Lukas Kunz, MD, PhD

Contact

University of Bonn Medical Center
Department of Epileptology
Venusberg-Campus 1
53127 Bonn
Germany
E-mail: drlukaskunz@gmail.com

Professional

- **Assistant Professor and Junior Research Group Leader: Neural mechanisms of navigation and memory in human health and disease** 5/2023–present

  University of Bonn Medical Center, Bonn, Germany
  Department of Epileptology

- **Walter Benjamin Fellow: Neuronal mechanisms of associative memory formation in the human medial temporal lobe** 3/2021–4/2023

  Columbia University, New York City, NY, USA
  Department of Biomedical Engineering; PI: Prof. Dr. Joshua Jacobs

- **Postdoctoral researcher: The roles of grid and place cells and phase precession in human episodic memory** 1/2018–2/2021

  University of Freiburg, Freiburg, Germany
  Epilepsy Center; PI: Prof. Dr. Andreas Schulze-Bonhage

  - **Visiting scholar: Single-neuron representations of goal-directed navigation in the human medial temporal lobe** 11/2019–1/2020

    Columbia University, New York City, NY, USA
    Department of Biomedical Engineering; PI: Prof. Dr. Joshua Jacobs

Education

- **PhD (Dr. rer. nat.). Thesis: Neural mechanisms underlying spatial navigation in the human medial temporal lobe (*summa cum laude*)** 2019–2022

  University of Freiburg, Freiburg, Germany
  Faculty of Biology
  In the framework of the international PhD program of the Spemann Graduate School of Biology and Medicine (SGBM)
  PI: Prof. Dr. Andreas Schulze-Bonhage

- **MD (Dr. med.). Thesis: Investigation of grid cell–based representations of the entorhinal cortex in adults at genetic risk for Alzheimer's disease (*summa cum laude*)** 2013–2017

  University of Bonn, Bonn, Germany
  Faculty of Medicine
  PIs: Prof. Dr. Nikolai Axmacher, PD Dr. Jürgen Fell

- **Human medicine (state examination)** 2010–2017
  University of Bonn, Bonn, Germany. Final grade: "Very good."
- **Philosophy and German studies (B.A.)** 2011–2018
  University of Bonn, Bonn, Germany. Final grade: "Very good."

Research overview and publication highlights

- My research targets the physiological neural mechanisms underlying spatial navigation and memory in humans. I also identify how these mechanisms are impaired in adults at increased risk for Alzheimer's disease. In my research, I use a combination of behavioral virtual-reality tasks, human single-neuron recordings, intracranial EEG, and functional MRI.
- I discovered that single neurons in the human brain encode directions and distances in the service of spatial navigation (Kunz et al., 2021, ***Neuron***) and I showed how theta oscillations support human goal-directed navigation (Kunz et al., 2019, ***Science Advances***).
- I demonstrated that adults at increased risk for Alzheimer's disease exhibit impaired grid cell activity in their entorhinal cortex (Kunz et al., 2015, ***Science***) and that this neural impairment leads to deficits in spatial behavior (Bierbrauer*, Kunz*, Gomes* et al., 2020, ***Science Advances***).

Publications (peer reviewed)

Cumulative impact factor **183.7**

16. Han CZ, Donoghue T, Cao R, **Kunz L**, Wang S, Jacobs J (2023). Using multi-task experiments to test principles of hippocampal function. Hippocampus; in press. 3.9

15. Herweg NA, **Kunz L**, Brandt A, Wanda PA, Sharan AD, Sperling MR, Schulze-Bonhage A, Kahana MJ (2023). A learned map for places and concepts in the human MTL. Journal of Neuroscience; in press. Preprint at *bioRxiv*. 6.7

14. Akan O, Bierbrauer A, **Kunz L**, Gajewski PD, Getzmann S, Hengstler JG, Wascher E, Axmacher N, Wolf OT (2023). Chronic stress is associated with specific path integration deficits. Behavioral Brain Research; 442, 114305. 3.3

13. Costa M, Lozano-Soldevilla D, Gil-Nagel A, Toledano R, Oehrn CR, **Kunz L**, Yebra M, Mendez-Bertolo C, Stieglitz L, Sarnthein J, Axmacher N, Moratti S, Strange BA (2022). Aversive memory formation in humans involves an amygdala-hippocampus phase code. Nature Communications; 13, 6403. 17.7

