

TAMÁS KISS – CURRICULUM VITÆ

SEPTEMBER 2015

CONTACT INFORMATION

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PERSONAL DATA

- Date of birth: May 12, 1977
- Place of birth: Budapest, Hungary
- Nationality: Hungarian
- Legal status: Lawful Permanent Resident of the USA
- Marital status: Married, father of 2 children
- Languages used: Hungarian, English, French
- Homepage: <http://cneuro.rmki.kfki.hu/people/kiss>

PRESENT AFFILIATION

- Complex Systems and Computational Neuroscience Group, Institute for Particle and Nuclear Physics, Wigner Research Centre for Physics, Hungarian Academy of Sciences (Konkoly-Thege Miklós út 29-33, H-1121 Budapest, Hungary)

STUDIES

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|-----------|---|
| 2000-2005 | Ph.D. studies at Eötvös University, Budapest, Hungary in Statistical-, Quantum- and Biophysics. (Dissertation: Neural and Social Networks: Structure and Dynamics. Précis available in English at http://cneuro.rmki.kfki.hu/files/thesis.pdf) |
| 1998-2001 | Physics teacher's training at Eötvös University, Budapest, Hungary |
| 1995-2000 | Physics MSc. training at Eötvös University, Budapest, Hungary |
| 1995 | Finished Móricz Zsigmond High School at Budapest, Hungary, specialized in mathematics and physics |

POSITIONS HELD

- 2012-2015 Principal Scientist (R5), Pfizer Inc., Groton, CT
- 2012- Senior research fellow, Wigner Research Centre for Physics of the Hungarian Academy of Sciences, Budapest, Hungary**
- 2008-2012 Post Doctoral Fellow, Pfizer Inc., Groton, CT
- 2007-2008 Acting head of the Department of Biophysics, KFKI RIPNP of the HAS, Budapest, Hungary
- 2007- Professor adjunct, Department of Mathematics and its Applications, Central European University, Budapest, Hungary**
- 1999-2000 Faculty (as physics teacher), Klébelsberg Kunó Primary and High School, Budapest, Hungary
- 1999-2012 Research fellow, KFKI RIPNP of the HAS, Budapest, Hungary
- 1998-1999 Research assistant, KFKI RIPNP of the HAS, Budapest, Hungary

SKILLS AND EXPERIENCE

- Development and analysis of biomarker assays
 - Design and implementation of auditory gating and auditory steady state evoked potential experiments in a freely moving rat model
 - Conducting combined electrophysiological and behavioral rat experiments using self-designed and built behavioral apparatus and multiple commercial recording set-ups
 - Setting up and testing *in vivo* anesthetized, tethered and telemetric freely moving recording environments for rats and mice (using instruments from Grass Technologies, Cambridge Electronic Design, Blackrock Microsystems, Neuralynx, Neuronexus, BioSemi, National Instruments). Experience with data acquisition and analysis using DSI's Dataquest Art
- Data analysis (using Matlab, R, octave, scilab, custom codes written in C, bash, etc.)
 - Behaving, freely moving and anesthetized *in vivo* electrophysiological signals from single and multi-site electrodes, including time-frequency domain analysis, spike sorting, CSD, information theoretical measures (eg. Theil's U, Granger, mutual inf., correlations), etc. in rats and mice
 - Combined EEG + EMG polysomnography in rats
 - Microscope image analysis using Aperioscope
 - Financial time-series analysis (Forex)
- Conductance based modeling of neural systems (using GENESIS, Neuron, XPP, etc.)
 - Large networks (septo-hippocampal system)
 - Detailed single cell modeling
 - Combined modeling of detailed neurons in large networks including the modeling of channel and receptor kinetics
- Modeling of abstract artificial and biomimetic neural networks (using Matlab's Neural Networks Toolbox, R, Webots, custom C codes, etc.)
- Participating in the management of a multi-center European Framework 6 research project (IST-027819, ICEA; 2006-2009)
- Teaching and mentoring experience in Hungary (Budapest, including MSc and PhD students) as

well as in the USA (college students in Kalamazoo, MI, including senior individualized projects)

