

Agnieszka Zuberer

Curriculum Vitae

Frohlich Laboratory
School of Medicine, Department of Psychiatry, University of North Carolina
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Academic Background

Current Position

Jan 2024 – **Assistant Professor.** Frohlich Laboratory, Department of Psychiatry, School of Medicine, present University of North Carolina, USA.

Previous Positions

May 2022 – **IZKF Junior Research Group Leader.** Attention and Affect Laboratory, Department of Jan 2024 Psychiatry and Psychotherapy, University Hospital, Eberhard Karls University Tübingen, Tübingen, Germany.

Oct 2020 – **Postdoctoral Research Fellow.** Department of Psychiatry and Psychotherapy, Friedrich- Mar 2022 Schiller University, Jena & Clinical Affective Laboratory, Department of Psychiatry and Psychotherapy, University Hospital, Eberhard Karls University Tübingen, Jena & Tübingen, Germany.

Oct 2018 – **Postdoctoral Research Fellow.** Boston Attention and Learning Laboratory, Boston Univer- Sept 2020 sity School of Medicine, Boston, USA.

Jan 2018 – **Postdoctoral Research Fellow.** Department of Psychiatry and Psychotherapy, University Sept 2018 Hospital Tübingen, Tübingen, Germany.

Apr 2017 – **Postdoctoral Research Fellow.** Department of Child and Adolescent Psychiatry, Psychiatric Dec 2017 University Hospital, University of Zürich, Zürich, Switzerland.

Nov 2013 – **Predoctoral Research Fellow.** Department of Child and Adolescent Psychiatry, Psychiatric May 2017 University Hospital, University of Zürich, Zürich, Switzerland.

Education

Nov 2013 – **Dr. lic. phil. (Ph.D.) Psychology,** Department of Child and Adolescent Psychiatry., Apr 2017 Psychiatric University Hospital, University of Zürich, Zürich, Switzerland. (defended April 2017, degree awarded Oct 2017)

Sept 2008 – **Lic. phil. Psychology (Major in Neuropsychology).** University of Zürich, Zürich, Mar 2013 Switzerland.

Oct 2004 – **Studies of Psychology.** Minor in Philosophy. Otto-Friedrich University, Bamberg., Germany. Jul 2008

Sept 2003 – **Instructional Design.** Albert-Ludwigs-Universität Freiburg, Germany. Jan 2004

■ Honors and Awards

- June 2018** Joe Kamyia **First-Person Science Award**, *Brain Master Technologies*, \$1000
- Apr. 2017** **Travel Grant**, *Multilevel modeling of neurofeedback EEG-learning in children and adolescents with ADHD*, 6th World Congress on ADHD, Vancouver, Canada, \$1000
- Oct. 2015** **Best research presentation**, *Burghölzli Psychiatry meeting*, Zürich, Switzerland, \$300.

■ Academic Supervision

Nanni-Zepeda, M. (Jan 2021 - Jul 2024) Doctoral thesis, University of Tübingen.

Giron, A. (May 2022 - Jan 2024) Doctoral thesis, University of Tübingen.

Krimmelbein, S. (2017). Event-related EEG desynchronization during EEG-Neurofeedback training. Master's thesis, University of Zürich.

Ngo, T. (2017). Relating microstates in EEG-Neurofeedback training to the performance in a classification task of spontaneous arousal. Master's thesis, University of Zürich.

Riz a Porta, R. (2016). Electrophysiological indicators of learning and effort during slow cortical potential neurofeedback training in healthy adults: Analysis of inter- and intra-sessional courses and its relationship with performance and effort in a continuous performance test. Master's thesis, University of Zürich.

Meier, P. (2016). Analysis of the specific efficacy of neurofeedback training in ADHD children and adolescents. Master's thesis, University of Zürich

Hromkovic, P. (2016). Computer based cognitive training for children and adolescents suffering from ADHD. Master's thesis, University of Zürich.

Nadig, M. (2016). Optimierung des Neurofeedback-Trainings und des kognitiven Trainings: Förderung des Transfers für Kinder mit ADHS. Master's thesis, University of Zürich.

