

Sigrid Trägenap

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Education

11/2018 – present	Graduate Student, International Max Planck Research School for Neural Circuits, Frankfurt , thesis handed in 01/2026
06/2020 – 11/2024	Center for Multiscale Modelling, Frankfurt
10/2016 – 10/2018	Master in Biophysics Johann Wolfgang Goethe-University Frankfurt Thesis: The role of network interactions in refining neural response properties in visual cortex, supervisor: Matthias Kaschube Final grade: 1.0
10/2013 – 11/2016	Bachelor in Biophysics Johann Wolfgang Goethe-University Frankfurt Thesis: Development of coding properties in mammalian visual cortex, supervisor: Matthias Kaschube Final grade: 1.3
2009 – 2013	Landesschule Pforta, Department of Natural Science , higher education entrance qualification, Final grade: 1.0

Publications

The developmental emergence of reliable cortical representations.

Sigrid Trägenap, David E. Whitney, David Fitzpatrick, Matthias Kaschube;
Nature Neuroscience; 2025; 28: 394–405; doi: <https://doi.org/10.1038/s41593-024-01857-3>

Development of coherent cortical responses reflects increased discriminability of feedforward inputs and their alignment with recurrent circuits.

Augusto Lempel, Sigrid Trägenap, Clara Tepohl, Matthias Kaschube, David Fitzpatrick;
Neuron; 2025; 113(22): 3834–3845.e8; doi: <https://doi.org/10.1016/j.neuron.2025.08.014>

Millimeter-scale selective amplification in the developing visual cortex.

Haleigh N. Mulholland, Sigrid Trägenap, Matthias Kaschube, Gordon B. Smith;
Co-first authors
bioRxiv (preprint); 2026; doi: <https://doi.org/10.64898/2026.03.31.715687>

Selected conference presentations

- Oral Rhine-Mine-Neuroscience Meeting (Oberwesel) 2026 *invited*
Giersch Conference on Digital Twins 2023
Computational Neuroscience Next Generation Symposium
Vision Science Society Meeting 2023, St. Pete Beach, Florida
German Neuroscience Meeting 2023, symposium
Annual meeting Society for Neuroscience 2022, nano-symposium, San Diego
Ferret brain meeting 2022, San Diego
Bernstein conference, main conference 2022, Berlin
Annual Computational Neuroscience Meeting 2019, Barcelona
- Poster Bernstein Conference 2026
HWK Workshop “Cortex Structure and Function in Mouse, Monkey and Man”,
Delmenhorst, 2026
10th European Visual Cortex and Cognition Meeting, Cortona
Cosyne 2026, Lisbon
Bernstein conference 2025, Frankfurt
3rd Meeting on Spontaneous Activity in Brain development, Alicante, 2024
Bernstein conference 2024, Frankfurt
Cosyne 2024, Lisbon
9th European Vision and Cognition Meeting, Il Poggio, 2024
Cosyne 2023, Montreal
2nd Meeting on Spontaneous Activity in Brain development, Alicante, 2022
Cosyne 2021 (virtual)
Bernstein conference 2020 (virtual)
Cosyne 2019, Lisbon
1st Meeting on Spontaneous Activity in Brain development, Leiden, 2018
Biennial meeting of rhine-main neuroscience network, 2018
Bernstein conference 2018, Berlin
Bernstein conference 2017, Göttingen

Research Experience

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| 01/2019 – 03/2019 | Rotating PhD student with Pascal Fries, Ernst-Strüngmann-Institute, Frankfurt
Analysis of electrophysiological recording, Role of α -band activity |
| 10/2017 – 10/2018 | Student assistant with Matthias Kaschube, Frankfurt Institute for Advanced Studies , Analysis of spontaneous activity in visual cortex |
| 11/2016 – 03/2017
and
05/2016 – 09/2016 | Student assistant with Gilles Laurent, Max Planck Institute for Brain Research Frankfurt , Sepia-Project |
| 05/2012 and
06/2011 – 07/2012 | Intern, Martin-Luther University Halle-Wittenberg, Prof. Binder , macromolecular chemistry |

Teaching Experience

2021 – 2024	Theoretical Neuroscience I&II Teaching assistant: guest lectures, coordination of exercise sheets and grading, content preparation
2018 – 2026	Computational Neuroscience Seminar Teaching assistant: Paper selection, Introduction to scientific writing, feedback on oral and written presentation
2017 – 2018	Machine Learning I Teaching assistant
2015 – 2016	Mathematics for physicists I Mathematics for scientists II Undergraduate teaching assistant: weekly tutorial session, grading of exercise sheets

Awards and Scholarships

07/2023	Travel Award from Organization of Computational Neuroscience
09/2022	Travel Award from Bernstein Network
06/2022	Poster Award (1 st Prize), 2 nd Meeting on Spontaneous Activity in Brain development “Experience drives the development of novel cortical sensory representation from endogenous networks”
07/2019	Travel Award from Organization of Computational Neuroscience
02/2019	Cosyne Presenters Travel Award (Conference for Computational Systems Neuroscience)
06/2018	Poster Award (3 rd prize), 5 th Biennial meeting of rhine-main neuroscience network “The role of network interactions in coordinating neuronal response properties across visual cortex”
09/2017 – 09/2018	Training program SMARTSTART in computational neuroscience founded by Bernstein Network and Volkswagen Foundation
04/2014 – 10/2018	Scholarship from the German National Academic Foundation
10/2013 – 04/2014	Deutschlandstipendium (supports highly talented students with social commitment)
2013	DPG Abiturientenpreis (honours from Deutsche Physikalische Gesellschaft awarding best students of physics at high-school level)
2013	Honors of eLeMeNTe.eV (awarding students who have shown extraordinary success in mathematical and natural science competitions of the federal state Saxony-Anhalt)

Voluntary Activities

03/2019 – present	Organization of German Neuroscience Olympiad final in Frankfurt (for high school students) Outreach and press contact, Grading coordinator, organized computational tutorial
12/2018 – 09/2022	Student Representative in Frankfurt Institute for Advanced Studies Active communication with administration, student support, organization of social events
10/2013 – 02/2018	Student Representative (“Fachschaft”) Physics, Frankfurt Active participation in faculty council, Committee on Examinations, organization of lecture evaluations

Skills

Language	German (native speaker) English (advanced, Common European Framework C2) Latin (good command)
IT	Word, Excel, PowerPoint (very good) LaTeX (very good) Matlab (good knowledge) Python (advanced knowledge)