

Dr. Hans Kirschner

CURRICULUM VITAE



General Information

Personal Info: born May 1985
 married, 1 child

Work Address: Otto-von-Guericke University Magdeburg, Faculty of Natural
 Sciences, Institute of Psychology, Department of Neuropsychology
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Research Interests

My research explores how the brain combines information over multiple timescales to facilitate adaptive, goal-directed behavior. I investigate this problem in health and disease using a combination of experimental and computational tools.

Professional Appointments

Since 04.2017 Postdoctoral Research Fellow at the Otto von Guericke
 University, Neuropsychology Department, Magdeburg,
 Germany, Prof. Dr. Markus Ullsperger

06.2016 – 05.2017 Psychologist at the Mobile Counseling for Victims of Right-
 Wing Violence, Saxony-Anhalt

Education

2011 - 2016 PhD student at the University of Exeter, School of
 Psychology, UK; Topic: „Compassion for the self and well-
 being: psychological and biological correlates of a new
 concept“; Supervisors: Prof. Anke Karl and Prof. Willem
 Kuyken

2004 - 2011 Degree in Psychology at the Technical University of
 Dresden, Germany

2004 Abitur with distinction

Awards and Honors

2025	Kirschner et al., 2023, <i>Brain</i> , selected as “Paper of the Year 2023” at the Center of Behavioral Brain Sciences (CBBS) Magdeburg, € 500
2023–2027	Associated Post-Doc with Project E3 “Learning from mistakes: Cholinergic modulation of interactions between performance monitoring and long-term memory”, Research Training Group (RTG 2413), “The aging synapse (SynAGE)”, supported by Deutsche Forschungsgemeinschaft (DFG), PI Ullsperger, ~€ 333.680
2023	Research training award from RTG2413 SynAGE to support extended training in computational methods in Prof. Matt Nassar’s lab, Brown University. € 5,000
2019–2021	Travel grant of the German Academic Exchange Service (DAAD) for Hans Kirschner, project “Neuronal markers and mechanisms of trust in autonomous systems”, for collaboration with University of South Australia, School of Psychology, Social Work & Social Policy, Prof. Dr. Ina Bornkessel-Schlesewsky; PPP Australia 57445829, € 8,978
2019	IBRO-PERC Workshops, Conferences and Meetings Support for the 7th International Symposium on Motivational and Cognitive Control, MCC 2019; Ullsperger & Kirschner, € 4,000
2018–2022	Associated Post-Doc with Project E3 “Learning from mistakes: Cholinergic modulation of interactions between performance monitoring and long-term memory”, Research Training Group (RTG 2413), “The aging synapse (SynAGE)”, supported by Deutsche Forschungsgemeinschaft (DFG), PI Ullsperger, ~€ 320,000
2012	Grand awarded by the Compassionate Mind Foundation, UK; to support the research project: „Compassion for the self and well-being: psychological and biological correlates of a new concept“, £ 4,000
2012	Society for Psychophysiological Research (SPR) Student Travel Award for 52nd Annual Meeting in New Orleans, Louisiana, September 19 - 23, 2012, \$ 500
2011 – 2016	University of Exeter Graduate Fellowship match-funded to a Welcome Capital Bit Award to the Mood Disorders Centre, University of Exeter. (Salary and Research Funds, £ 20.000 p.a.)
2011 – 2013	University of Exeter Music Scholarship (Composition and Guitar)

Teaching and Supervision

2017 – 2022 Teaching in Bachelor and Master of Science in Psychology, Otto von Guericke University, Magdeburg; responsible for courses on neuropsychology, clinical psychology, and clinical neuroscience

2011 – 2016 Teaching at undergraduate and graduate level in Psychology, University of Exeter, U.K.; responsible for statistical helpdesk and courses on clinical psychology and clinical neuroscience

Covered topics: neuropsychology, clinical psychology, cognitive neurosciences, psychophysiology, methods and statistics; methodology and physiological bases of electroencephalography, event-related potentials, and functional magnetic resonance imaging.

Overall, evaluation of my courses yielded good to excellent feedback by the participants (mean 1.37 (SD .21)).

