine, Budapest, Hungary
Position:	Senior research fellow
Work address:	Szigony utca 43., 1083, Budapest, Hungary
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WORK EXPERIENCE

Senior research fellow (12/2023-)

HUN-REN Institute of Experimental Medicine, Budapest, Hungary

Advisor: **Prof. László Acsády**

- Continue the work on exploring the role of midline thalamic neurons during memory related hippocampal and cortical network activity, using large scale single unit recordings combined with optogenetics, simultaneously from the midline thalamus, ventral subiculum and prelimbic cortex in mouse.

Assistant Research Scientist (02/2021 – 12/2023)

NYU Langone Health, Neuroscience Institute, New York, NY, USA

Advisor: **Prof. György Buzsáki**

- Explored the role of midline thalamic neurons during memory related hippocampal and cortical network activity, using large scale single unit recordings combined with optogenetics, simultaneously from the midline thalamus, ventral subiculum and prelimbic cortex in mouse.

Senior research fellow (2018 – 2021)

Institute of Experimental Medicine of the Hungarian Academy of Sciences, Budapest, Hungary

Advisor: **Prof. László Acsády**

- Studied the role of dorsal midline thalamus in stress induced sleep disturbances using EEG recordings combined with optogenetic manipulations in mouse.
- Mapped input-output connections of molecularly identified midline thalamic neurons using viral tracing methods and immunohistochemistry.

Research fellow (2013 – 2018)

Institute of Experimental Medicine of the Hungarian Academy of Sciences, Budapest, Hungary

Advisor: **Prof. László Acsády**

- Studied the role of calretinin containing dorsal midline thalamic neurons in behavioral arousal, using EEG recordings combined with optogenetic manipulation in mouse.

Senior lecturer (2013 – 2015)

Dept. of Physiology, Anatomy and Neuroscience, University of Szeged, Szeged, Hungary

Advisor: **Prof. Gábor Tamás**

- Studied synaptic integration of unitary slow IPSPs elicited by convergent neurogliaform cells, using simultaneous multiple patch clamp recordings in rat cortical slices.
- Teaching activity: Basics to Biology (BSc); Sensory and motor systems (MSc) for biology students.
- In vitro electrophysiological investigation of a newly generated transgenic mouse line.

Assistant lecturer (2008 – 2013)

Dept. of Physiology, Anatomy and Neuroscience, University of Szeged, Szeged, Hungary

Advisor: **Prof. Gábor Tamás**

- Studied the synaptic and network effect of serotonin in acute human cortical slices using simultaneous multiple patch clamp recordings.
- Teaching activity: Hands-on laboratory in Comparative Physiology (BSc); Basics to Biology (BSc) for biology students.

Graduate Student, PhD (2006 – 2013)

University of Szeged, Szeged, Hungary

Advisor: **Prof. Gábor Tamás**

- Performed simultaneous multiple patch clamp recordings in rat and human cortical slices.
- Performed correlated light and electron microscopy on physiologically coupled neurons.
- Teaching assistant in Hands-on Laboratory in Comparative Physiology (BSc) for biology students.

EDUCATION AND TRAINING**BA in Psychology (2021)**

Institute of Psychology, University of Szeged, Szeged, Hungary

Thesis Advisor: Prof. Ágnes Szokolszky

Thesis title: Neurocognitive aspects of the Bayesian Brain and Free Energy Principle

PhD in Neurobiology (2013)

Faculty of Biology, University of Szeged

Thesis Advisor: **Prof. Gábor Tamás**

Thesis title: In vitro investigation of human cortical circuits and their regulation by serotonin

MSc in Biology with Diploma with honors (2006)

Faculty of Biology, University of Szeged

Thesis Advisor: **Prof. Gábor Tamás**

Thesis title: Morphological and in Vitro Electrophysiological investigation of human cortical microcircuits

TEACHING ACTIVITY

Lecturer in **Sensory and Motor Systems** for biology MSc students (2014 – 2015)

Dept. of Physiology, Anatomy and Neuroscience, University of Szeged, Hungary

Lecturer in **Fundamentals of Biology** for biology BSc students (2011 – 2013)

Dept. of Physiology, Anatomy and Neuroscience, University of Szeged, Hungary

Teaching assistant in **Hands-on Laboratory in Comparative Physiology** for biology BSc students (2008 – 2011)

