Curriculum Vitae

Personal Data

Title	Dr.
First name	Tristan Manfred
Name	Stöber
Current positions	Think@Ruhr Research Fellow (RUB), Research Fellow (KGU)
Current institutions	Institute for Neural Computation, Ruhr University Bochum Department of Neurology, University Hospital Frankfurt, Germany
Identifiers/ORCID	0000-0003-3853-0608

Qualifications and Career

Stages	**Periods and Details**
Degree programme	BSc. Biosciences, 2009–2012, University of Münster, Germany MSc. Biology, 2013–2016, University of Freiburg, Germany
Doctorate	25.06.2021, Prof. Dr. Marianne Fyhn, Prof. Dr. Arvind Kumar, Prof. Dr. Trygve Solstad, Prof. Dr. Jill Leutgeb, Faculty of Mathematics and Natural Sciences, University of Oslo, Norway
Career stages	Jan. 2023 - present: Research fellow, Department of Neurology, University Hospital Frankfurt Sep. 2022 - present: Think@Ruhr Research Fellow, Institute for Neural Computation, Ruhr University Bochum Jul. 2024 - Jan. 2025: Enfield Exchange Scheme, SINTEF, Oslo Sep. 2020 - Sep. 2022: Research Fellow, Frankfurt Institute for Advanced Sciences Mar. - Jul. 2020: Head Engineer, University of Oslo Jan. 2017 - Mar. 2017: Visiting Scientist, University of California San Diego Jan. 2016 - Feb. 2016: Visiting Scientist, University of California San Diego Jun. 2013 - Aug. 2015: Research Assistant, Bernstein Center Freiburg Aug. 2011 - Oct. 2011: Research Intern, Cajal Institute Madrid

Supplementary Career Information

I was born on July 25th, 1988. As a father of four children, born 2013, 2015, 2019, 2021, I am actively engaged in parenting. Throughout my studies and academic career, I took formal and informal full- and part-time parental leaves. Formal parental leaves and their corresponding part-time rates are summarized here:

- Oct. 2021 - Dec. 2021, 50%
- Aug. 2020, 100%
- Mai. 2020 - Jul. 2020, 50%
- Mar. 2020 - Apr. 2020, 20%
- Apr. 2014 - Mar. 2016, 50%

Activities in the Research System

- 2023 – present, Instructor, IDS Interdisciplinary School, supporting neuroscience students in Iran
- 2023 – present, Deputy member in Tenure Track Evaluation Commission, Ruhr University Bochum
- 2023, Ph.D. examinator for Dr. Maud Muller, Universite Paris Cite
- 2022 – present, Board member, GRADE Research Academy of the Goethe University Frankfurt
- 2021 – present, Invited referee: Scientific Reports, PLOS Computational Biology, Hippocampus
- 2021 – present, Speaker & co-founder, GRADE Initiative - Learning in Spiking Neural Networks
- 2018 – 2020, Initiator & lead organizer, Oslo Neuroscience Meetup
- 2010 – 2011, Student representative on the appointment commission - Single Molecular Analysis

Supervision of Researchers in Early Career Phases

- March 2024 – present, Master's thesis - Ali Dasmeh, University of Europe for Applied Science, primary supervisor
- October 2023 – present, Internship - Armin Toghi, Pariya Jaferpour, Fatemeh Jamshidian, Shayan Zarei, IDS Schools Iran, primary supervisor
- March 2023 – present, Master's thesis - Jan Erik Bellingrath, Ruhr University Bochum, primary supervisor
- February 2023 – present, Internship - Andrea Graziano, Bocconi University, primary supervisor
- May – July 2018, Internship - Carla Schenker, Simula Research Laboratories, primary supervisor
- August – October 2017, Internship - Andrew Lehr, Simula Research Laboratories, primary supervisor