12. Chen D, **Kunz L**, Lv P, Zhang H, Zhou W, Liang S, Axmacher N, Wang L (2021). Theta oscillations coordinate grid-like representations between ventromedial prefrontal and entorhinal cortex. Science Advances; 7, eabj0200. 14.1

11. Guth TA, **Kunz L**, Brandt A, Dümpelmann M, Klotz KA, Reinacher PC, Schulze-Bonhage A, Jacobs J, Schönberger J (2021). Interictal spikes with and without high-frequency oscillation have different single-neuron correlates. Brain; 144, 3078–3088. 15.3

– Scientific commentary by Huberfeld and Le Van Quyen in *Brain*

10. **Kunz L**, Brandt A, Reinacher PC, Staresina BP, Reifenstein ET, Weidemann CT, Herweg NA, Patel A, Tsitsiklis M, Kempter R, Kahana MJ, Schulze-Bonhage A, Jacobs J (2021). A neural code for egocentric spatial maps in the human medial temporal lobe. Neuron; 109, 2781–2796.e10. 18.7

– Media discussions: *Nature Reviews Neuroscience*, *Technology Networks*

9. Lachner-Piza D, **Kunz L**, Brandt A, Dümpelmann M, Thomschewski A, Schulze-Bonhage A (2021). Effects of spatial memory processing on hippocampal ripples. Frontiers in Neurology; 12, 237. 4.1

8. Manzouri F, Meisel C, **Kunz L**, Dümpelmann M, Stieglitz T, Schulze-Bonhage A (2021). Low-frequency electrical stimulation reduces cortical excitability in the human brain. Neuroimage: Clinical; 31, 102778. 4.9

7. Bierbrauer A*, **Kunz L***, Gomes CA*, Luhmann M, Deuker L, Getzmann S, Wascher E, Gajewski PD, Hengstler JG, Fernandez-Alvarez M, Atienza M, Cammisuli DM, Bonatti F, Pruneti C, Percesepe A, Bellaali Y, Hanseeuw B, Strange BA, Cantero JL, Axmacher N (2020). Unmasking selective path integration deficits in Alzheimer's disease risk carriers. Science Advances; 6, eaba1394. 14.4

– Media discussions: *Focus Online*, *Technology Networks*, *EurekAlert!*

6. **Kunz L**, Wang L, Lachner-Piza D, Zhang H, Brandt A, Dümpelmann M, Reinacher PC, Coenen VA, Chen D, Wang W, Zhou W, Liang S, Grewe P, Bien CG, Bierbrauer A, Schröder TN, Schulze-Bonhage A, Axmacher N (2019). Hippocampal theta phases organize the reactivation of large-scale electrophysiological representations during goal-directed navigation. Science Advances; 5, eaav8192. 14.8

– Media discussions: *ScienceDaily*, *Innovations Report*

5. **Kunz L***, Maidenbaum S*, Chen D*, Wang L, Jacobs J, Axmacher N (2019). Mesoscopic neural representations in spatial navigation. Trends in Cognitive Sciences; 23, 615–630. 15.2

– Media discussions: *Neuroscience News*

4. Chen D*, **Kunz L***, Wang W, Zhang H, Wang W, Schulze-Bonhage A, Reinacher PC, Zhou W, Liang S, Axmacher N, Wang L (2018). Hexadirectional modulation of theta power in human entorhinal cortex during spatial navigation. Current Biology; 28, 3310–3315.e4. 9.2

3. **Kunz L**, Reuter M, Axmacher N, Montag C (2017). Conscientiousness is negatively associated with grey matter volume in young APOE ε4-carriers. Journal of Alzheimer's Disease; 56, 1135–1144. 3.7

2. **Kunz L**, Schröder TN, Lee H, Montag C, Lachmann B, Sariyska R, Reuter M, Stirnberg R, Stöcker T, Messing-Floeter PC, Fell J, Doeller CF, Axmacher N (2015). Reduced grid-cell–like representations in adults at genetic risk for Alzheimer's disease. Science; 350, 430–433. 34.7

– Media discussions: *Science*, *Nature*, *Pacific Standard*, *Spektrum*

1. Montag C, **Kunz L**, Axmacher N, Sariyska R, Lachmann B, Reuter M (2014). Common genetic variation of the APOE gene and personality. BMC Neuroscience; 15, 1–5. 3.0

** denotes shared first authorship. Impact factors are from the year of publication.*

Publications (other)

5. **Kunz L** (2023). Orientation: Neuroscientific insights into mechanisms, impairments, and relevance. Essay for the exhibition *Building to Heal. New Architecture for Hospitals* at the modern art museum *Pinakothek der Moderne* in Munich (2023/07/12–2024/01/07).