Supervision of undergraduate and graduate students:

Co-supervised Ph.D. students: 3 successfully finished; 2 ongoing

MSc.: 15 supervised, 1 co-supervised; BSc.: 5 supervised, 4 co-supervised

Organization of Conferences and workshops

2023 Invited two-day workshop on Advanced EEG Analysis (25 attendees); Cognition group, University of Exeter

2022 Workshop on Advanced EEG Analysis (20 attendees) Research Training Group (RTG 2413) The aging synapse (SynAGE)

2019 Co-organizer, 7th International Symposium on Motivational and Cognitive Control (MCC2019), Berlin, Germany (186 attendees) and satellite workshop on Advanced EEG Analysis

University Service Roles

2024 – Present Midlevel Representative deputy, Institute of Psychology, OvGU

2022 – Present Departmental Colloquium Committee, Institute of Psychology, OvGU

Ad Hoc Reviewer

Neuroimage, Scientific Reports, Biological Psychiatry, Neuroscience Biobehavioral Reviews, European Journal of Neuroscience, POLS ONE, Psychological Research, Psychophysiology, Cerebral Cortex, Psychological Medicine, Behavioural and Cognitive Psychotherapy, Nature Communication, Journal of Experimental Psychology: Human Perception and Performance

Publication List

Articles in scientific journals with peer review

1. Weuthen, A., **Kirschner**, H., & Ullsperger, M. (2025). Error-driven upregulation of memory representations. *Communications Psychology*, 3(1), 17. <https://doi.org/10.1038/s44271-025-00199-5>
2. **Kirschner**, H., Molla, H. M., Nassar, M. R., de Wit, H., & Ullsperger, M. (2024). Methamphetamine-induced adaptation of learning rate dynamics depend on baseline performance. *eLife*. <https://doi.org/10.7554/elife.101413.1>
3. **Kirschner**, H., Nassar, M. R., Fischer, A. G., Frodl, T., Meyer-Lotz, G., Froböse, S., Seidenbecher, S., Klein, T. A., & Ullsperger, M. (2024). Transdiagnostic inflexible learning dynamics explain deficits in depression and schizophrenia. *Brain*, 147(1), 201-214. <https://doi.org/10.1093/brain/awad362>
4. **Kirschner**, H., Fischer, A. G., Danielmeier, C., Klein, T. A., & Ullsperger, M. (2024). Cortical β Power Reflects a Neural Implementation of Decision Boundary Collapse in Speeded Decisions. *The Journal of Neuroscience*, 44(13), e1713232024. <https://doi.org/10.1523/JNEUROSCI.1713-23.2024>
5. Overmeyer, R., **Kirschner**, H., Fischer, A. G., & Endrass, T. (2023). Unraveling the influence of trial-based motivational changes on performance monitoring stages in a flanker task. *Scientific Reports*, 13(1), 19180. <https://doi.org/10.1038/s41598-023-45526-0>
6. **Kirschner**, H., Fischer, A. G., & Ullsperger, M. (2022). Feedback-related EEG dynamics separately reflect decision parameters, biases, and future choices. *Neuroimage*, 259, 119437. <https://doi.org/10.1016/j.neuroimage.2022.119437>
7. **Kirschner**, H., & Klein, T. A. (2022). Beyond a blunted ERN - Biobehavioral correlates of performance monitoring in schizophrenia. *Neurosci Biobehav Rev*, 133, 104504. <https://doi.org/10.1016/j.neubiorev.2021.12.027>
8. Kirsch*, F., **Kirschner***, H., Fischer, A. G., Klein, T. A., & Ullsperger, M. (2022). Disentangling performance-monitoring signals encoded in feedback-related EEG dynamics. *Neuroimage*, 257, 119322. <https://doi.org/10.1016/j.neuroimage.2022.119322> *shared first authorship
9. **Kirschner**, H., Kuyken, W., & Karl, A. (2022). A Biobehavioural Approach to Understand How Mindfulness-Based Cognitive Therapy Reduces Dispositional Negative Self-Bias in Recurrent Depression. *Mindfulness*, 13(4), 928-941. <https://doi.org/10.1007/s12671-022-01845-3>
10. **Kirschner**, H., Humann, J., Derrfuss, J., Danielmeier, C., & Ullsperger, M. (2021). Neural and behavioral traces of error awareness. *Cogn Affect Behav Neurosci*, 21(3), 573-591. <https://doi.org/10.3758/s13415-020-00838-w>
11. **Kirschner**, H., Kuyken, W., Wright, K., Roberts, H., Brejcha, C., & Karl, A. (2019). Soothing Your Heart and Feeling Connected: A New Experimental Paradigm to Study the Benefits of Self-Compassion. *Clin Psychol Sci*, 7(3), 545-565. <https://doi.org/10.1177/2167702618812438>

