Dr. rer. nat. Dominic **GONSCHOREK**

Postdoctoral Researcher

Computational neuroscientist combining large-scale neural recordings with machine learning to study sensory processing. Experienced graduate instructor in Python programming, scientific writing and quantitative neuroscience.

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RESEARCH

01/24 - Present	**University Hospital Tübingen, Centre for Integrative Neuroscience** | Tübingen, Germany Retina & Vision Research | Laboratory of Prof. Dr. Euler
03/22 - 05/22	**Institut de la Vision, Sorbonne Université** | Paris, France Retina & Vision Research | Supervisor : Olivier Marre, PhD
07/19 - 12/23	**University of Tübingen, Centre for Integrative Neuroscience** | Tübingen, Germany Retina & Vision Research | Supervisor : Prof. Dr. Euler
03/18 - 11/18	**Carl-von-Ossietzky University of Oldenburg** | Oldenburg, Germany Auditory Neuroscience | Supervisor : Prof. Dr. Hildebrandt & Prof. Dr. Kretzberg
10/17 - 12/17	**University of Waterloo** | Waterloo, Canada Theoretical Neuroscience | Supervisior : Terrence C. Stewart, PhD & Prof. Chris Eliasmith, PhD
05/17 - 08/17	**Carl-von-Ossietzky University of Oldenburg** | Oldenburg, Germany Computation in Sensory Systems | Supervisor : Prof. Dr. Hildebrandt
03/17 - 06/17	**Carl-von-Ossietzky University of Oldenburg** | Oldenburg, Germany Cochlea and Auditory Brainstem Physiology | Supervisor : Prof. Dr. Köppl
12/16 - 02/17	**Carl-von-Ossietzky University of Oldenburg** | Oldenburg, Germany Electrophysiology and Computational Neuroscience | Supervisior : Prof. Dr. Kretzberg
03/16 - 08/16	**Charité - Berlin University of Medicine** | Berlin, Germany Biomedicine | Supervisior : Prof. Dr. Sauer & PD Dr. med. Raschzok

EDUCATION

07/19 - 12/23	**University of Tübingen**, Ph.D. Biology | Tübingen, Germany Graduation Grade : *Magna cum laude*
07/19 - 12/23	**University of Tübingen**, Ph.D. Graduate school | Tübingen, Germany GRK 2381 "cGMP : From Bedside to Bench"
10/16 - 03/19	**University of Oldenburg**, M.Sc. Neuroscience | Oldenburg, Germany Graduation Grade : 1.1 ; (International : 90 - 100 %)
09/15 - 02/16	**University of Vienna (Erasmus+)**, Biology | Vienna, Austria
10/13 - 09/16	**Free University of Berlin**, B.Sc. Biology | Berlin, Germany Graduation Grade : 1.7 ; (International : 80 - 90 %)

TEACHING

2022 - Present	Mentored MSc and PhD students in programming, project management and quantitative data analysis
2023 - Present	**Graduate Training Centre of Neuroscience (GTC)**, University of Tübingen | Germany Teaching assistant : 'Introduction into Programming with Python' (Master & PhD) Lecturing • Hands-on programming tutorials • Data analysis & visualization • Mentoring • Grading
2021 - Present	**Graduate Training Centre of Neuroscience (GTC)**, University of Tübingen | Germany Teaching assistant : 'Scholarly Research & Writing' (Master & PhD) Lecturing • Scientific communication • Panel moderation • Literature discussion
2024 - Present	**Graduate Training Centre of Neuroscience (GTC)**, University of Tübingen | Germany Teaching assistant : 'From Molecules to Circuits : The Retina as a Model System' (Master) Lecturing • Practical tutorials
2018	**Department of Neuroscience**, Carl-von-Ossietzky University of Oldenburg | Germany Student teaching assistant : 'Visual Neuroscience' (Master) Assisting experiments • Practical tutorials
2017	**Department of Neuroscience**, Carl-von-Ossietzky University of Oldenburg | Germany Student teaching assistant : 'Neurobiology' (Bachelor) Assisting experiments • Practical tutorials