4. Qasim SE, **Kunz L** (2023). How is single-neuron activity related to LFP oscillations? In *Intracranial EEG. A Guide for Cognitive Neuroscientists*; Springer. Preprint at *PsyArXiv*.

3. **Kunz L** (2022). Neural mechanisms underlying spatial navigation in the human medial temporal lobe. Albert-Ludwigs-Universität Freiburg im Breisgau.

2. **Kunz L**, Deuker L, Zhang H, Axmacher N (2018). Tracking human engrams using multivariate analysis techniques. In *Handbook of Behavioral Neuroscience* (vol. 28, pp. 481–508); Elsevier.

1. **Kunz L** (2017). Untersuchung von „grid cell"-basierten Repräsentationen des entorhinalen Kortex in Erwachsenen mit genetisch erhöhtem Risiko für Morbus Alzheimer. Universitäts- und Landesbibliothek Bonn.

Preprints

4. Estefan DP, Fellner MC, **Kunz L**, Zhang H, Reinacher P, Roy C, Brandt A, Schulze-Bonhage A, Yang L, Wang S, Liu Y, Xue G, Axmacher N (2023). Maintenance and transformation of representational formats during working memory prioritization. Preprint at *bioRxiv*.

3. Khalid IB, Reifenstein ET, Auer N, **Kunz L****, Kempter R** (2022). Quantitative modeling of the emergence of macroscopic grid-like representations. Preprint at *bioRxiv*.

2. **Kunz L**, Staresina BP, Reinacher PC, Brandt A, Guth TA, Schulze-Bonhage A, Jacobs J (2022). Ripple-locked coactivity of stimulus-specific neurons supports human associative memory. Preprint at *bioRxiv*.

1. Yebra M, Jensen O, **Kunz L**, Moratti S, Axmacher N, Strange B (2021). A gradient of electrophysiological novelty responses along the human hippocampal long axis. Preprint at *bioRxiv*.

** *denotes shared last authorship.*

Awards

- Junior Researcher Award for Clinical Neurophysiology of the German Society of Neurophysiology, Jena, Germany. 2023
- Poster Award of the Center for Basics in NeuroModulation of the University of Freiburg, Freiburg, Germany. 2019
- Trainee Professional Development Award (TPDA) for the Annual Meeting of the Society of Neuroscience (SfN), San Diego, USA. 2018
- Travel Award for the Grid Cell Meeting 2018 of the University College London, London, UK. 2018
- BONFOR Research Prize of the BONFOR Research Commission of the Medical Faculty of the University of Bonn, Bonn, Germany. 2016

Funding as principal investigator

Cumulative funding **1,404,850 EUR**

- Return program of the State of North Rhine-Westphalia (NRW Rückkehrprogramm) to establish and lead an independent junior research group at the University of Bonn, Bonn, Germany. **1,250,000 EUR** for personnel and non-personnel costs for a period of 5 years. — Since 5/2023
- Return Stipend of the German Research Foundation (DFG). **4,000 EUR** for personnel. — 3/2023–4/2023
- Walter Benjamin Fellowship of the German Research Foundation (DFG). **96,000 EUR** for personnel. — 3/2021–2/2023
- Boehringer Ingelheim Fonds travel grant for a 3-month research stay at Columbia University, New York, USA. **4,850 EUR** for personnel. — 11/2019–1/2020
- 2-year BONFOR Scholarship of the Medical Faculty of the University of Bonn, Bonn, Germany. **25,000 EUR** for personnel. — 7/2013–8/2015
- 7-year Scholarship granted by the German Academic Scholarship Foundation (Studienstiftung des deutschen Volkes). **25,000 EUR** for personnel. — 1/2011–12/2017

Funding as co-investigator

Cumulative funding **5,918,995 USD**

- NIH/NINDS Grant U01 NS113198: Using direct brain stimulation to study cognitive electrophysiology. **1,183,799 USD** annual direct costs (PI: Michael J. Kahana). Project role: co-investigator. — 6/2019–5/2024

Selected presentations at scientific conferences and research institutions

32. **Kunz L** (2023). Human associative memory is tied to ripple-locked coactivity of object and place-like cells. Presentation at the *Spring Hippocampal Research Conference, Verona, Italy*.