12. **Kirschner**, H., Hilbert, K., Hoyer, J., Lueken, U., & Beesdo-Baum, K. (2016). Psychophysiological reactivity during uncertainty and ambiguity processing in high and low worriers. *Journal of Behavior Therapy and Experimental Psychiatry*, 50, 97-105. <https://doi.org/10.1016/j.jbtep.2015.06.001>

Book Chapters

1. **Kirschner** H, Ullsperger M (2024) The medial frontal cortex, performance monitoring, cognitive control, and decision making. In: Grafman J (Ed.) *Encyclopedia of the Human Brain, 2nd Edition, Volume 3* (also available in: *Reference Module in Neuroscience and Biobehavioral Psychology*) <https://doi.org/10.1016/B978-0-12-820480-1.00048-6>

Non-peer-reviewed articles

1. **Kirschner**, H., Klein, T. & Ullsperger, M. (2024). Transdiagnostische und störungsspezifische Verstärkungslerndefizite in Depression und Schizophrenie. *Neuro aktuell*, Bd. 05 (2024), S. 7-13 [[Article Link](#)]

Preprints, Preregistrations, and Accepted Conference Contributions

1. **Kirschner**, H., Nassar, M. R., & Ullsperger, M. (2025). *Task-irrelevant variability in reward magnitude and feedback salience bias reinforcement learning*. Accepted extended conference paper at the multi-disciplinary conference on reinforcement learning and decision making (RLDM), June 11-14, 2025, at Trinity College Dublin, Ireland.
2. **Kirschner**, H., Nassar, M. R., & Ullsperger, M. (2025). *Task-irrelevant variability in reward magnitude and feedback salience bias reinforcement learning*. Talk within the accepted symposium: "Beyond Outcome Coding: The Relationship between Feedback Processing and Contextual Factors Before, During or After the Receipt of Feedback" (Chair Christine Albrecht & Christian Bellebaum) to be presented at the 50th Annual Conference on "Psychology and the Brain," held from June 18–21, 2025, at the Julius Maximilian University of Würzburg
3. **Kirschner**, H., Tegelbeckers, J., & Ullsperger, M. (2025). *Reduced error awareness after sleep deprivation modulates meta-control adjustments*. Talk within the accepted symposium: "Integrating Distinct Viewpoints On The Neural Origins Of Metacognition" (Chair Redmond O'Connell) to be presented at the International Conference on Cognitive Neuroscience (ICON) held from September 15-20, 2025 Porto, Portugal
4. Knappe, J., Ullsperger, M., & **Kirschner**, H. (2024). The Concealed Information Test -- Utilizing P300 data to determine the presence of crime-related information in a suspect's memory. DOI: 10.22541/au.172724781.16800690/v2
5. Janssen L, **Kirschner** H, Klymentiev R, Kramer LP, Ullsperger M (2022) Effects of working memory load on performance and reinforcement learning dynamics in a reversal learning task – An online behavioural study [preregistration] Available at OSF <https://doi.org/10.17605/OSF.IO/UJRT8>