Scientific Results

Category A

1. Pochinok, I., **Stöber, T. M.**, Triesch, J., Chini, M., Hanganu-Opatz, I. L. (2024). A developmental increase of inhibition promotes the emergence of hippocampal ripples. Nature Communications, 15.1: 738.
2. Lehr, A. B., Hitti, F. L., Deibel, S. H., **Stöber, T. M.** (2023). Silencing hippocampal CA2 reduces behavioral flexibility in spatial learning. Hippocampus, 33(6), 759-768.
3. **Stöber, T. M.**, Batulin, D., Triesch, J., Narayanan, R., Jedlicka, P. (2023). Degeneracy in epilepsy: multiple routes to hyperexcitable brain circuits and their repair. Communications Biology, 6(1), 479.
4. Lepperød, M. E., **Stöber, T. M.**, Hafting, T., Fyhn, M., Kording, K. P. (2023). Inferring causal connectivity from pairwise recordings and optogenetics. PLOS Computational Biology, 19(11), e1011574.
5. Lehr, A. B., Kumar, A., Tetzlaff, C., Hafting, T., Fyhn, M., **Stöber, T. M.** (2021). CA2 beyond social memory: Evidence for a fundamental role in hippocampal information processing. Neuroscience & Biobehavioral Reviews, 126, 398-412.
6. Lehr, A. B., **Stöber, T. M.** (2021). Differential involvement of CA2 in internally vs. externally driven hippocampal sequences. Proceedings of the National Academy of Sciences, 118(38), e2110671118.
7. Vieth, M., **Stöber, T. M.**, Triesch, J. (2021). PymoNNto: A Flexible Modular Toolbox for Designing Brain-Inspired Neural Networks. Frontiers in Neuroinformatics, 15, 715131.
8. **Stöber, T. M.**, Lehr, A. B., Hafting, T., Kumar, A., Fyhn, M. (2020). Selective neuromodulation and mutual inhibition within the CA3–CA2 system can prioritize sequences for replay. Hippocampus,

30(11), 1228-1238.

9. Buccino, A. P., **Stöber, T. M.**, Næss, S., Cauwenberghs, G., Häfliger, P. (2016). Extracellular single neuron stimulation with high-density multi-electrode array. 2016 IEEE Biomedical Circuits and Systems Conference (BioCAS), 520-523.

Category B

1. **Stöber, T. M.**, Lehr, A. B., Fyhn, M., Kumar, A. (2023). Competition and Cooperation of Assembly Sequences in Recurrent Neural Networks. Under review.
2. **Stöber, T. M.**, Oosthuizen, M. K. (2023). PCP4 immunoreactivity suggests the presence of hippocampal region CA2 in solitary, social and eusocial mole-rat species. bioRxiv, 2023.02.02.526898.
3. Negri, F., Michaelis, C. M., Luboeinski, J., Oed, W., **Stöber, T. M.**, Lehr, A. B., Tetzlaff, C. (2023). Brian2Lava: connecting Brian2 to neuromorphic hardware. Bernstein Conference 2023.
4. Marker, J., **Stöber, T. M.**, Pochinok, I., Ehsani, M., Kaschube, M., Rumpel, S., Jost, J., Triesch, J. (2022). Dynamics close to criticality support long synaptic lifetimes in cortical circuits. FENS Forum 2022.
5. **Stöber, T. M.**, Lehr, A. B., Hafting, T., Kumar, A., Fyhn, M. (2020). Mutual inhibition and selective neuromodulation within the CA3-CA2 system can prioritize sequences for replay. Invited plenary presentation, FENS Virtual-Forum 2020.
6. **Stöber, T. M.**, Lehr, A. (2019). CA2 as a hippocampal sequence controller. Plenary presentation, Spring Hippocampal Research Conference, Taormina, Italy.
7. **Stöber, T. M.**, Lehr, A. B., Fyhn, M., Solstad, T. (2018). Understanding different place field properties in hippocampal region CA3 and CA2. The role of spatial attractors and regulated plasticity. Invited plenary presentation, Two-Day Symposium on Theoretical and Computational Neuroscience, Tehran, Iran.
8. **Stöber, T. M.**, Lehr, A. B., Egert, U., Kumar, A. (2017). On the origin of synchronous events in a network model of medial-temporal lobe epilepsy. Poster presentation, NEST Conference 2017, Jülich, Germany.

Academic Distinctions

- 2024 - present: Academy Fellow, Johanna Quandt Young Academy
- 2024: International Liaison Fellowship 2024 to RIKEN Center for Brain Science, Tokyo, Japan, Goethe University's R3 Career Support
- 2023 - present: Scholarship, Main-Campus-Educator, Stiftung Polytechnische Gesellschaft Frankfurt
- 2022 - present: Think@Ruhr Research Fellowship
- 2018: Award, Leader of Winning Team at Simula Hackathon 2018
- 2016: PhD Fellowship, Simula-UiO-UCSD Research and PhD training programme
- 2014: Scholarship, Deutschlandstipendium
- 2013: Travel Grant to Iran, German Academic Exchange Service (DAAD)
- 2013: Scholarship, Deutschlandstipendium
- 2010-2011: Scholarship, German Academic Scholarship Foundation
- 2008: Award, Best A-Level Score in 2008 and Outstanding Achievements in Natural Sciences, Stiftsschule St. Johann Amöneburg
- 2008: Award, Outstanding Achievements in Physics, German Physical Society

