

Curriculum Vitae

Deniz Kumral

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Academic Positions

February 2021 – Present: Postdoctoral Researcher, **Albert Ludwig University of Freiburg, Department of Psychology, Neuropsychology, Freiburg, Germany** (Prof. Dr. Monika Schönauer)
(April 2022 – December 2022: Maternal leave)

January 2015 – 2020: Doctoral Researcher, **Max Planck Institute for Human Cognitive and Brain Sciences, Department of Neurology, Leipzig, Germany** (Prof. Dr. Arno Villringer)

January 2015 – 2020: Doctoral (Guest) Researcher, **School of Mind and Brain, Humboldt-Universität zu Berlin, Berlin, Germany** (Dr. Michael Gaebler, Dr. Vadim Nikulin)

June 2012 – September 2012: Research Intern, **City University of London, Department of Psychology, London, U.K** (Prof. Dr. Beatriz Calvo Merino)

Education

June 2021: **Charité – Universitätsmedizin Berlin, Berlin, Germany**

- Dr.rer.medic: Variability in heart and brain activity across the adult lifespan

September 2012 – December 2014: **Freie Universität Berlin, Berlin, Germany**

- MSc in Social Cognitive Affective Neuroscience

September 2008 – June 2012: **Istanbul Bilgi University, Istanbul, Turkey**

- BA in Psychology, Faculty of Arts and Science
- BA in Management of Performing Arts (Double Major), Faculty of Communications

January 2011 – June 2011: **Universiteit Utrecht, Utrecht, The Netherlands**

- Social Neuroscience Minor Degree

September 2003 – June 2008: **Deutsche Schule Istanbul, Istanbul, Turkey**

- Abitur, Bundesministerium für Bildung und Forschung, Germany

Scholarships, Grants, and Awards

- Klaus Tschira Boost Fellowship, Germany (2023-2025, amount 77,112€)
- Christiane Nüsslein-Volhard Foundation Stipend, Germany (2023-2024, amount 6,000€)
- SIPS Travel Fund, Franklin Fetzer Fund (2020, amount 500 \$, cancelled due to COVID)
- Adile Mermerci Foundation Stipend, Turkey (2012-2013, amount ≈ 3,000 €)
- Valedictorian at Faculty of Communication, Istanbul Bilgi University, Turkey (2012)
- Salutatorian at Faculty of Arts and Science, Istanbul Bilgi University, Turkey (2012)
- Erasmus Scholarships, European Union (2010-2011, amount ≈ 3,500 €)
- Full Scholarship at Istanbul Bilgi University, Turkey (2008-2012 amount ≈ 45,000 €)

Supervision

- Laura Rieger (ongoing), The role of claustrum in sleep, bachelor thesis (BSc), University of Freiburg
- Büsra Akdogan (ongoing), Volumetric brain changes after object-location learning task, Research Project in Neuroscience (MSc), University of Freiburg
- Pranay Jain (ongoing), Decoding the sleep-wake transition using multimodal imaging in human brain, Research Project in Embedded Systems (MSc), University of Freiburg

- Viktoria Konzmann (ongoing), Locating the learning-related plasticity depending on categorical information, Bachelor Thesis in Cognitive Science, University of Osnabrück
- Effat Salehi Far (2023), Investigation of the Temporal Dynamics of Learning-related Plasticity, Research Project in Neuroscience (MSc), University of Freiburg
- Hannah Baer (2023), Decoding the emotionality of mental imagery and verbal thought in the brain (PhD), University of Freiburg
- Tobias Kraus (2022) Acquisition and evaluation of human functional MRI-data subject to memory formation and consolidation, Master Thesis in Neuroscience (MSc), University of Freiburg
- Bettina Wald (2022): Does it ring a bell? – The influence of semantic relatedness on learning performance, Master Thesis in Psychology (MSc), University of Freiburg
- Eduard Stroukov (2021), Memory beyond the cortex, Master Thesis in Psychology (MSc), University of Freiburg
- Miriam Kustermann (2021), Examining Memory Processing of Declarative Memories during Slow Wave Sleep, Master Thesis in Psychology (MSc), University of Freiburg
- Alina Matzerath (2021), Spindle-dependent memory consolidation in healthy adults: A meta-analysis, Research Project in Bachelor in Psychology (BSc), University of Freiburg

Teaching and Workshops

- Seminar "Data acquisition, analysis and modeling course" for master students in Psychology at Albert Ludwig University of Freiburg (Teaching EEG & ECG, SS 2023)
- Part of course "Project Seminar" for master students in Psychology at Albert Ludwig University of Freiburg (Teaching Matlab, WS 2022)
- Part of course "Project Seminar" for master students in Psychology at Albert Ludwig University of Freiburg (Teaching R, WS 2021)

Skills

Technical Skills: Matlab, R, Python, MS Office, Bash (Shell), HTML, CSS, SQL, Git