■ Teaching

- Feb 2024** Cognitive Psychology of Attention Functioning. Seminar lecturer substitute. Bachelor's level. Department of Psychiatry, University of North Carolina, Chapel Hill, USA.
- Oct 2022 – Jan 2024** Psychiatry Research Colloquium. Department of Psychiatry and Psychotherapy, University Hospital Tübingen, Tübingen, Germany.
- Dec 2020** Attention Deficit Hyperactivity Disorder: A Clinical Introduction. Seminar series lecturer. Graduate level. Department of Medicine, Friedrich-Schiller University Jena, Jena, Germany.
- May 2019** Modeling Inter- and Intra-Individual Variability in Longitudinal Designs. Seminar series lecturer. Graduate and postgraduate level. VA Boston Healthcare System, Jamaica Plain Campus, Boston, USA.
- Nov 2018** Introduction to Linear and Generalized Mixed-Effects Modeling. Seminar series lecturer. Graduate and postgraduate level. VA Boston Healthcare System, Jamaica Plain Campus, Boston, USA.
- Jan 2017** Neurofeedback as a Therapeutical Instrument. Theoretical introduction and practical workshop. Lecturer. Educational course for clinicians. Pluspunkt Zentrum für Prävention, Therapie und Weiterbildung, Jona, Switzerland.
- Jan 2016** Theory and Practical Implications of Neurofeedback as a Therapeutic Instrument. Seminar lecturer substitute. Bachelor's level. Department of Child and Adolescent Psychiatry, University Hospital, University of Zürich, Zürich, Switzerland.

- Sep 2015** Neuropsychology of ADHD. Seminar lecturer substitute. Bachelor's level. Institute of Psychology, University of Zürich, Zürich, Switzerland.
- Aug 2014** Neuropsychology of ADHD. Seminar lecturer substitute. Bachelor's level. Institute of Psychology, University of Zürich, Zürich, Switzerland.

Conference Presentations

- Apr. 2024** **Zuberer, A.**, Nanni-Zepeda, M., Frohlich, F., Liebe, T., Vavra, P., Kaufmann, J., Zaehle, T., Esterman, M., *Subjective and Pupillometric Markers of Arousal during Movie Viewing*, Poster presentation at the Annual Meeting - Cognitive Neuroscience Society, Toronto, Canada
- Apr. 2024** Nanni-Zepeda, M., Evans, T., Jagger-Rickels, A., Raz, G., Hendler, T., Frohlich, F., Fan, Y., Grimm, S., Walter, M., Esterman, M., **Zuberer, A.**, *Neural Signatures of Dynamic Emotional Engagement and Disengagement Generalize across Negative Narratives*, Poster presentation at the Annual Meeting - Cognitive Neuroscience Society, Toronto, Canada
- Jul. 2023** Nanni-Zepeda, M., van der Meer, J., Raz, G., Barrios-Alvarez, F., Grimm, S., Walter, M., Esterman, M., & **Zuberer, A.**, *Subjective and Pupillometric Markers of Arousal during Movie Viewing Reveal Common Patterns of Brain Activation*, Poster presentation at the Annual Meeting - Organization for Human Brain Mapping, Montreal, Canada
- Jun. 2023** **Zuberer, A.**, *Subjective and Pupillometric Markers of Movie Experiencing*, Paper talk at the International Organization of Psychophysiology, Geneva, Switzerland.
- Jun. 2023** Nanni-Zepeda, M., van der Meer, J., Raz, G., Barrios-Alvarez, F., Grimm, S., Walter, M., Esterman, M., & **Zuberer, A.**, *Subjective and pupillometric markers of arousal during movie viewing reveal common brain patterns*, Paper talk at the International Organization of Psychophysiology, Geneva, Switzerland.
- Mar. 2023** Giron, A. P., Wu, C. M., Esterman, M., & **Zuberer, A.**, *Sustained Attention Is Enhanced by Disrupted Inter-Regional Frontal Theta Phase Coupling*, Brain Stimulation: Basic, Translational, and Clinical Research in Neuromodulation, Lisbon, Portugal.
- Oct. 2023** **Zuberer, A.**, *Tracking Engagement and Disengagement During Movie Viewing with fMRI, Subjective Annotations and Pupillometry.*, Symposium talk at *Emotions*, Tilburg, Netherlands.
- Jun. 2022** Nanni-Zepeda, M., DeGutis, J., Rothlein, D., Wu, MC, Grimm, S., Walter, M., Esterman, M., & **Zuberer, A.**, *Engaging and Disengaging from Sad Emotions During Movie Watching: An Idiosyncratic fMRI Study*, Poster presentation at the Annual Meeting - Organization for Human Brain Mapping, Glasgow, Scotland.
- Apr. 2019** **Zuberer, A.**, Valera M.E., Kucyi, A., Rothlein, D., Esterman, M., *Signal Complexity of the Whole Brain Connectome Is Related to Fluctuations in Attention*, Poster presentation at the Annual Meeting - Poster presentation at the Cognitive Neuroscience Society, San Francisco, USA.
- Apr. 2017** **Zuberer, A.**, Drechsler, R., Minder, F., Brandeis, D., *Multilevel Modeling of Neurofeedback EEG-Learning in Children and Adolescents with ADHD*, Poster presentation at the 6th World Congress on ADHD, Vancouver, Canada.
- Oct. 2016** **Zuberer, A.**, Brandeis, D., Drechsler, R., *Knowing and Changing Mental States: What Can Be Learned from Performance on a Self-Appraisal Task*, Poster presentation at the EUNTEHYDIS International Conference on ADHD, Berlin, Germany.
- Mar. 2016** **Zuberer, A.**, Brandeis, D., Drechsler, R., *Self-Regulated Brain Activity During Neurofeedback Training in Children with ADHD*, Poster presentation at the Mind, Brain and Body Symposium, Berlin, Germany.
- Oct. 2015** **Zuberer, A.**, Brandeis, D., Drechsler, R., *Neurofeedback – Different Measures for Training Performance*, Poster presentation at the Burghölzli Psychiatry Meeting, Zürich, Switzerland.