Presentations at conferences and colloquia, organization of symposia

1. **Kirschner**, H., Molla, H., Nassar, M., de Wit, H., & Ullsperger, M. (2024). Learning- and surprise-signals in human EEG. 64th Annual Meeting der Society for Psychophysiological Research in Prague, Czech Republic [TALK]
2. **Kirschner**, H. (2023) Tracking Decision-Making Signals in Human EEG. [Invited lecture at the cognition group seminar, University of Exeter]
3. **Kirschner**, H. (2023) Tracking Decision-Making Signals in Human EEG. [Invited talk at Michael Frank's Lab, Brown University]
4. **Kirschner**, H. (2023) Tracking Decision-Making Signals in Human EEG. [Invited talk at Matt Nassar's Lab, Brown University]
5. **Kirschner**, H., Fischer, A. G., Danielmeier, C., Klein, T. A., & Ullsperger, M. (2023). Cortical β Power Reflects a Neural Implementation of Decision Boundary Collapse in Speeded Decisions. Motivational and Cognitive Control, Lyon, FR [Poster]
6. **Kirschner**, H. (2022) Organization of Symposium "Disentangling multiplexed contributions to error and reward processing alterations in psychiatry". 62ND Annual Meeting der Society for Psychophysiological Research in Vancouver, Canada
7. **Kirschner**, H., Fischer, A., Frodl, T., Klein, T., & Ullsperger, M. (2022). Shared and selective biases in reward processing in depression and schizophrenia. 62ND Annual Meeting Society for Psychophysiological Research in Vancouver, Canada [TALK]
8. **Kirschner**, H., Fischer, A. G., Frodl, T., Klein, T. A., & Ullsperger, M. (2022). Selective biases in reinforcement learning signals in depression and schizophrenia. Computational Properties of Prefrontal Cortex, Oxford, UK [Poster]
9. **Kirschner**, H. (2022) Tracking adaptation signals in the human EEG and in the pmFC. [Invited talk at Amitai Shenhav's Lab, Brown University]
10. **Kirschner**, H. (2022) Learning- and Surprise-Signals in Human EEG. [Invited talk at Amitai Shenhav's lab, Brown University]
11. Kirsch, F., **Kirschner**, H., Fischer, A. G., Klein, T. A., & Ullsperger, M. (2021). Who gets the biggest treasure? Factors modulating foraging decisions in humans. Annual Meeting der Society for Psychophysiological Research (Virtual meeting) [Poster]
12. **Kirschner**, H. (2019) Neural and behavioral traces of error awareness. [Invited lecture Centre for Cognitive and Systems Neuroscience, University of South Australia]
13. **Kirschner**, H. (2019) Neural and behavioral traces of error awareness. [Invited lecture at Cognition group seminar, University of Exeter]

14. **Kirschner**, H., Barnhofer, T., & Ullsperger, M. (2019). Disentangling the link between Mindfulness and Error Processing. Motivational and Cognitive Control, Berlin, Germany [Poster]
15. **Kirschner**, H., Kuyken, W., & Karl, A. (2017, December). Mindfulness-based Cognitive therapy normalises psychophysiological responses to a self-compassion exercise in recurrent depression. Annual Meeting der Society for Psychophysiological Research in Vienna, Austria [Poster]
16. **Kirschner**, H., Kuyken, W., & Karl, A. (2017) Mindfulness based cognitive therapy normalises psychophysiological responses to a self-compassion exercise in recurrent depression. 45th Annual Conference of the British Association for Behavioural and Cognitive Psychotherapies (BABCP), Manchester, UK [TALK]
17. Biehler, K. M., Storr, J., **Kirschner**, H., Karl, A., & Kuyken, W. (2015). The neural correlates of the self before and after loving-kindness meditation in those who have experienced psychological trauma. Annual Meeting der Society for Psychophysiological Research in Atlanta, USA [Poster]
18. **Kirschner**, H., Kuyken, W., & Karl, A. (2014) *Psychophysiology of self-compassion and the role of individual differences*. 42nd Annual Conference of the British Association for Behavioural and Cognitive Psychotherapies (BABCP), Birmingham, UK [TALK]
19. **Kirschner**, H., Kuyken, W., & Karl, A. (2014). Does self-compassion meditation enhance positive self-referential processing? Annual Meeting der Society for Psychophysiological Research in Florence, Italia [Poster]
20. **Kirschner**, H., Kuyken, W., & Karl, A. (2013) *Compassion for the Self: psychophysiological correlates of a new concept that facilitates resilience in mood disorders*. 43rd Congress of the European Association of Behavioural and Cognitive Therapies (EABCT), Marrakech, Morocco [TALK]
21. **Kirschner**, H., et al. (2012). Psychophysiological correlates of anticipatory anxiety and uncertainty in high and low worriers: an experimental study. Annual Meeting der Society for Psychophysiological Research in New Orleans, USA [Poster]
22. **Kirschner**, H., Berndt, C., Bucks, R., Hogan, A., & Karl, A. (2011). The relationship between performance monitoring, mood, and ageing. Annual Meeting der Society for Psych