31. **Kunz L** (2023). Single-neuron representations of objects and places in the human medial temporal lobe. **Invited talk** for the symposium *Object-space interactions in the medial temporal lobe* at the *2023 International Conference on Learning and Memory, Surf City, USA*.

30. **Kunz L** (2022). Human associative memory is tied to ripple-locked coactivity of object and place-like cells. **Invited talk** at the *Zuckerman Institute Postdoctoral Seminar (ZIPS) Series, Columbia University, New York, USA*.

29. **Kunz L** (2022). Human associative memory is linked to single-neuron activity during hippocampal ripples. *Annual Meeting of the Society of Neuroscience (SfN), San Diego, USA*.

28. Khazali M, …, **Kunz L** (2022). Single-neuron representations of temporal order in the human medial temporal lobe. *Annual Meeting of the Society of Neuroscience (SfN), San Diego, USA*.

27. **Kunz L** (2022). Human associative memory is linked to single-neuron activity during hippocampal ripples. **Invited talk** at the *Sleep and Circadian Neurobiology Data Blitz* of the *NIH National Center on Sleep Disorders Research* and the *Program Committee of the Annual Meeting of the Society of Neuroscience (SfN), San Diego, USA*.

26. Qasim S, …, **Kunz L** (2022). Neurons in the human brain encode emotional space. *Human Single-Neuron Meeting, University of California (UCLA), Los Angeles, USA.*

25. Khazali M, …, **Kunz L** (2022). Single-neuron representations of temporal order in the human medial temporal lobe. *Human Single-Neuron Meeting, University of California (UCLA), Los Angeles, USA.*

24. **Kunz L** (2022). Ripple-locked coactivity of object and place cells supports human associative memory. *Human Single-Neuron Meeting, University of California (UCLA), Los Angeles, USA.*

23. **Kunz L** (2022). Human associative memory is tied to ripple-locked coactivity of object and place-like cells. **Invited talk** at the *Zuckerman Institute Hippocampus Club, Columbia University, New York, USA.*

22. **Kunz L** (2022). Electrophysiological mechanisms of human memory and navigation. **Invited talk** at *New York University Langone Medical Center, New York, USA.*

21. **Kunz L** (2022). Ripple-locked coactivity of object and place cells supports human associative memory. **Selected talk** at the *Context and Episodic Memory Symposium (CEMS), University of Pennsylvania, Philadelphia, USA.*

20. **Kunz L** (2022). Neural mechanisms of navigation and memory in human health and disease. **Invited talk** at the *Department of Neurology, University of Chicago, Chicago, USA.*

19. **Kunz L** (2021). Human hippocampal ripples are associated with the formation and retrieval of spatial memories. *Annual Meeting of the Society of Neuroscience (SfN) 2021, USA.*

18. **Kunz L** (2021). Neural mechanisms of spatial navigation and memory in human health and disease. **Selected talk** at the *Symposium on Computational Neuroscience, Osnabrück, Germany.*

17. **Kunz L** (2021). Hippocampal ripples and human spatial memory. **Invited talk** at the *Annual Meeting on Imaging and Electrophysiology in Neurology, Neurosurgery and (cognitive) Neuroscience (AMIE), Bochum, Germany.*

16. **Kunz L** (2021). A neural code for egocentric spatial maps in the human brain. **Selected talk** at the *Context and Episodic Memory Symposium (CEMS), University of Pennsylvania, Philadelphia, USA.*

15. **Kunz L** (2020). A neural code for egocentric spatial maps in the human medial temporal lobe. **Selected talk** at the *Human Single-Neuron Meeting, California Institute of Technology (Caltech), Pasadena, USA.*

14. **Kunz L** (2020). Neural correlates of spatial navigation in the human medial temporal lobe. *Annual Meeting of the German Society for Clinical Neurophysiology and Functional Imaging (DGKN), Germany.*

13. **Kunz L** (2020). A single-neuron code for egocentric spatial maps in the human medial temporal lobe. *Congress of the German Society of Neurology (DGN) 2020, Germany.*

12. **Kunz L** (2020). Neural mechanisms for spatial navigation in humans. **Invited talk** at the *Max Planck Institute for Empirical Aesthetics, Frankfurt, Germany.*

11. **Kunz L** (2020). Neural correlates of spatial navigation in the human temporal lobe. *Annual meeting of the German Society for Epileptology (DGfE), Freiburg, Germany.*