Other Information

Funded Proposals

- 2025 - 2027: Understanding CA2 Neurons' Functional Role at the Dendritic Level, Ph.D. scholarship for Ivain Raslain, co-supervised with Dr. Rebecca Piskorowski, The Brain, Cognition, Behavior Doctoral School (ED3C), Sorbonne Université, Paris
- 07.2024 - 01.2025: Advancing World model Learning with Neural Cloned-Structured Causal Graphs; Enfield: European Lighthouse to Manifest Trustworthy and Green AI Exchange call, 14,400€
- 2024: Competition Dynamics in Hippocampal Region CA2; International Liaison Fellowship 2024 Goethe University's R3 Career Support, 2,700€
- 2022 - 2023: Brian2Lava: a Brian2 interface and development tools for Lava; Intel Neuromorphic Research Community Project Proposal together with Dr. Christian Tetzlaff, Dr. Carlo Michaelis, Dr. Andrew B. Lehr, Dr. Jannik Luboeinski, 218,000 USD
- 2023 - 2023: Artificial Intelligence in Medicine, Teaching project, Goethe University Frankfurt with Prof. Dr. Felix Rosenow, 50,000€

Invited Lectures

- 2024: NeuroAI: Advancing - Advancing Artificial Intelligence through Brain-Inspired Innovations, Opening lecture, WAICF - World AI Cannes Festival
- 2023: Silencing hippocampal CA2 reduces behavioral flexibility in spatial learning - Invited lecture, Virtual symposium: A New View of Hippocampal Area CA2
- 2023: Cooperate to Compete – Identifying a Potential Role for Hippocampal Region CA2 in Episodic Memory Formation - Invited lecture, Half-Day Symposium: CA2 - big news from a tiny region, Ernst Strüngmann Institute (ESI) for Neuroscience, Frankfurt
- 2023: Cooperate to Compete – Identifying a Potential Role for Hippocampal Region CA2 in Episodic Memory Formation - Invited lecture, Donders Centre for Cognition, Nijmegen
- 2022: Dynamics close to criticality support long synaptic lifetimes in cortical circuits - Invited lecture, Neuromorphic Algorithms 2022, Volpriehausen
- 2022: Cooperate to Compete – Identifying a Potential Role for Hippocampal Region CA2 in Episodic Memory Formation - Invited lecture, INSERM, Paris
- 2020: Mutual inhibition and selective neuromodulation within the CA3-CA2 system can prioritize sequences for replay, Invited plenary presentation, FENS Virtual-Forum 2020
- 2018: Understanding Different Place Field Properties in Hippocampal Region CA3 and CA2: The Role of Spatial Attractors and Regulated Plasticity - Invited plenary presentation, Two-Day Symposium on Theoretical and Computational Neuroscience, Tehran, Iran

Languages

sorted by proficiency

- German, native proficiency
- English, full professional proficiency
- Norwegian, full professional proficiency
- Spanish, working proficiency
- Persian, limited working proficiency

- Latin, full proficiency certificate

Additional engagements

- 2022 - present: Software architect & scientific advisor, brian2lava - Brian2 interface for Lava based neuromorphic computing
- 2013 - 2014: DAAD-funded documentary: *Freiburg Isfahan - Eindrücke einer umstrittenen Partnerschaft*

Extracurricular classes and seminars

- 2024: Logical Argumentation in Science, Instructor Dr. Malte Engel, Main-Campus-Academy
- 2024: Science Communication, Instructor Jörg Göpfert & Ursula Stamm, Main-Campus-Academy
- 2023: Time and Project Management for Postdocs, Instructor Dr. Jan Stamm, Main-Campus-Academy
- 2023: Leadership in Science and Research, Instructor Reinhold Haller, Main-Campus-Academy
- 2023: GRADE Brain Teaching Club, Frankfurt, Germany
- 2018: Communicating Scientific Research, Oslo, Norway
- 2018: Neural Network Dynamics and Function, Göttingen, Germany
- 2017: G-Node Advanced Course on Neural Data Analysis, Jülich, Germany
- 2016: SFN short course: Data Science and Data Skills for Neuroscientists, San Diego, USA
- 2016: Summer school, Neural Circuits and Behavior, Kavli Institute, Trondheim
- 2012: Summer school, Metabolic network modelling, RWTH Aachen
- 2011: Summer school, Systems Biology, Life Science College of the German Academic Scholarship Foundation