

PERSONAL INFORMATION

Last name: **Karamanlis**
First name: **Dimokratis**
Nationality: Greek
Date of birth: November 28, 1991
Position: Postdoctoral researcher
Email: dimokratis.karamanlis@unige.ch
Website: <https://dimokaramanlis.github.io/>
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EMPLOYMENT HISTORY

02/2023 – **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

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| 02/2025 | Best poster award , 25 th 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

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| 02/2023 – | 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) |
| 2023 – 2024 | Tutor of paper readings (<i>chapitres choisis</i>, for graduate students) Two-hour-long team discussions Faculty of Medicine, UNIGE (Switzerland) |
| 05/2019 | Course instructor (for graduate 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

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

CONFERENCE CONTRIBUTIONS

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| 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

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|-------------------|---|
| 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

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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.