Invited Talks

09/25	*A large-scale dataset of light responses in the mouse ganglion cell layer*. European Retina Meeting (ERM) 2025 | Pécs, Hungary
06/24	*Dissecting Neuromodulatory Effects of Nitric Oxide Along the Vertical Excitatory Pathways of the Mouse Retina*. FASEB Retinal Neurobiology and Visual Processing | Southbridge, MA, USA
06/24	*Dissecting Neuromodulatory Effects of Nitric Oxide Along the Vertical Excitatory Pathways of the Mouse Retina*. Cold Spring Harbor Laboratory | Cold Spring Harbor, NY, USA
09/22	*Neuromodulation and beyond*. Scientific Symposium | Carl-von-Ossietzky University of Oldenburg, Germany
12/21	*Removing Inter-Experimental Variability from Functional Data in Systems Neuroscience* . Advances in Neural Information Processing Systems 34 (NeurIPS 2021)

Voluntary Work

2024 - Present	**KI macht Schule** | Tübingen, Germany
2016 - 2018	**Active member of the student body Neuroscience** | Carl-von-Ossietzky University of Oldenburg

- Student representative in political committees
- Workshop organisation, e.g., 'Scientific english'
- Founding member of the student body

Publications & Proceedings

Stroeh, S.*„ Ebert, S.*, Fadjukov, J.*, Lause, J.*, Oesterle, J.*, Franke, K.*, Huang, Z., Lu, R., Matsliah, A., Berson, D., Sherathiya, V., **Gonschorek, D.**, Schubert, T., David, C., Sorek, M., Sterling, A., Serafetinidis, N., Singer, J., Tsukamoto, Y., Maeyama, H., Omi, N., Schwartz, G.§, Berens, P.§, Seung, HS.§, Euler, T.§, Eyewire II Consortium (2026). *Eyewire II - A connectomic resource for resolving cell types and circuits of the mouse retina*. bioRxiv, 2026.05. 28.727403

Qiu, Y.*, Schmors, L.*, Zhou, N.*, Akhmetali, M.+, **Gonschorek, D.+**, Smith, C., Sumser, A., Vallens, M., Cadwell, CR., Gabbiani, F., Joesch, M., Tolias, A., Berens, P., Euler, T., Sinz, F., Reimer, J., Franke, F. (2026) *The functional organization of retinal input to the mouse superior colliculus.* bioRxiv, 2026.04. 15.718783

Wang, X., Steel, L.+, Fornetto, C.+, **Gonschorek, D.+**, Seifert, M., Schubert, T., Neuhauss, S., Euler, T., Baden, T. (2026). *On-Off coding is latent in vertebrate visual circuits*. bioRxiv, 2026.05. 01.722149

Schmors, L., **Gonschorek, D.**, Böhm, J. N., Qiu, Y., Zhou, N., Kobak, D., Tolias, A., Sinz, F., Reimer, J., Franke, K., Damrich, S., Berens, P. (2026). *TRACE : Contrastive learning for multi-trial time series data in neuroscience*. Advances in Neural Information Processing Systems, 39 (NeurIPS 2025).

D'Agostino, F.*, Zenkel, T.*, Lorenzi, B., Vystrcilova, M, **Gonschorek, D.**, Suhai, S., Virgili, S., Ecker, A.S., Marre, O., Hoefling, L.§, Euler, T.§, Bethge, M.§ (2026). *openretina : Collaborative Retina Modelling Across Datasets and Species*. bioRxiv, 2025.03. 07.642012

Gonschorek, D.*, Oesterle, J.*, Zenkel, T.*, D'Agostino, F.*, Cai, C., Dyszkant, N., Szatko, K., Deja, F., Schwerd-Kleine, T., Arlinghaus, R., Franke, K., Zhao, Z., Schubert, T., Berens, P., Euler., T. (2025). *A large-scale dataset of functional mouse ganglion cell layer responses*. bioRxiv, pages 2025–12, 2025.

