CURRICULUM VITAE

Personal Details

Ilya Sergeevich Prokin

b. 1/3/1987 in
Dzerzhinsk,
Gorki Region, USSR

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Position and Institutional Affiliation

PhD student

Project-Team BEAGLE, INRIA Rhône-Alpes
LIRIS, Université de Lyon, UMR 5205 CNRS-INSA
Antenne INRIA de La Doua, Batiment CEI-2
56 Blvd Niels Bohr, CS 52132
69603 Villeurbanne CEDEX, France

Spoken Languages

Russian, English.

Academics

2013-present	PhD studies at INRIA Rhône-Alpes, Lyon, France.

Education

2011-2013	Masters studies at N.I. Lobachevsky State University of Nizhny Novgorod Nizhny Novgorod, Russian Federation. Grade point average: 4.625/5.
2007-2011	Undergraduate (BSc) studies at the Faculty of Radiophysics at the N.I. Lobachevsky State University of Nizhny Novgorod, Nizhny Novgorod, Russian Federation. Grade point average: 4.1/5.

Internships

July-August 2013	Research Volunteer, Semyanov Lab, RIKEN Brain Science Institute, Saitama, Japan.

2011-2013	Research Student, Lab. of Nonlinear Processes in Living Systems, Institute of Applied Physics of the Russian Academy of Sciences, Nizhny Novgorod, Russian Federation.
2009-2013	Research Student, Dept. of Neurodynamics and Neurobiology, Biological Faculty, N.I. Lobachevsky State University of Nizhny Novgorod, Nizhny Novgorod, Russian Federation.

Enrollment in Additional Classes and Schools

6-11 April 2015	Advanced Lecture Course on Computational Systems Biology. INRIA, Aussois, France.
4-15 June 2012	Summer school in Computational Neuroscience: "White Nights of Computational Neuroscience: Neurotheory from cell to cognition". Saint-Petersburg State University, Saint-Petersburg, Russian Federation.
29 February-6 March 2012	XVI Scientific school "Nonlinear Waves", Fundamental and applied problems of nonlinear physics. Institute of Applied Physics of the Russian Academy of Sciences, Nizhny Novgorod, Russian Federation.
3-7 October 2011	International school "Towards neuromorphic intelligence: experiments, models and technologies". N.I. Lobachevsky State University of Nizhny Novgorod, Nizhny Novgorod, Russian Federation.
14-17 September 2011	Modular course "Background techniques for Neurophysics: dynamical system theory, statistical physics, wavelet analysis". Saint-Petersburg State University, Saint-Petersburg, Russian Federation.
7-9 April 2011	Modular course "Cellular mechanisms of information transfer: neuronal and synaptic plasticity". Saint-Petersburg State University, Saint-Petersburg, Russian Federation.

Awards

April 2013	The best graduate award for research achievements, N.I. Lobachevsky State University of Nizhny Novgorod.
January-June 2013	The Dynasty Foundation scholarship. http://www.dynastyfdn.com/english/.
July- December 2012	Additional scholarship for research achievements, N.I. Lobachevsky State University of Nizhny Novgorod.
15 May 2012	Award for one of the best talks, 16th Scientific conference on Radiophysics, N.I. Lobachevsky State University of Nizhny Novgorod.
January-June 2012	Additional scholarship for research achievements, N.I. Lobachevsky State University of Nizhny Novgorod.

Software expertise

OS:	GNU/Linux, OS X, Windows.
Programming:	Python (Scientific Packages: SciPy, NumPy, PANDAS, PyGMO, PyDSTool, etc), Fortran 90/95, C/C++, bash.
Scientific Software:	MATLAB/Octave, Basic knowledge of XPPAUT, NEURON, GENESIS, NEST, LabView.

Research Interests

Computational Neuroscience, Synaptic Plasticity, Signal Transduction.

Other Research Interests

Machine Learning, Nonlinear Dynamics, Network Theory, Complex Systems, Memory, Motivation, Consciousness, Behavior.

Talks

30 October 2015	"Mechanistic Modeling of Spike-Timing Dependent Plasticity of Basal Ganglia Neurons", University of Chicago, Chicago, United States of America.
16 July 2012	"Detection of multiple spike transmission pathways in neuronal networks based on multichannel recordings". Institute for Theoretical Biology, Humboldt-Universität zu Berlin, Berlin, Germany.
4 June 2012	Introductory lecture to Lyle Graham lecture at the summer school in Computational Neuroscience "White Nights of Computational Neuroscience: Neurotheory from cell to cognition 2012". Saint-Petersburg State University, Saint-Petersburg, Russian Federation.

Publications

Xu, H., Perez, S., Detraux, B., Cornil, A.**, Prokin, I.**, Cui, Y., Degos, B., Berry, H., Kerchove d'Exaerde, A., Venance, L., "Endocannabinoid-dopamine interactions mediate spike-timing dependent potentiation in the striatum". In: *Nature Communications* (submitted, 2016).

Cui, Y.**, Prokin, I.**, Xu, H., Delord, B., Genet, S., Venance, L., Berry, H., "Endocannabinoid dynamics gate spike-timing dependent depression and potentiation". In: *eLife* 5 (2016), e13185.

Prokin, I., Tyukin, I., Kazantsev, V., "Phase Selective Oscillations in Two Noise Driven Synaptically Coupled Spiking Neurons". In: *International Journal of Bifurcation and Chaos* 25.07 (2015), p. 1540005.

Prokin, I., Kazantsev, V., "Synchronization in the System of Synaptically Coupled Neural Oscillators with Frequency-Dependent Coupling". In: *Radiophysics and Quantum Electronics* 57.10 (2015), pp. 745–758.

Prokin, I., Kazantsev, V., "Analysis of pulsed-signal transmission in a system of interacting neural oscillators with frequency-dependent connections". In: *Radiophysics and Quantum Electronics* 54.11 (2012), pp. 763–772.

Posters and Conference Abstracts

Prokin, I., Cui, Y., Valtcheva, S., Venance, L., Berry, H., "Modeling spike-timing dependent plasticity of basal ganglia neurons and its bidirectional control by endocannabinoid signaling". In: *Advanced Lecture Course on Computational Systems Biology*. Aussois, France, 2015.

Prokin, I., Valtcheva, S., Venance, L., Berry, H., "Mechanistic Modeling of Spike-Timing Dependent Plasticity of Basal Ganglia Neurons". In: *Neuroscience 2015*. Chicago, United States of America: Society for Neuroscience, 2015.

Prokin, I., Gladkov, A., Mukhina, I., Kazantsev, V., "Detection of multiple spike transmission pathways in neuronal networks based on multichannel recordings". In: *8th Int. Meeting on Substrate-Integrated Microelectrodes*. Reutlingen, Germany: NMI Natural and Medical Sciences Institute at the University of Tubingen, 2012, pp. 226–227.

Prokin, I., Kazantsev, V., "Identifying functional connectivity multigraph in the time maps networks by the sample of multidimensional point process". In: *Proceedings of the 16th Scientific conference on Radiophysics*. Nizhny Novgorod, Russia: N.I. Lobachevsky State University of Nizhny Novgorod, 2012.