Research-related: AFNI, FSL, SPM, fMRIPrep, FreeSurfer, Fieldtrip, EEGLAB, Brainstorm, Brain Vision Analyzer, Kubios

Soft skills: Academic writing, effective proposal writing, research funding, project management, social media, scientific communication

Career & Leadership Development Program for Klaus Tschira Boost Fund Fellows 2023-2025

Reviewer for

European Heart Journal, Communications Biology, NeuroImage, NeuroImage: Clinical, JACC: Heart Failure, Scientific Reports, Journal of Neuroscience Methods, Cerebral Cortex, Neurobiology of Aging, Psychophysiology, International Journal of Psychophysiology

Selected Talks

Kumral (2023), Daytime experience shape neural activity and dream content in the sleeping brain, 2nd Joint German-Turkish Symposium on Human Neuroscience, Ankara, Turkey

Kumral (2022), Real-world experiences shape neural activity and dream content in the sleeping brain, the 26th Conference of the European Sleep Research Society (European Sleep Research Society), Athens, Greece

Publications

Original Publications (chronological):

1. **Kumral D**, Matzerath A, Leonhart R, Schoenauer M. Spindle-dependent memory consolidation in healthy adults: A meta-analysis, 2023;189:108661, *Neuropsychologia*, doi:10.1016/j.neuropsychologia.2023.108661 IF: **3.1**
2. Schaare L, Blöchl M, **Kumral D**, Uhlig M, Lemcke L, Valk S, Villringer A. Mental health, blood pressure and the development of hypertension, 2023, *Nature Communications*,14: 1953, doi: 10.1038/s41467-023-37579-6 IF: **17.7**
3. Blöchl M, Schaare L, **Kumral D**, Gaebler M, Nestler S, Villringer A. Vascular risk factors, white matter microstructure, and depressive symptoms: A mediation analyses using the UK Biobank, 2023, *Psychological Medicine*, doi: 10.1017/S0033291723000697 IF: **7.7**
4. Cesnaite E, Steinfath TP, Idaji MJ, Stephani T, **Kumral D**, Haufe S, Sander C, Hensch T, Hegerl U, Riedel-Heller S, Roehr S, Schroeter M, Witte V, Villringer A, Nikulin V. Alterations in rhythmic and non-rhythmic resting-state EEG activity and their link to cognition in older age, 2023; 268:119810, *NeuroImage*, doi: 10.1016/j.neuroimage.2022.119810 IF: **7.4**
5. Uhlig M, Reinelt JD, Lauckner ME, **Kumral D**, Schaare HL, Mildner T, Babayan A, Engert V, Villringer A, Gaebler M. Rapid volumetric brain changes after acute psychosocial stress, 2023; 265:119760, doi: 10.1016/j.neuroimage.2022.119760 IF: **7.4**
6. **Kumral D**, Al E, Cesnaite E, Kornej J, Sander C, Hensch T, Zeynalova S, Tautenhahn S, Hagendorf A, Laufs U, Wachter R, Nikulin V, Villringer A. The Neural Representation of the Heart is Strongly Attenuated in Patients with Atrial Fibrillation, 2022, *JACC: Clinical Electrophysiology*; 8 (10), 1219-1230, doi: 10.1016/j.jacep.2022.06.019 IF: **6.1**
7. Christoph E, Kerstin W Samira Z, Ronny B, ... **Kumral D**,... LIFE-Adult-Study working group, Cohort Profile: The LIFE-Adult-Study, *International Journal of Epidemiology*, 2022, 1–14, doi: 10.1093/ije/dyab114 IF: **9.7**
8. **Kumral D***, Cesnaite E*, Beyer F, Hofmann SM, Hensch T, Sander C, Hegerl U, Haufe S, Villringer A, Witte AV, Nikulin V. Relationship between Regional White Matter Hyperintensities and Alpha Oscillations in Older Adults, *Neurobiology of Aging*, 2022, 112, 1-11, doi: 10.1016/j.neurobiolaging.2021.10.006 IF: **5.1**
9. Roebbig J, Erbey M, Babayan A, Reiter A, **Kumral D**, Schaare HL, Reinelt J, Gaebler M, Kunzmann U, Villringer A. Anger Regulation Choice- the Role of Age and Habitual Reappraisal, *Emotion*, 2021, doi: 10.1037/emo0000915. IF: **5.5**
10. Stegmann T, Chu M, Witte V, Villringer A, **Kumral D**, Riedel-Heller SG. Laufs U, Löffler M, Wachter R, Zeynalova S. Heart failure is independently associated with white matter lesions on magnetic resonance imaging: insights from the LIFE-Adult Study, *ESC Heart Failure*, 2020, doi: 10.1002/ehf2.13166 IF: **3.6**
11. Erbey M, Roebbig J, Nierhaus T, Babayan A, **Kumral D**, Reinelt J, Reiter A, Schaare HL, Uhlig M, Gaebler M, Villringer A. Positivity in Younger and in Older Adults: Associations with Future Time Perspective and Socioemotional Functioning, *Frontiers in Psychology*, 2020; 11: 3146, doi:10.3389/fpsyg.2020.567133 IF: **4.2**
12. Koenig J, Abler B, Agartz I, Åkerstedt T, Andreassen OA, ..., **Kumral D**, ..., Yoo HJ, Quintana DS. Cortical Thickness and Resting State Cardiac Function Across the Lifespan: A Cross-Sectional Pooled Mega Analysis. *Psychophysiology*, 2020, 1–16, doi:10.1111/psyp.13688 IF: **4.3**