- Oct. 2015 Zuberer, A.,** Brandeis, D., Drechsler, R., *Learning to Regulate Slow Cortical Potentials: A Study on the Diversity of Learning Patterns and Possible Mediator Variables in Neurofeedback Training in Children with ADHD*, Poster presentation at the EUNTEHYDIS International Conference on ADHD, Stockholm, Sweden.
- Mar. 2015 Zuberer, A.,** Brandeis, D., Drechsler, R., *Knowing and Changing Mental States: New Insights from a Self Appraisal Task of Spontaneous Arousal*, Poster presentation at the Neurizons 2015: Notes of an Orchestrated Brain. Max Planck Institute for Biophysical Chemistry, Göttingen, Germany.

Professional Service

Board of Directors The Foundation for Neurofeedback and Neuromodulation Research. (Mar 2017 - Jan 2020).

Ad-hoc Reviewer for Biological Psychiatry: Global Open Science, Biological Psychiatry CNNI, Imaging Neuroscience, Neuroimage, eNeuro, Cerebral Cortex, Scientific Reports, Biological Psychology, Neuropsychologia, Cognitive Therapy and Research, Journal of Abnormal Psychology, International Journal of General Medicine & Research in Developmental Disabilities.

Third-Party Funding

Apr 2024 Foundation of Hope Advance Seed Grant (FoH): Novel Paradigm for Modulating Emotion Regulation with Non-invasive Brain Stimulation in Generalized Anxiety Disorder, \$103,931, Competitive grant, function as sole PI.

Aug 2022 LEAD Intramural Research Funding: Meta-awareness of mind wandering. Eberhard-Karls University, Tübingen, Germany, €6,924., Competitive grant, function as sole PI.

Mar 2022 Interdisziplinäres Zentrum für Klinische Forschung (IZKF) Junior Research Group Grant, *Project Title: Real-time tracking of sustained attention: evidence from brain stimulation*, €250,000.
Highly competitive grant, function as sole PI.

Sept 2018 Swiss National Science Foundation (SNF) Postdoc Mobility Grant, *Project Title: Harnessing the wandering mind in ADHD - On the association between the awareness and control of one's own wakefulness*, \$80,000.
Competitive grant.

Total amount in role as sole PI: \$373,520.56

Publications

Preprints, Submitted, and In Preparation

Park, J., Ross, G., Siekierski, P., Radtke-Schuller, S., **Zuberer, A.**, Frohlich, F. Optogenetic Stimulation Reveals Frequency Tuned Communication between the Claustrum and Premotor Cortex in Ferrets. *Available at SSRN 4951841*. Contributions: Writing – review & editing.