10. **Kunz L** (2020). Anchor cells in the human medial temporal lobe represent egocentric directions during spatial navigation. **Selected talk** at the *Context and Episodic Memory Symposium (CEMS), University of Pennsylvania, Philadelphia, USA.*

9. **Kunz L** (2020). A neural code for egocentric spatial maps in the human medial temporal lobe. *Cognitive Neuroscience Society (CNS) Annual Meeting 2020, USA.*

8. **Kunz L** (2019). Two senses of direction in human medial temporal lobe. *Annual Meeting of the Society of Neuroscience (SfN) 2019, Chicago, USA.*

7. **Kunz L** (2019). Single neurons in human medial temporal lobe encode ego- and allocentric direction during virtual spatial navigation. *Meeting of the Center for Basics in NeuroModulation of the University of Freiburg, Freiburg, Germany.*

6. **Kunz L** (2019): Single neuron representations of place and direction in human medial temporal lobe. Presentation at the *Spring Hippocampal Research Conference, Taormina, Italy.*

5. **Kunz L** (2018). Cortico-hippocampal communication during goal-directed navigation: evidence from functional magnetic resonance imaging and intracranial electroencephalography. *Annual Meeting of the Society of Neuroscience (SfN), San Diego, USA.*

4. **Kunz L** (2018). Head direction cells in human medial temporal lobe during virtual navigation. *Human Single Neuron Conference at the California Institute of Technology, Pasadena, USA.*

3. **Kunz L** (2018). Path integration and genetic risk for Alzheimer's disease. **Selected talk** at the *Grid Cell Meeting of the University College London, London, UK.*

2. **Kunz L** (2016). Stimulus specific similarity of neural activity at encoding and retrieval supports memory formation. *International Conference on Memory (ICOM), Budapest, Hungary.*

1. **Kunz L** (2014). Effects of ApoE polymorphisms on grid like representations in the human entorhinal cortex. *Organization for Human Brain Mapping (OHBM) Annual Meeting, Hamburg, Germany.*

Work as a reviewer for international journals

Neuron; Nature Communications; Science Advances; Neuropsychopharmacology; Neuroscience and Biobehavioral Reviews; Communications Biology; NeuroImage; Journal of Neuroscience; Cerebral Cortex; Journal of the Neurological Sciences; eNeuro; Frontiers in Human Neuroscience; Neuropsychologia; Brain Research.

Work as a reviewer for research agencies

French National Research Agency (ANR).

Society membership

- Society for Neuroscience (SfN). 2018–present
- Federation of European Neuroscience Societies (FENS). 2019–present
- German Neuroscience Society (NWG). 2019–present
- ALBA Network for diversity and equity in brain sciences. 2021–present
- German Academic International Network (GAIN). 2021–present

Scientific collaborations

- Collaboration project on the human brain mechanisms underlying associative memory formation with Prof. Dr. Joshua Jacobs, Columbia University, New York, USA. *Preprint link.* — 2021–present
- Collaboration project on the effects of direct brain stimulation on cognitive electrophysiology with Prof. Dr. Michael J. Kahana, University of Pennsylvania, Philadelphia, USA. *Weblink.* — 2019–present
- Collaboration project on the neural correlates of human associative memory with Prof. Dr. Bernhard P. Staresina, University of Oxford, Oxford, UK. — 2019–present
- Collaboration project on the function of human theta oscillations with Prof. Dr. Andrew J. Watrous, Baylor College of Medicine, Houston, USA. — 2019–present
- Collaboration project on modeling the emergence of grid-like representations with Prof. Dr. Richard Kempter, Humboldt-University of Berlin, Berlin, Germany. *Preprint link.* — 2018–present
- Collaboration project on theta oscillations in the human prefrontal cortex with Prof. Dr. Liang Wang, Chinese Academy of Sciences, Beijing, China. *Publication link.* — 2018–2021
- Collaboration project on the roles of grid and place cells and phase precession in human episodic memory with Prof. Dr. Joshua Jacobs, Columbia University, New York, USA; Prof. Dr. Michael J. Kahana, University of Pennsylvania, Philadelphia, USA; and Prof. Dr. Richard Kempter, Humboldt-University of Berlin, Berlin, Germany. *Publication link.* — 2018–2021
- Collaboration project on the single-neuron correlates of interictal spikes in the human brain with Prof. Dr. Julia Jacobs, University of Calgary, Calgary, Canada. *Publication link.* — 2018–2021
- Collaboration project on the role of brain oscillations in human spatial navigation with Prof. Dr. Joshua Jacobs, Columbia University, New York, USA, and Prof. Dr. Nikolai Axmacher, Ruhr-University Bochum, Bochum, Germany. *Publication link.* — 2018–2019
- Collaboration project on the role of theta oscillations in goal-directed navigation with Prof. Dr. Nikolai Axmacher, Ruhr-University Bochum, Bochum, Germany. *Publication link.* — 2017–2019
- Collaboration project on theta oscillations in the human entorhinal cortex with Prof. Dr. Liang Wang, Institute of Psychology, Chinese Academy of Sciences, Beijing, China. *Publication link.* — 2017–2018
- Collaboration project on the effects of *APOE* polymorphisms on path integration with Jose L. Cantero, Pablo de Olavide University, Seville, Spain, and Prof. Dr. Nikolai Axmacher, Ruhr-University Bochum, Bochum, Germany. *Publication link.* — 2016–2020
- Collaboration project on the associations between *APOE* polymorphisms, personality, and brain structure with Prof. Dr. Martin Reuter, University of Bonn, Bonn, Germany, and Prof. Dr. Christian Montag, Ulm University, Ulm, Germany. *Publication link.* — 2013–2017
- Collaboration project on grid cell-based representations of the entorhinal cortex in adults at genetic risk for Alzheimer's disease with Prof. Dr. Christian — 2012–2015

