

PERSONAL INFORMATION

Last name: **Karamanlis**
First name: **Dimokratis**
Nationality: Greek
Date of birth: November 28, 1991
Position: Postdoctoral researcher
Email: dimokratis.karamanlis@unige.ch
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EMPLOYMENT HISTORY

02/2023 – present **Postdoctoral researcher**
Laboratory of Sami El-Boustani, University of Geneva (Switzerland)
04/2022 – 12/2022 **Postdoctoral researcher**
Laboratory of Tim Gollisch, University Medical Center Göttingen (Germany)
05/2017 – 03/2022 **Graduate researcher**
Laboratory of Tim Gollisch, University Medical Center Göttingen (Germany)

EDUCATION & TRAINING

05/2022 **CAJAL Advanced Neuroscience Training**
Neural circuit basis of computation and behaviour (France)
Directors: Fritjof Helmchen, Andreas Frick, Cyril Herry
Project supervisors: Lisa Roux, Naoya Takahashi
10/2017 – 02/2022 **PhD in Neuroscience**
International Max Planck Research School for Neurosciences (Germany)
Thesis: How nonlinear processing shapes natural stimulus encoding in the retina
Supervisor: Tim Gollisch / Defense date: 23/02/2022
Grade: *summa cum laude*
10/2015 – 05/2017 **Master in Neuroscience**
International Max Planck Research School for Neurosciences (Germany)
Thesis: Spatial integration in mouse retinal ganglion cells
Supervisor: Tim Gollisch
Grade: 1.1 (1.0 down to 5.0)
10/2011 – 08/2017 **Online coursework in Mathematics, Physics and Machine Learning**
Selected courses: logic, calculus, linear algebra, statistics, electricity and magnetism, electrical circuits, statistical thermodynamics, artificial intelligence, computational neuroscience, deep learning
Platforms: Coursera, edX
Statements of accomplishment are available on request
09/2009 – 06/2015 **Doctor of Medicine**
Aristotle University of Thessaloniki (Greece)
Grade: 8.11 (out of 10)

PRIZES, AWARDS, AND FELLOWSHIPS

02/2025 **Best poster award**, 25th Annual Meeting of the Swiss Society for Neuroscience
09/2023 – 08/2024 **Swiss Government Excellence Scholarship** for postdoctoral research
08/2021 **Best poster award**, Retinal Circuits Symposium (online)
01/2018 – 09/2020 **Boehringer Ingelheim Fonds PhD fellowship**
11/2018 **Nomination for the Lindau Nobel Laureate Meeting (Physics)**
by the Göttingen Graduate Center for Neurosciences, Biophysics, and Molecular Biosciences
10/2015 – 05/2017 **Study scholarship for graduates of all disciplines**
German Academic Exchange Service (DAAD)
03/2009 **Bronze medal in National Mathematical Olympiad**
Hellenic Mathematical Society

TEACHING

02/2023 – present	Master's project supervision Students of the Master in Neuroscience at UNIGE (Switzerland) <ul style="list-style-type: none">- Andrea Valderrama Alvarez (2023 – 2024)- Yuqiao Xie (2024 – 2026)
09/2025 – 12/2025	Course tutor (for Master students) LabLife course Master in Neuroscience, UNIGE (Switzerland)
2023 – 2024	Tutor of paper readings (<i>chapitres choisis</i>, for PhD students) Two-hour-long team discussions Faculty of Medicine, UNIGE (Switzerland)
05/2019	Course instructor (for PhD students) Introduction to spike-train analysis with Python Göttingen Graduate Center for Neurosciences, Biophysics, and Molecular Biosciences (Germany)
03/2019	Course instructor (for Master students) Vision (retina, lateral geniculate nucleus, primary visual cortex) International Max Planck Research School for Neurosciences (Germany)
03/2017 – 04/2018	Rotation project supervision (for Master students) Two-month projects on analysis of multielectrode-array data from the retina International Max Planck Research School for Neurosciences (Germany)
05/2010	Course instructor (for medical students) Personal Health Record module of Medical Informatics I course Aristotle University of Thessaloniki (Greece)

ACADEMIC SERVICE

Paper Reviewing	<i>Nature Communications, PLOS Computational Biology, Vision Research</i>
Grant Reviewing	<i>ERC Advanced Grants</i>