Nanni-Zepeda, M., Evans, T. C., Jagger-Rickels, A., Raz, G., Hendler, T., Fan, Y., Grimm, S., Walter, M., Esterman, M., **Zuberer, A.**. Generalizable neural models of emotional engagement and disengagement. *bioRxiv*, 2024–02. Contributions: Conceptualization; Methodology; Writing – review & editing.

Camenzind, M., Saxena-Beem, S., Lee, Y. Z., Trujillo, A., Huamani, R., **Zuberer, A.**, Frohlich, F.*, & Sheikh, S. Z.* (under review). Exploring the feasibility and efficacy of alpha transcranial alternating current stimulation (tACS) in lupus-associated depression. *Contributions: Writing – review & editing.*

Nanni-Zepeda, M., Sakaki, M., Zaehle, T., Kaufmann, J., Vavra, P., Liebe, T., Martinez-Soto, J., Barrios-Alvarez, F., Raz, G., Hendler, T., Fan, Y., Grimm, S., van der Meer, J., Esterman, M., Frohlich, F., **Zuberer, A.** (in prep.). Reactivity and Recovery During Emotional Episodes Reflect Dissociable Neural Responses. Contributions: Conceptualization; Methodology; Writing – review & editing.

Camenzind, M., Nanni-Zepeda, M., Giron, A., McCauley, E., Dapper, K., Esterman, M., Frohlich, F., **Zuberer, A.** (in prep.). Neural oscillatory markers of objective and subjective arousal during movie viewing. Contributions: Conceptualization; Writing – review & editing.

Peer reviewed publications

Ross, G., Huang, W. A., Reiling, J., Zhang, M., Park, J., Radtke-Schuller, S., Hopfinger, J., **Zuberer, A.**, Frohlich, F. (in print). Switching state to engage and sustain attention: dynamic synchronization of the frontoparietal network. *Progress in Neurobiology* Contributions: Conceptualization; Writing – review & editing.

Zuberer, A. (2025). Neural Signature of Reappraisal: Tendency Versus Capacity. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging*, **10**(1), 5–6. Contributions: Writing – original draft, review & editing.

Evans, T. C., Carlson, J., **Zuberer, A.**, Fry, R., Agnoli, S., Britton, J. C., DeGutis, J., Esterman, M. (2024). A preliminary characterization of the psychometric properties and generalizability of a novel social approach-avoidance paradigm. *Motivation and Emotion*, 1–17, Springer. Contributions: Writing – review & editing.

Nanni-Zepeda, M., DeGutis, J., Wu, C., Rothlein, D., Fan, Y., Grimm, S., Walter, M., Esterman, M., **Zuberer, A.** (2024). Neural signatures of shared subjective affective engagement and disengagement during movie viewing. *Human Brain Mapping*, 45(4), e26622, Wiley Online Library. Contributions: Conceptualization; Methodology; Writing – original draft; Writing – review & editing.

Babb, J. A., **Zuberer, A.**, Heinrichs, Stephen, Rumbika, Kendra K, Alfiler, Lauren, Lakis, Gabrielle A, Leite-Morris, Kimberly A and Kaplan, Gary B (2023). Disturbances in fear extinction learning after mild traumatic brain injury in mice are accompanied by alterations in dendritic plasticity in the medial prefrontal cortex and basolateral nucleus of the amygdala. *Brain Research Bulletin*. Contributions: Methodology; Writing – review & editing.

