

Marie Mueckstein

11.10.1991, Berlin

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Education

- Since 2020 **PhD Candidate** Cognitive Science, Universität Potsdam, “Modality compatibility effects in dual-tasks – neurocognitive mechanisms in the human brain”, Prof. Christine Stelzel (IPU), Prof. Michael A. Rapp (Universität Potsdam)
- 2015 – 2020 **Master’s degree** “Human Factors” (1,5), Technische Universität Berlin, “Neuronal pattern of individual strategies in a task-switching paradigm” (1,3) Prof. Dr. Dietrich Manzey
- 2019 – 2020 Basic & Advanced Track Design Thinking, Hasso-Plattner-Institut Potsdam
- 2011 – 2015 **Bachelor’s degree** “Kognitionswissenschaft” (Cognitive Science) (2,0), Eberhard Karls Universität Tübingen, “Zielgruppen spezifische Analyse der User Experience von einem innovativen Fahrzeugdisplay (Prototyp)“ (1,7), Prof. Arnd Engeln, Prof. Bettina Rolke

Research Positions

- Since Sep 2023 **Research assistant** (50%), International Psychoanalytic University Berlin (IPU), Department “Biological Psychology“, project on EEG components of emotion processing and their relation to attachment style and personality, Prof. Dr. Birgit Stürmer
- 2020 – 2023 **Research assistant** (75%), International Psychoanalytic University Berlin & Universität Potsdam, SPP 1772 “Differential behavior and neural effects of physical and mental fatigue on modality-specific task interference in cognitive-postural dual task situations in young and old adults”, Prof. Christine Stelzel, Prof. Michael Rapp, Prof. Stephan Heinzel, Prof. Urs Granacher

- Feb –
May 2017 **Research exchange,**
SCCN University of California,
San Diego, USA
Topic: “Neuroadaptive systems and brain-computer interfaces”
- 2016 –
2019 **Student assistant,**
Technische Universität Berlin,
SPP 1772, “Task organization in Multitasking“
Prof. Dietrich Manzey
- 2013 –
2015 **Student assistant,**
Leibnitz-Institut für Wissensmedien,
AG “Social-motivational Processes“
Prof. Dr. Kai Sassenberg

Grants

- 2022 **PhD Completion scholarship,**
6 months á 1.100 €, Universität Potsdam
- 2021 **Young Researcher Excellence Grant,**
together with ECR from Universität Münster and MPI Berlin,
6.000 €, SPP 1772 (German Research Foundation)

Teaching

- SS24 Seminar “Introduction to Scientific work, communication, presentation”,
Bachelor students at IPU
- WS23/24 Seminar “Effort in decision making”, Bachelor students at IPU
- WS23/24 Supervision bachelor thesis, Lea Lowak, “Searching for the Secrets of
Human Multitasking”
- WS20/21 -
WS23/24 Coordination, supervision, and management of up to four student assistants
and interns

Contribution to Academic Life

- Since
2023 Deputy representative of the young scientists of the German Society for
Psychophysiology and its Application (DGPA);
Organization of retreats and workshops for young scientist
- 2021 Symposium organization at the conference “Psychology and the brain” (PuG)
together with Christine Stelzel, “Neural representations of task sets and their
implications for human multitasking”

Memberships OHBM, German Psychological Society, Division of Biological Psychology and Neuropsychology (bioDGPs), Open and Reproducible Research Interest Group (IGOR), Cognitive Science Society

Skills

Programming	R	● ● ● ● ●
	Matlab (SPM, eeglab)	● ● ● ● ○
	Javascript (jsPsych)	● ● ● ● ○
	Latex	● ● ● ● ●
	Python	● ● ● ○ ○
Visualization	Adobe Illustrator	● ● ● ○ ○
Language	English	● ● ● ● ○
	French	● ○ ○ ○ ○

Volunteering & Sports

Since 2012	Ultimate Frisbee: coach of student-beginner team at Universität Tübingen (2014-2015), coach of Berlin club team in mixed division (2018-2020), Coach of the 1 st league Women club team, Berlin (2023)
2023	Member of the German National Team Ultimate Frisbee (Women)

Publications

Mueckstein, M., Goergen, K., Heinzl, S., Granacher, U., Rapp, M. A., & Stelzel, C. (2024). Multitasking practice eliminates modality-based interference by separating task representations in sensory brain regions. *bioRxiv*, 2024-03. <https://doi.org/10.1101/2024.03.26.586741>