13. **Kumral D**, Şansal F, Cesnaite E, Mahjoory K, Al E, Gaebler M, Nikulin VV, Villringer A. BOLD and EEG signal variability at rest differently relate to aging in the human brain. *Neuroimage*. 2020;207:116373, doi:10.1016/j.neuroimage.2019.116373 IF: **7.4**
14. **Kumral D**, Schaare HL, Beyer F, Reinelt J, Uhlig M, Liem F, Lampe L, Babayan A, Reiter A, Erbey M, Roebbig J, Loeffler M, Schroeter ML, Husser D, Witte AV, Villringer A, Gaebler M. The age-dependent relationship between resting heart rate variability and functional brain connectivity. *Neuroimage*. 2019;185:521-533, doi:10.1016/j.neuroimage.2018.10.027 IF: **7.4**
15. Morys F, Janssen L, Cesnaite E, Garcia-Garcia I, Kube J, Schrimpf A, **Kumral D**, Mehl N, Mahjoory K, Margulies DS, Gaebler M, Villringer A, Neumann J, Nikulin VV, Horstmann A, Hemispheric bias in resting state EEG and fMRI is related to approach/avoidance behaviors, but not BMI. *Human Brain Mapping*. 2019; 1–17, doi:10.1002/hbm.24864 IF: **5.4**
16. Reinelt J, Uhlig M, Müller K, Mark E. L, **Kumral D**, Schaare HL, Baczowski BM, Babayan A, Miray E, Roebbig J, Reiter AMF, Bae Yoon J, Kratzsch J, Thiery J, Hendler T, Villringer A, Gaebler M. Acute psychosocial stress alters thalamic network centrality. *Neuroimage*. 2019; 199:680-690, doi:10.1016/j.neuroimage.2019.06.005 IF: **7.4**
17. Babayan A, Erbey M, **Kumral D**, Reinelt JD, Reiter AMF, Röbbig J, ... , Margulies DS, Gaebler M, Villringer A. Data descriptor: A mind-brain-body dataset of MRI, EEG, cognition, emotion, and peripheral physiology in young and old adults. *Scientific Data*. 2019;6:180308, doi:10.1038/sdata.2018.308 IF: **8.5**
18. Mendes N, Oligschläger S, Lauckner ME, Golchert J, Huntenburg JM, Falkiewicz M, Ellamil M, Krause S, Baczowski BM, Cozatl R, Osoianu A, **Kumral D**, Pool J, Golz L, Dreyer M, Haueis P, Jost R, Kramarenko Y, Engen H, Ohrnberger K, Gorgolewski KJ, Farrugia N, Babayan A, Reiter A, Schaare HL, Reinelt J, Röbbig J, Uhlig M, Erbey M, Gaebler M, Smallwood J, Villringer A, Margulies DS. Data descriptor: A functional connectome phenotyping dataset including cognitive state and personality measures. *Scientific Data*. 2019;6:180307, doi:10.1038/sdata.2018.307 IF: **8.5**
19. Schaare HL, Kharabian Masouleh S, Beyer F, **Kumral D**, Uhlig M, Reinelt JD, Reiter AMF, Lampe L, Babayan A, Erbey M, Roebbig J, Schroeter ML, Okon-Singer H, Müller K, Mendes N, Margulies DS, Witte AV, Gaebler M, Villringer A. Association of peripheral blood pressure with gray matter volume in 19- to 40-year-old adults. *Neurology*. 2019;92(8):758-773, doi:10.1212/WNL.0000000000006947 IF: **12.2**

* contributed equally

Sum IF: **138.6**

Contributions to science and research in numbers: I have authored and co-authored 19 peer-reviewed journal publications; 702 citations; h-index: 11, i10-index: 16 (source Google Scholar: 01/2024).

Preprints

1. Kumral D, Palmieri J, Gais S, Schönauer M. Daytime experiences shape neural activity and dream content in the sleeping brain, *under review*
(preprint: <https://www.biorxiv.org/content/10.1101/2023.07.29.551087v1>)