AWARDS

- 2009 **Travel award for outstanding poster** presentation for the Julius Axelrod satellite meeting of SfN 2009, Chicago
- 2008 **Young Researcher of the Academy Award** from the *Hungarian Academy of Sciences* for *Outstanding Research Activity*
- 2007 **Györgyi Géza Prize** from *KFKI RIPNP of the HAS* for *Outstanding Research Activity*
- 2005 **Certificate** from *Council of National Scientific Students' Associations* for *Supervisor Activity*
- 2005 **Certificate** from *Eötvös University* for *Supervisor Activity*
- 2001 **Central Peak Award** from *Geilo NATO ASI* for *Hands on Modeling*
- 1998 **Certificate** from *Council of National Scientific Students' Associations* for *Outstanding Students' Scientific Activity*
- 1998 **3rd prize** from *Eötvös University* at *University Scientific Competition*, Neurobiology, “Simultaneous Theta and Gamma Activity in a Hippocampal Interneuron Network” (in Hungarian)

MEMBERSHIPS

- Hungarian Neuroscience Society
- Public Body of the Hungarian Academy of Sciences

OTHER SCIENTIFIC AND TEACHING EXPERIENCE

- 2007-2008 Giving the Computational Neuroscience Course at the Mathematics Department of the Central European University, Budapest, Hungary
- 2006 Giving the Computational Neuroscience Course at the Budapest Semesters in Cognitive Sciences, Budapest, Hungary
- 2005-2008 Giving the Computational Neuroscience Course at Eötvös University every winter semester
- 2004-2005 Participating in the Computational Neuroscience Course held at Eötvös University, Budapest, Hungary
- 2002-2006 Different research and teaching assistance ships for three- and four month-long periods at the Center for Complex Systems Studies, and at the Physics Department of Kalamazoo College, Kalamazoo, Michigan, USA
- 2001 Attended the 16th NATO ASI School in Physics on Complexity from Microscopic to Macroscopic Scales: Coherence and Large Deviations at Geilo, Norway.

- 1999 Spent two months at Technische Universitäten, Berlin at the Neuronale Informationsverarbeitung workgroup of Klaus Obermayer
- 1998 Taught physics in Klébelsberg Kuno Primary and High School, Budapest for 12, 14, 15 and 17 year old children.
- 1998 Student research with Gergő Orbán on Simultaneous Theta and Gamma Activity in the Hippocampus. Supervised by Máté Lengyel and Péter Érdi.

MENTORING EXPERIENCE

- Eric Zilli, Senior Individualized Project (SIP) co-advisor, Kalamazoo College, Kalamazoo, MI, 2003
- Robert R. Rohrkemper, SIP co-advisor, Kalamazoo College, Kalamazoo, MI, 2003
- Bradley Boven, SIP co-advisor, Kalamazoo College, Kalamazoo, MI, 2004
- Balázs Ujfalussy, MSc in Biology co-advisor, Eötvös University, Budapest, Hungary, 2005
- Shanna G. Barkume, SIP co-advisor, Kalamazoo College, Kalamazoo, MI, 2005
- Dávid Samu, SIP advisor, Budapest University of Technology and Economics, Budapest, Hungary, 2007
- Dávid Samu, MSc in Electrical Engineering and Informatics advisor, Budapest University of Technology and Economics, Budapest, Hungary, 2008
- Dr. Balázs Ujfalussy, PhD in Biological Sciences co-advisor, Eötvös University, Budapest, Hungary, 2010
- Péter Erős, PhD in Informatics advisor, Eötvös University, Budapest, Hungary, in progress
- Elena Morozova, Jianlin Feng, Liam Scott, Brian Harvey, Joshua Moon, Angelica Patino, Meera Modi, Matlab tutoring at Pfizer, Inc., Groton, CT/Cambridge, MA, ongoing since 2009
- Tibin John, SIP co-advisor, Kalamazoo College, Kalamazoo, MI, 2013-2015

REFERENCES

- Prof. Péter Érdi (Wigner Research Centre for Physics of the Hungarian Academy of Sciences, Budapest, Hungary & Kalamazoo College, Kalamazoo, MI) perdi@kzoo.edu
- Prof. Mihály Hajós (Pfizer Inc, Groton, CT & Yale University, New Haven, CT) mihaly.hajos@yale.edu
- Prof. Bernát Kocsis (Harvard Medical School, Boston, MA) bernat_kocsis@hms.harvard.edu