Gonschorek, D. & Euler, T. (2025). *When the brain talks back to the eye*. PLoS biology 23 (11), e3003454.

Dyszkant, N., Oesterle, J., Qiu, Y., Harrer, M., Schubert, T., **Gonschorek, D.§**, Euler, T.§ (2025) *Photoreceptor degeneration has heterogeneous effects on functional retinal ganglion cell types*. The Journal of Physiology 603 (21), 6599-6621.

Gonschorek, D., Goldin, A. M., Oesterle, J., Schwerd-Kleine, T., Arlinghaus, R., Zhao, Z., Schubert, T., Marre, O., Euler, T. (2025). *Nitric oxide modulates contrast suppression in a subset of mouse retinal ganglion cells.* eLife 13:RP98742.

Qiu, Y., Klindt, D. A., Szatko, K. P., **Gonschorek, D.**, Hoefling, L., Schubert, T., Busse, L., Bethge, M. & Euler, T. (2023). *Efficient coding of natural scenes improves neural system identification.* PLOS Computational Biology, 19(4), e1011037.

Gonschorek, D.*, Hoefling, L.*, Szatko, K. P., Franke, K., Schubert, T., Dunn, B., Berens, P., Klindt, D.A.§ & Euler, T.§ (2021). *Removing inter-experimental variability from functional data in systems neuroscience.* Advances in Neural Information Processing Systems, 34, 3706-3719 (Spotlight NeurIPS 2021)

Fakhar, K., **Gonschorek, D.**, Schmors, L. & Bielczyk, N. (2019). *Neuronal Causes and Behavioural Effects : a Review on Logical, Methodological, and Technical Issues With Respect to Causal Explanations of Behaviour in Neuroscience.* PsyArXiv

* shared first author; + shared second author; § shared senior author

Awards, Scholarships & Stipends

2024	**Travel Grant awarded by FASEB for an invited talk**
2021	**Spotlight talk at 34th NeurIPS 2021**
2018	**DAAD Scholarship 'Go East'**
2018	**Travel Grant awarded by the University of Oldenburg**
2017	**'Fernweh-Grant' awarded by the University of Oldenburg**
2017 - 2018	**SMARTSTART 1 Training Program**, Bernstein Network for Computational Neuroscience
2015 - 2016	**ERASMUS+ Scholarship**, European Program for Studying Abroad
2011	**Jugend forscht e.V.** State Competition | Berlin, Germany Special Award by 'Deutsche Gesellschaft für Zerstörungsfreie Prüfung' (DGZfP) Special Award by 'Adolf-Martens-Fonds e.V.'

Peer Reviewing

2026	**NeurIPS 2026**; The Fortieth Annual Conference on Neural Information Processing Systems
2025	**PLOS Biology**
2024	**Biology Letters | The Royal Society**
2019	**The Journal of Neuroscience**

Licenses & Certifications

09/25 - 11/25	**StartUp:Yourself - Leadership Talent Academy** | StartUp Center, University of Tübingen
10/24 - Present	**Leadership Certificate Program** | University of Tübingen
03/24	**Practical Laboratory Animal Science Examination** | University of Tübingen
09/21	**GCP Basic Course AMG** | GMP Academy
01/17	**Laboratory Animal Science Handling 'Rodents'** | TransMIT GmbH

Skills & Expertise

Programming	**Python**, **MATLAB (basics)**, LaTeX, **Git**, **Docker**
Experimental Techniques	**Two-photon imaging, Electrophysiology (multi-electrode recordings, sharp electrodes), Intravitreal injections, Electroporation**
Languages	**German** (native), **English** (iBT TOEFL - C1)