

MOHAMMADREZA MOHAGHEGHI NEJAD, PhD

EDUCATION

<i>Joint PhD in Natural Sciences and Computer Science</i>	2014-2019	Joint PhD program at the University of Freiburg, Germany <i>and</i> KTH Royal Institute of Technology, Sweden
	<i>School</i>	Bernstein Center Freiburg <i>and</i> School of Electrical Engineering and Computer Science
	<i>Thesis</i>	The interaction of sensory and motor signals in the basal ganglia in health and disease
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<i>M.Sc. in Electrical Engineering - Biomedical Engineering</i>	2011-2014	University of Tehran, Tehran, Iran
	<i>School</i>	Electrical and Computer Engineering
	<i>Thesis</i>	Analyzing the effect of variations of dopamine concentration on motor fluctuations in Parkinson's disease
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<i>B.Sc. in Biomedical Engineering</i>	2006-2011	University of Isfahan, Isfahan, Iran
	<i>School</i>	Faculty of Engineering
	<i>Thesis</i>	Designing an educational software for extracellular neuronal stimulation

RESEARCH INTERESTS

Computational Neuroscience of the Basal Ganglia in Health and Disease

Memory Storage and Retrieval in the Hippocampus

Neural Data Analysis

PUBLICATION

BioRxiv Mohagheghi Nejad, M., Rotter, S., & Schmidt, R. (2018). Transmission of motor signals from the basal ganglia to the thalamus: effect of correlations, sensory responses, and excitation. *bioRxiv*, 386920. <https://doi.org/10.1101/386920>

CONFERENCE ABSTRACTS

Forum of Neuroscience, FENS Mohagheghi Nejad, M., Rotter, S., & Schmidt, R. (2018). Transmission of motor signals from the basal ganglia to the thalamus: effect of correlations and sensory responses. 11th FENS Forum of Neuroscience, Berlin, Germany.

Bernstein Conference Mohagheghi Nejad, M., Rotter, S., & Schmidt, R. (2016). Active decorrelation in basal ganglia output promotes transmission of motor commands to thalamus. Bernstein Conference, Berlin, Germany.

PUBLICATIONS IN CONFERENCE PROCEEDINGS

Iranian Conference on Electrical Engineering Mohagheghi Nejad, M., Bahrami, F., & Janahmadi, M. (2014). Conductance-Based Computational Model of Basal Ganglia. 22nd Iranian conference on Electrical Engineering, Tehran, Iran.

Annual Conference of IEEE EMBS Mohagheghi Nejad, M. & Mahnam A. (2012) "Stim-eLab": a Simulation Tool to Enhance Education of Bioelectrical Mechanisms of Electrical Stimulation. 34th Annual International Conference of the IEEE Engineering in Biology and Medicine, San Diego, US.

PROFESSIONAL SKILLS

Programming MATLAB; Python; C++; Bash

Simulators NEural Simulation Tool, NEST; NEURON

Operating Systems MS Windows; OS X; Linux

Text Editors MS Word; Pages; L^AT_EX

Graphics Editors Inkscape; Adobe Illustrator

Presentation Programs MS PowerPoint; Keynote

Languages English; Farsi; German

TEACHING ASSISTANCE

Bernstein Center Freiburg 2018 · Simulation of Biological Neural Networks (NEST Course)
2017-2019 · Simple Neuron Models in Vertiefungsmodule Neuroscience
2015-2017 · Quantitative Methods in Neuroscience
2015-2016 · Scientific Programming in PYTHON
2014-2016 · Analysis and Models in Neurophysiology

SELECTED COURSES

Advanced Level Non-Linear Methods in Complex Systems Analysis

Graduate Level Stochastic Processes
Digital Signal Processing
Digital Image Processing
Machine Learning
Models of Neurons and Networks
Simulation of Biological Neural Networks
Basic Neurobiology
Systems Physiology
Dynamical Systems in Neuroscience
Biological Modeling
Functional Medical Imaging Systems

Soft Skills Teaching in English
Academic Writing: How to Create Good Texts

OTHER INFORMATION

Award and Honors 2014 · Erasmus Mundus joint PhD fellowship
2011 · Admission to the most prestigious university of Iran, the university of Tehran
2011 · Rank 93rd among more than 20.000 participants of M.Sc. national entrance exam in Electrical Engineering

Membership Bernstein Network Computational Neuroscience