# CURRICULUM VITAE


## Ilya Prokin

b 1/3/1987 in Dzerzhinsk, gorki Region, USSR
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**POSITION**

Ph.D. candidate
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

**LANGUAGES**

Russian (native), English (fluent), French (working knowledge).

**EDUCATION**

**2013-present**

Ph.D. Computational Neuroscience,
INRIA Rhône-Alpes, Lyon, France.

**2011-2013**

M.Sc. Physics,
N.I. Lobachevsky State University of Nizhny Novgorod,
Nizhny Novgorod, Russian Federation.
GPA: 4.625/5.

**2007-2011**

B.Sc. Radiophysics,
the Faculty of Radiophysics at the N.I. Lobachevsky State University of Nizhny Novgorod,
Nizhny Novgorod, Russian Federation.
GPA: 4.1/5.

**INTERNSHIPS**

**July-Aug. 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.

**ADDITIONAL CLASSES AND SCHOOLS**

**6-11 Apr. 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 Feb.-6 Mar. 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.

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| **3-7 Oct. 2011** | International school "Towards neuromorphic intelligence: experiments, models and technologies".<br>N.I. Lobachevsky State University of Nizhny Novgorod, Nizhny Novgorod, Russian Federation. |
| **14-17 Sept. 2011** | Modular course "Background techniques for Neurophysics: dynamical system theory, statistical physics, wavelet analysis".<br>Saint-Petersburg State University,<br>Saint-Petersburg, Russian Federation. |
| **7-9 Apr. 2011** | Modular course "Cellular mechanisms of information transfer: neuronal and synaptic plasticity".<br>Saint-Petersburg State University,<br>Saint-Petersburg, Russian Federation. |

## AWARDS

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| **Apr. 2013** | The best graduate award for research achievements,<br>N.I. Lobachevsky State University of Nizhny Novgorod. |
| **Jan.-June 2013** | The Dynasty Foundation scholarship.<br>one of 40 winners of 149 applicants.<br>http://www.dynastyfdn.com/english/. |
| **July-Dec. 2012** | Additional scholarship for research achievements,<br>given to 12 students who excell in scientific research (out of about 250 students),<br>N.I. Lobachevsky State University of Nizhny Novgorod. |
| **15 May 2012** | Award for one of the best talks in the Theory of Oscillations section,<br>one winner of 14 presenters,<br>16th Scientific conference on Radiophysics,<br>N.I. Lobachevsky State University of Nizhny Novgorod. |
| **Jan.-June 2012** | Additional scholarship for research achievements,<br>given to 14 students who excell in scientific research (out of about 250 students),<br>N.I. Lobachevsky State University of Nizhny Novgorod. |

## SKILLS

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| **OS** | GNU/Linux, OS X, Windows. |
| **Programming** | Python (Scientific Packages: SciPy, NumPy, PANDAS, PyGMO, PyDSTool, etc), Fortran 90/95, C/C++, bash. |
| **Technologies** | git, make, HTML, CSS, LaTeX. |
| **Other software** | MATLAB/Octave, Basic knowledge of XPPAUT, NEURON, GENESIS, NEST, LabView. |

## RESEARCH INTERESTS

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| **Current project** | Computational Neuroscience, Synaptic Plasticity, Signal Transduction. |
| **General** | Machine Learning, Nonlinear Dynamics, Network Theory, Complex Systems, Memory, Motivation, Consciousness, Behavior. |

## TALKS

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| **30 Oct. 2015** | "Mechanistic Modeling of Spike-Timing Dependent Plasticity of Basal Ganglia Neurons",<br>University of Chicago,<br>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

**Prokin** I, Kazantsev V. Analysis of pulsed-signal transmission in a system of interacting neural oscillators with frequency-dependent Radiophysics and Quantum Electronics. Springer US; 2012;54: 763–772.

**Prokin** I, Kazantsev V. Synchronization in the system of synaptically coupled neural oscillators with frequency-dependent coupling. Radiophysics and Quantum Electronics. Springer US; 2015;57: 745–758.

**Prokin** I, Tyukin I, Kazantsev V. Phase selective oscillations in two noise driven synaptically coupled spiking neurons. International Journal Bifurcation and Chaos. World Scientific Publishing Company; 2015;25: 1540005.

Cui Y, **Prokin** I, Xu H, Delord B, Genet S, Venance L, et al. Endocannabinoid dynamics gate spike-timing dependent depression and potentiation. eLife. eLife Sciences Publications Limited; 2016;5: e13185.

Xu H, Perez S, Detraux B, Cornil A, **Prokin** I, Cui Y, et al. Endocannabinoid-dopamine interactions mediate spike-timing dependent potentiation in the striatum. Nature Communications. Nature Publishing Group; submitted, 2016.

## COMMUNICATIONS

**Prokin** I, Valtcheva S, Venance L, Berry H. Mechanistic modeling of spike-timing dependent plasticity of basal ganglia neurons. Neuroscience Chicago, United States of America: Society for Neuroscience; 2015.

**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. Advanced lecture course on computational systems biology. Aussois, France; 2015.

**Prokin** I, Gladkov A, Mukhina I, Kazantsev V. Detection of multiple spike transmission pathways in neuronal networks based on multichannel recordings. 8th Int Meeting on Substrate-Integrated Microelectrodes. Reutlingen, Germany: NMI Natural; 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 Proceedings of the 16th scientific conference on radiophysics. Nizhny Novgorod, Russia: N.I. Lobachevsky State University of Nizhny Novgorod; 2012.