

# Curriculum Vitae

Denis SHEYNIKHOVICH

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## EDUCATION

2007 **Doctoral thesis**

↑ Date: 20 novembre 2007

2002 Institution: École Polytechnique Fédérale de Lausanne (EPFL), Switzerland.

Title: *Spatial navigation in geometric mazes: a computational model of rodent behavior*

Thesis supervisor: Wulfram Gerstner (EPFL)

2004 **Fall course on computational neuroscience**

Institution: Max Planck Institute for Dynamics and Self-Organization, Göttingen, Germany

1997 **Master of Mathematics**

↑ Institution: Saint-Petersburg State College of Fine Mechanics and Optics, Russia.

1995 Title: *Nonlinear filtering of interferometric radar images*

1995 **Bachelor of Mathematics (with honours)**

↑ Institution: Saint-Petersburg State College of Fine Mechanics and Optics, Russia.

1991 Title: *Nonlinear Markov filtering of interferometric signals*

## PROFESSIONAL EXPERIENCE

Since **Associate professor (Maître de conférences)**

Sep 2013 The Vision Institute, UMR 7210, UMR S0968, CNRS-INSERM - University Pierre & Marie Curie, Paris

Specialty: *Biomathematics, Biostatistics and Computational modeling.*

Aug 2013 **Associate researcher**

↑ Laboratory of Neurobiology of Adaptive Processes, UMR7102, CNRS - University Pierre & Marie Curie, Paris

Dec 2009 Research project: *Application of evolutionary algorithms in neuroscience* (The French national research agency ANR-09-EMER-005, EVONEURO).

Nov 2009 **Post-doctoral researcher**

↑ Laboratory of Neurobiology of Adaptive Processes, UMR7102, CNRS - University Pierre & Marie Curie, Paris

Dec 2008 Research project: *Computational modeling of neuromodulatory effects of dopamine on long-term memory in the prefrontal cortex* (UPMC post-doctoral fellowship grant).

- Nov 2008 **Post-doctoral researcher**  
 ↑ Institute of Intelligent Systems and Robotics (ISIR), University Pierre & Marie Curie, Paris
- Jun 2008 Research project: *Development of a neural architecture of strategy selection in the rat* (European project ICEA, <http://www.iceaproject.eu>).
- May 2008 **Ph.D. researcher**  
 ↑ Institution: École Polytechnique Fédérale de Lausanne (EPFL), Switzerland.
- Oct 2002 Activities: doctoral thesis, teaching.
- 2002 **Project manager**  
 ↑ Company: Artificial Life, Inc; Siemens Business Services; Saint-Petersburg, Russia.
- 1997 Activities: Development of a natural language processing system.

## Invited Talks

- 2011 *Cognitive maps, landmarks, and geometry of space: a computational approach.* Department of Psychology, Lancaster University, UK.
- 2011 *Cognitive maps, landmarks, and geometry of space: a computational approach.* Department of psychology, Durham university, UK.
- 2007 *Spatial navigation in geometric mazes a computational model of rodent behavior.* Laboratory of neurobiology of cognition, Marseille, France.
- 2007 *Behaving in geometric mazes without a geometric module: A model of rat navigation behavior.* Laboratory of Cognitive Neuroscience, Lausanne, Switzerland.
- 2007 *From grid cells and place cells to behavior: modeling the influence of geometry of space.* Bernstein Center for Computational Neuroscience, Göttingen, Germany.

## Conference Talks

- 2012 *Exploratory behavior depends on multisensory integration during spatial learning.* The 12<sup>th</sup> International Conference on Artificial Neural Networks (ICANN'12), Lausanne, Switzerland.
- 2010 *The role of tonic vs. phasic dopamine for long-term plasticity in the prefrontal cortex.* The 5<sup>th</sup> French conference of computational neuroscience, Neurocomp'10, Lyon, France.
- 2009 *Is there a geometric module for spatial orientation? Insights from a rodent navigation model.* The 4<sup>th</sup> Computational Cognitive Neuroscience Conference, CCNC'09, Boston, USA.
- 2008 *Is there a geometric module for spatial orientation? Insights from a rodent navigation model.* International Conference on Cognitive and Neural Systems, ICCNS'08, Boston, USA.
- 2008 *Is there a geometric module for spatial orientation? Insights from a rodent navigation model.* Workshop "Biologically Motivated Models of Spatial Behaviour: Insights from Animals", Freiburg, Germany.
- 2005 *Interaction between visual cues and path integration in a model of place cells.* International Conference on Artificial Neural Networks, ICANN'05, Warsaw, Poland.
- 2004 *Space representation and navigation in a bio-inspired robot.* Neurobotics Workshop, Ulm, Germany.
- 2004 *Agent localization in a familiar environment.* International Conference on Cognitive and Neural Systems, ICCNS'04, Boston, USA.

## ACADEMIC RESPONSIBILITIES

- Since 2013 **Member of the Organization for Computational Neuroscience**  
<http://www.cnsorg.org>
- Since 2011 **Member of the French Society of Neuroscience**  
<http://www.neurosciences.asso.fr>
- Member of program committee**
- 2011 The 12<sup>th</sup> International Conference on the Simulation of Adaptive Behavior, Odense, Denmark.
- 2010 The 11<sup>th</sup> International Conference on the Simulation of Adaptive Behavior, Paris, France.
- 2010 **Member of the European Brain and Behaviour Society**  
<http://www.ebbs-science.org>
- 2008 **Participation in the Fête de la Science, Paris, 2008**
- Since 2007 **Peer reviewer for international journals**  
Biological Cybernetics, Frontiers in Neuroscience, Frontiers in Neurorobotics, IEEE Transactions on Robotics, Journal of Computational Neuroscience, Journal of Integrative Neuroscience, Journal of Experimental Psychology - Animal Behavior Processes, Neural Computation, Hippocampus.

## PUBLICATION SUMMARY

	Publications	First author
International peer-reviewed journals	13	6
International peer-reviewed conferences	5	2
National peer-reviewed conferences	4	2
Abstracts at international conferences	9	5
Book chapters	1	1
<b>Total</b>	<b>32</b>	<b>16</b>

## LANGUAGES

- Russian: Mother tongue  
English: Fluent (TOEFL 257)
- French: Fluent  
German: Basic knowledge