Dimokratis Karamanlis

Curriculum vitae

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Education

2017– **PhD in Neuroscience**,
International Max Planck Research School for Neurosciences, Göttingen
Thesis: How nonlinear processing shapes natural stimulus encoding in the retina
Supervisor: Tim Gollisch

2015–2017 **MSc in Neuroscience**,
International Max Planck Research School for Neurosciences, Göttingen
GPA: 1.1/1.0
Thesis: Spatial integration in mouse retinal ganglion cells
Supervisor: Tim Gollisch

2009–2015 **Doctor of Medicine**,
School of Medicine, Aristotle University of Thessaloniki, Thessaloniki
GPA: 8.11/10

Research experience

2016 **Rotation project**, *Max Planck Institute for Dynamics and Self-Organization*
Self-organized sub-criticality: emergence via homeostatic plasticity and function in stimulus representation
Supervisor: Viola Priesemann

2016 **Rotation project**, *University Medical Center Göttingen*
Recovering functional types of retinal ganglion cells through spike-triggered covariance analysis
Supervisors: Fernando Rozenblit, Tim Gollisch

2016 **Rotation project**, *Max Planck Institute for Biophysical Chemistry*
Isolation and calcium imaging of the sleep-active interneuron RIS in *Caenorhabditis elegans*
Supervisor: Jan Konietzka

2011–2013 **Research assistant**, *Laboratory of Physiology*, School of Medicine, Aristotle University of Thessaloniki
Electrophysiological recordings (electrocardiogram, compound action potential) in rats
Supervisor: Efstratios Kosmidis

2012 **Research assistant**, *Lab of Medical Informatics*, School of Medicine, Aristotle University of Thessaloniki
Personal health records in medical education
Supervisor: Panagiotis Bamidis

2011–2012 **Research assistant**, *Informatics Systems and Applications Group*, School of Mechanical Engineering, Aristotle University of Thessaloniki
Participatory sensing for quality of life information services
Supervisors: Dimitris Voukantsis, Kostas Karatzas

Publications

2021 Nonlinear Spatial Integration Underlies the Diversity of Retinal Ganglion Cell Responses to Natural Images.
Karamanlis D & Gollisch T. *Journal of Neuroscience* 41(15):3479-3498

2012 Personal health records in the preclinical medical curriculum: modeling student responses in a simple educational environment utilizing Google Health.
Karamanlis D, Tzitzis P, Bratsas C & Bamidis P. *BMC Medical Education* 12:88.

Invited talks

2019 Nonlinearities in spatial input integration underlie the diversity of mouse retinal responses to natural stimuli.
Rank Prize Funds Symposium (Retinal Processing of Natural Signals). Grasmere.

2019 Natural stimuli reveal a spectrum of spatial encoding across the output channels of the retina.
13th Göttingen Meeting of the German Neuroscience Society. Göttingen.

Conference abstracts

2019 Nonlinearities in spatial input integration underlie the diversity of mouse retinal responses to natural stimuli.
Karamanlis D & Gollisch T. *European Retina Meeting 2019*. Helsinki.

2018 Natural stimuli reveal a spectrum of spatial encoding in the retina.
Karamanlis D & Gollisch T. *Bernstein Conference 2018*. Berlin.

2017 Spatial integration profiles of mouse retinal ganglion cells.
Karamanlis D & Gollisch T. *European Retina Meeting 2017*. Paris.

2017 Analyzing spatial integration in the mouse retina.
Karamanlis D & Gollisch T. *12th Göttingen Meeting of the German Neuroscience Society*. Göttingen.

2013 Community-powered advancement of public transportation with the use of mobile technologies: a participatory environmental sensing approach.
Stefanis I, Tsavlidis I, Mavros S, **Karamanlis D**, Bassoukos A, Voukantsis D & Karatzas K. *Protection and Restoration of the Environment XI*. Thessaloniki.

Honors and awards

2019 **Nomination for the Lindau Nobel Laureate Meeting**,
Göttingen Graduate Center for Neurosciences, Biophysics, and Molecular Biosciences

2009 **Bronze medal (National Mathematical Olympiad)**,
Hellenic Mathematical Society

Scholarships and grants

2018–2020 **PhD fellowship**,
Boehringer Ingelheim Fonds

2015–2017 **Study scholarship for graduates of all disciplines**,
German Academic Exchange Service (DAAD)

Teaching

2019 **Methods course for PhD students**,
Göttingen Graduate Center for Neurosciences, Biophysics, and Molecular Biosciences
Introduction to spike-train analysis with Python

2019 **Tutorial for Master's students**,
International Max Planck Research School for Neurosciences
Vision (retina, lateral geniculate nucleus, primary visual cortex)

2017–2018 **Supervision of Master's students**,
International Max Planck Research School for Neurosciences
Two-month projects on analysis of retinal data

2010 **Tutorial for medical students**,
Lab of Medical Informatics, Aristotle University of Thessaloniki
Personal Health Record module of Medical Informatics I course

Selected conferences and workshops

2019 **69th Lindau Nobel Laureate Meeting (Physics)**, *Lindau*

2014 **Analysis and Models in Neurophysiology**, *Freiburg*

2013 **11th Summer Course on Computational Neuroscience**, *Göttingen*

On-line coursework

mathematics logic, calculus, linear algebra, statistics
physics electricity and magnetism, electrical circuits, statistical thermodynamics
comp sci artificial intelligence, machine learning, deep learning
statements of accomplishment are available on request

Computer languages

programming MATLAB, Python, C++
markup HTML, CSS, LaTeX

Other skills

animals handling of mice and rats (FELASA certification)
ephys multi-unit recordings with *Multi Channel Systems* equipment
spike-sorting *Kilosort*, manual curation with *phy*