Doeller, Donders Institute for Brain, Cognition and Behavior, Radboud University, Nijmegen, the Netherlands. *Publication link.*

Teaching and supervision of students

- Part of the course "Disorders in neurosurgery – stereotactic and functional neurosurgery" (04LE57V-WF 31) for medical students at the University of Freiburg, Freiburg, Germany. 04/2022–09/2022
- Supervision of Dr. Mohammad Khazali, postdoctoral researcher at the Epilepsy Center, University of Freiburg, Freiburg, Germany. Research project: Single-neuron basis of temporal memory in the human brain. 03/2022–present
- Supervision of Daniel Alfonso Garcia, undergraduate student at Columbia University in The City of New York, New York, USA. Research project: Human single-neuron recordings during a navigation–and–memory task. 10/2021–12/2022
- Supervision of Dr. Charlotte Roy, postdoctoral researcher at the Epilepsy Center, University of Freiburg, Freiburg, Germany. Research project: Using direct brain stimulation to study cognitive electrophysiology. 12/2020–02/2022
- Supervision of Tobias Kraus, master's student in Neuroscience at the University of Freiburg, Freiburg, Germany. Research project: Neural oscillations during human cognition. 11/2020–04/2021
- Organization of the workshop "Microwire recordings: implantation and recording issues" together with Prof. Dr. Dr. Florian Mormann at the Annual Meeting on Imaging and Electrophysiology in Neurology, Neurosurgery and (cognitive) Neuroscience (AMIE), Bochum, Germany. 9/2020
- Supervision of Tim Guth, medical dissertation student at the University of Freiburg, Freiburg, Germany. Research project: Spike-phase relationships during memory encoding and retrieval in humans. 8/2020–present
- Part of the lecture series "Advanced Topics in Neuroscience I" (09LE03V-NA-1-T1) for master's students in Neuroscience at the University of Freiburg, Freiburg, Germany. 7/2020
- Supervision of Philipp Rebmann, medical dissertation student at the University of Freiburg, Freiburg, Germany. Research project: Neural mechanisms of emotional processing in the human brain. 6/2020–12/2020
- Organization of the Satellite Workshop "Neural oscillations in memory and navigation" together with Prof. Dr. Michael J. Kahana at the Bernstein Conference, Berlin, Germany. 9/2019
- Supervision of Annabel von Dietze, medical dissertation student at the University of Freiburg, Freiburg, Germany. Research project: Assessment of spatial navigation abilities in patients with epilepsy. 12/2018–12/2022
- Supervision of Julia Schipp, master's student in Neuroscience at the University of Freiburg, Freiburg, Germany. Research project: Emotional processing in the human brain. 2/2018–5/2018
- Supervision of Chelsea Nnebe, Fulbright Scholar at the University of Freiburg, Freiburg, Germany. Research project: Cognition during subclinical electrographic seizures. 1/2018–7/2018

- Organization of the module “Cognitive Neuroscience” together with Prof. Dr. Nikolai Axmacher for master’s students in Neuroscience at the University of Bonn, Bonn, Germany. 4/2014