CONFERENCE CONTRIBUTIONS

10/2025	10 Years of mesoSPIM Symposium 2025 , Talk (Switzerland)
06/2024	FENS Forum 2024 , Poster (Austria)
09/2023	European Retina Meeting 2023 , Poster (Germany)
03/2022	COSYNE 2022 , Poster (Portugal)
08/2021	Retinal Circuits Symposium , Poster (online)
09/2019	European Retina Meeting 2019 , Poster (Finland)
06/2019	Rank Prize Funds Symposium , Talk (UK)
03/2019	13th Meeting of the German Neuroscience Society , Talk (Germany)
09/2018	Bernstein Conference 2018 , Poster (Germany)
10/2017	European Retina Meeting 2017 , Poster (France)
03/2017	12th Meeting of the German Neuroscience Society , Poster (Germany)
07/2012	Protection and Restoration of the Environment XI , Talk (Greece)

SELECTED CONFERENCES, WORKSHOPS, AND RESEARCH TRAINING

03/2025	Research exchange with Emmanouil Froudarakis (Greece)
06/2019	69th Lindau Nobel Laureate Meeting on Physics (Germany)
05/2016 – 06/2016	Research in theoretical neuroscience with Viola Priesemann (Germany)
10/2014	Workshop on Analysis and Models in Neurophysiology (Germany)
09/2013	11th Summer Course on Computational Neuroscience (Germany)
10/2011 – 10/2013	Research in neurophysiology with Efstratios Kosmidis (Greece)
03/2012 – 10/2012	Research in participatory sensing with Kostas Karatzas (Greece)
10/2011 – 10/2012	Research in medical informatics with Panagiotis Bamidis (Greece)

PUBLICATIONS & PREPRINTS

2025	Gantar I, Nguyen J, Karamanlis D , Ceto S, Osterop S, Rajot D, El-Boustani S, Batti L. An optimized procedure of EZ clearing protocol for high reproducibility clearing and labeling. STAR Protocols, 6(4):104105.
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- 2025 **Karamanlis D**, Khani MH, Schreyer HM, Zapp SJ, Mietsch M, Gollisch T.
Nonlinear receptive fields evoke redundant retinal coding of natural scenes.
Nature, 637(8045):394-401.
- 2024 Sridhar S, Vystrcilova M, Khani MH, **Karamanlis D**, Schreyer HM, Ramakrishna V, Krüppel S, Zapp SJ, Mietsch M, Ecker A, Gollisch T.
Modeling spatial contrast sensitivity in responses of primate retinal ganglion cells to natural movies.
bioRxiv 583449v1.
- 2024 Zapp SJ, Khani MH, Schreyer HM, Sridhar S, Ramakrishna V, Krüppel S, Mietsch M, Protti DA, **Karamanlis D**, Gollisch T.
Accelerated spike-triggered non-negative matrix factorization reveals coordinated ganglion cell subunit mosaics in the primate retina.
eLife (Reviewed Preprint) 99945.1.
- 2024 Krüppel S, Khani MH, Schreyer HM, Sridhar S, Ramakrishna V, Sören J Zapp, Mietsch M, **Karamanlis D**, Gollisch T.
Applying Super-Resolution and Tomography Concepts to Identify Receptive Field Subunits in the Retina.
PLOS Computational Biology, 20(9):e1012370.
- 2023 Krüppel S, Khani MH, **Karamanlis D**, Erol YC, Zapp SJ, Mietsch M, Protti DA, Rozenblit F, Gollisch T.
Diversity of Ganglion Cell Responses to Saccade-like Image Shifts in the Primate Retina.
Journal of Neuroscience, 43(29):5319-5339.
- 2022 **Karamanlis D**, Schreyer HM, Gollisch T.
Retinal encoding of natural scenes.
Annual Review of Vision Science, 8:171-193.
- 2022 Jian K Liu, **Karamanlis D**, Gollisch T.
Simple model for encoding natural images by retinal ganglion cells with nonlinear spatial integration.
PLOS Computational Biology, 18(3):e1009925.
- 2021 **Karamanlis D**, Gollisch T.
Nonlinear Spatial Integration Underlies the Diversity of Retinal Ganglion Cell Responses to Natural Images.
Journal of Neuroscience, 41(15):3479-3498.
- 2012 **Karamanlis D**, Tzitzis P, Bratsas C, Bamidis P.
Personal health records in the preclinical medical curriculum: modeling student responses in a simple educational environment utilizing Google Health.
BMC Medical Education, 12:88.