Dept. of Physiology, Anatomy and Neuroscience, University of Szeged, Hungary

STUDENT MENTORSHIP

Péter Vizi, medical student (2024-)

Institute of Experimental Medicine of the Hungarian Academy of Sciences, Budapest, Hungary

Anna Jász, bionics engineering student, MSc (2016 – 2019)
Institute of Experimental Medicine of the Hungarian Academy of Sciences, Budapest, Hungary

INTERNATIONAL TRAININGS

- Neuroscience School of Advanced Studies, The Neurobiology of Stress and Resilience, Venice, Italy (1 week), (2018)
- Neuroscience School of Advanced Studies, Sleep and Cognition, Siena, Italy, (1 week), (2017)
- Transylvanian Experimental Neuroscience Summer School, Cluj-Napoca, Romania, (3 weeks), (2014)
- European Synapse Summer School, Bordeaux, France, (3 weeks), (2011)
- Visiting scientist, (06/201 – 07/2011) at the Laboratory of Prof. Z. Josh Huang, Cold Spring Harbor Laboratory, USA.
- PENS/Hertie Winter School, Obergurgl, Austria, Structure and Function of Neural Circuits (1 week), (2009)

FELLOWSHIPS AND AWARDS

- H2020 Marie Skłodowska-Curie Individual Fellowship (2021-)
- IBRO CEERC support, 5ht FENS Forum, Vienna, (2006)
- Fellowship of Szeged City, (2005)
- Fellowship of Szeged City, (2004)

MEMBERSHIP OF SCIENTIFIC SOCIETIES

- Hungarian Neuroscience Society, (2006-)
- Federation of European Neuroscience Societies, (2006-)
- Society for Neuroscience (2021-2023)

ORGANIZATION OF INTERNATIONAL CONFERENCES

- Organizer of 2nd HuNDoC, Hungarian Neuroscience Meeting for Undergraduate Students, Graduate Students and Junior Postdocs, Pécs, Hungary, 20-23, September 2017
- Organizer of 4th HuNDoC, Hungarian Neuroscience Meeting for Undergraduate Students, Graduate Students and Junior Postdocs, Szeged, Hungary, 28, January 2020

PUBLICATIONS IN INTERNATIONAL PEER-REVIEWED JOURNALS

1. Oláh S, **Komlósi G**, Szabadics J, Tóth É, Barzó P, Tamás G; Output of neurogliaform cells to various neuron types in the human and rat cerebral cortex, *Frontiers in Neural Circuits* 2007; 1:4.
2. Molnár G, Oláh S, **Komlósi G**, Füle M, Szabadics J, Varga C, Barzó P, Tamás G; Complex Events Initiated by Individual Spikes in the Human Cerebral Cortex, *PLOS Biology* 2008; 6(9):e222

3. Oláh S, Füle M, **Komlósi G**, Varga C, Báldi R, Barzó P, Tamás G: Regulation of cortical microcircuits by unitary GABA-mediated volume transmission. *Nature*, 2009; 461(7268):1278-81
4. **Komlósi G**, Molnár G, Rózsa M, Oláh S, Barzó P, Tamás G; Fluoxetine (Prozac) and serotonin act on excitatory synaptic transmission to suppress single layer 2/3 pyramidal neuron-triggered cell assemblies in the human prefrontal cortex. *Journal of Neuroscience* 2012; 32(46):16369-78
5. Mátyás F¹, **Komlósi G**¹, Babiczky Á, Kocsis K, Barthó P, Barsy B, Dávid C, Kanti V, Porrero C, Magyar A, Szűcs I, Clasca F, Acsády L; A highly collateralized thalamic cell type with arousal-predicting activity serves as a key hub for graded state transitions in the forebrain, *Nature Neuroscience*, 2018; 21: 1551–1562
¹equally contributed.
6. Ozsvár A, **Komlósi G**, Oláh G, Baka J, Molnár G, Tamás G; Predominantly linear summation of metabotropic postsynaptic potentials follows coactivation of neurogliaform interneurons. *eLife* 2021; 10:e65634
7. Jász A, Biró L, Buday Z, Király B, Szalárdy O, Horváth K, **Komlósi G**, Bódizs R, Kovács KJ, Diana MA, Hangya B, Acsády L; Persistently increased post-stress activity of paraventricular thalamic neurons is essential for the emergence of stress-induced alterations in behavior. *PLOS Biology*, *accepted*.