Agnoli, S., **Zuberer, A.**, Nanni-Zepeda, M., McGlinchey, R. E., Milberg, W. P., Esterman, M., and DeGutis, J. (2023). Depressive Symptoms are Associated with More Negative Global Metacognitive Biases in Combat

Veterans, and Biases Covary with Symptom Changes over Time. *Depression and Anxiety. Contributions: Methodology; Writing – review & editing.*

Hillmann, B., **Zuberer, A.**, Schwarz, L., Erb, M., Scheffler, M., Nieratschker, V., & Ethofer, T. (2022). ADHD patients with DIRAS-2 risk allele need more thalamic activation during emotional face-voice recognition. *Psychiatry Research. Contributions: Writing – review & editing.*

Jagger-Rickels, A., Stumps, A., Rothlein, D., Park, H., Fortenbaugh, F., **Zuberer, A.**, Fonda, J., Fortier, C., DeGutis, J., Milberg, W. & Esterman, M. (2022). Impaired executive function exacerbates neural markers of PTSD. *Psychological Medicine. Contributions: Methodology; Writing – review & editing.*

Zuberer, A., Kucyi, A., Yamashita, A., Wu, C., Walter, M., Valera, E. & Esterman, M. (2021). Integration and segregation across large-scale intrinsic brain networks as a marker of sustained attention and task-unrelated thought. *Neuroimage. Contributions: Conceptualization; Formal analysis; Investigation; Methodology; Software; Validation; Writing – original draft; Writing – review & editing.*

Zuberer, A.*, Jamalabadi, H.*, Kumar, V., Li, M., Alizadeh, S., Moradi, A. , Esterman, M. & Walter, M. (2020). The missing role of gray matter in brain controllability. *Network Neuroscience. Contributions: Conceptualization; Formal analysis; Investigation; Methodology; Software; Validation; Writing – original draft; Writing – review & editing.*

Zuberer, A., Schwarz, L., Kreitfeldts, B., Wildgruber, D., Erb, M., Fallgatter, A., Scheffler, K. & Ethofer, T. (2020). Neural basis of impaired emotion recognition in adult attention deficit hyperactivity disorder. *Biological Psychiatry: Cognitive Neuroscience and Neuroimaging. Contributions: Conceptualization; Formal analysis; Investigation; Methodology; Software; Validation; Writing – original draft; Writing – review & editing.*

Minder, F., **Zuberer, A.**, Brandeis, D. & Drechsler, R. (2019). Specific Effects of Individualized Cognitive Training in Children with Attention-Deficit/Hyperactivity Disorder (ADHD): The Role of Pre-Training Cognitive Impairment and Individual Training Performance. *Developmental Neurorehabilitation. Contributions: Conceptualization, Methodology; Writing – review & editing.*

Zuberer, A., Minder, F., Brandeis, D. & Drechsler, R. (2018). Mixed-effects modeling of neurofeedback self-regulation performance: moderators for learning in children with ADHD. *Neural Plasticity. Contributions: Conceptualization; Formal analysis; Investigation; methodology; Software; Validation; Writing – original draft; Writing – review & editing.*

Minder, F., **Zuberer, A.**, Brandeis & D., Drechsler, R. (2018). Informant-related effects of Neurofeedback and cognitive training in children with ADHD including a waiting control phase: a randomized-controlled trial. *European child & adolescent psychiatry. Contributions: Conceptualization, methodology; Writing – review & editing.*

Minder, F., **Zuberer, A.**, Brandeis, D. & Drechsler, R. (2018). A review of the clinical utility of systematic behavioral observations in Attention Deficit Hyperactivity Disorder (ADHD) *Child Psychiatry & Human Development. Contributions: Conceptualization, methodology; Writing – review & editing.*

Zuberer, A., Minder, F., Brandeis, D. & Drechsler, R. (2015). Are treatment effects of neurofeedback training in children with ADHD related to the successful regulation of brain activity? A review on the learning of regulation of brain activity and a contribution to the discussion on specificity. *Frontiers of human neuroscience. Contributions: Conceptualization; Formal analysis; Investigation; Methodology; Software; Validation; Writing – original draft; Writing – review & editing.*

[* equal contribution]

Book chapters

Zuberer, A., Ilieva I. & Drechsler, R. (2018), Review of Test of planning ability in primary school children, in Schellig, D., Heinemann, D., Schächtele, B., Sturm, W. (ed.) *Handbook of Neuropsychological Tests*. Hogrefe.

Skills

- Languages English (C2), German (mother tongue), Polish (B2), French (B1), Italian (A1), & Mandarin (A1).
- Programming Proficient in MATLAB, R, Python, and L^AT_EX.
- Languages
- Tutoring Tutoring students in statistics. Teaching German as a foreign language for children, adolescents & adults with and without a migration background (Sep 2003 – Oct 2014.)