Hartmann, H., Gürsoy, Ç. N., Lischke, A., **Mueckstein, M.**, Sperl, M. F., Vogel, S., ... Koppold, A. (2024). ARIADNE – a scientific navigator to find your way through the resource labyrinth of psychological sciences. *Advances in Methods and Practices in Psychological Science (AMPPS)*. <https://doi.org/10.31219/osf.io/jfh3t>

Mueckstein, M., Heinzl, S., Granacher, U., Brahms, M., Rapp, A. M. & Stelzel, C. (2022). Modality-Specific Effects of Mental Fatigue in Multitasking. *Acta psychologica*. <https://doi.org/10.1016/j.actpsy.2022.103766>

Brahms, M., Heinzl, S., Rapp, M., **Mueckstein, M.**, Hortobágyi, T., Stelzel, C., & Granacher, U. (2022). The acute effects of mental fatigue on balance performance in healthy young and older adults—A systematic review and meta-analysis. *Acta psychologica*, 225, 103540. <https://doi.org/10.1016/j.actpsy.2022.103540>

Brüning, J., **Mueckstein, M.**, & Manzey, D. (2020). Multitasking strategies make the difference: Separating processing-code resources boosts multitasking efficiency when individuals prefer to

interleave tasks in free concurrent dual tasking. *Journal of Experimental Psychology: Human Perception and Performance*, 46(12), 1411. <https://psycnet.apa.org/doi/10.1037/xhp0000865>

Talks

Mueckstein, M., Goergen, K., Heinzl, S., Granacher, U., Rapp, A. M. & Stelzel, C. (2024). Dual-task practice eliminates task interference by shaping task representations in sensory brain regions. Talk as part of symposium “Changes for learning: how do changes in task-specific representations shape adaptive cognitive control?” organized by Schwarze, Sina & Fandakova, Yana. “*Tagung experimentell arbeitender Psychologen*” (TeaP). Regensburg

Mueckstein, M., Heinzl, S., Granacher, U., Brahms, M., Rapp, A. M. & Stelzel, C. (2022). Performance increase following fatigue intervention in modality-specific dual-task situations despite subjective fatigue. Talk as part of symposium “Multimodal multitasking: The influence of modality compatibility in the context of task-switching and dual-tasking” organized by Stephan, Denise & Friedgen, Eric. “*Tagung experimentell arbeitender Psychologen*” (TeaP). Digital

Mueckstein, M., Goergen, K., Heinzl, S., Bohle H., Walter, H., Granacher, U., Rapp, A. M. & Stelzel, C. (2021). Modality-specific overlap of single-task representations and their relation to dual-task performance. Talk as part of symposium “Neural representations of task sets and their implications for human multitasking” organized by Mueckstein, Marie & Stelzel, Christine. “*Psychologie und Gehirn*” (PuG). Digital

Mueckstein, M., Heinzl, S., Granacher U., Rapp, A.M. & Stelzel, C. (2021) Modality-specific effects of fatigue in multi-tasking. Talk. “*Tagung experimentell arbeitender Psychologen*” (TeaP). Digital

Mueckstein, M., Goergen, K., Heinzl, S., Bohle H., Walter, H., Brahms, M., Granacher, U., Rapp, A. M. & Stelzel, C. (2021). Modality-specific effects of fatigue in multitasking. Talk. Meeting SPP 1772. Digital

Mueckstein, M., Brüning, J., Manzey, D. & Gramann, K. (2020). Neurophysiological Patterns associated with Individual Preferences in Task Switching. Accepted Talk. “*Tagung experimentell arbeitender Psychologen*” (TeaP) (canceled due to COVID).

Posters

Mueckstein, M., Goergen, K., Heinzl, S., Granacher, U., Rapp, A. M. & Stelzel, C. (2024). Mitigating Modality-Based Interference: Multitasking practice and the distinctiveness of task representation in sensory brain regions. Poster. “*Cognitive Science Society*” (COGSCI). Rotterdam

Mueckstein, M., Hilger, K., Heinzl, S., Granacher U., Rapp, A.M. & Stelzel, C. (2024). Is similarity of functional brain connectivity across tasks related to modality-specific dual-task interference? Poster. “*Psychologie und Gehirn*” (PuG). Hamburg

Mueckstein, M., Brüning, J., Manzey, D. & Stelzel, C. (2023). Neurocognitive predictors of individual differences in task switching – the role of working memory, fluid intelligence and neural updating efficiency. Poster. „*Psychologie und Gehirn*“ (PuG). Tübingen

Mueckstein, M., Brüning, J., Manzey, D. & Gramann, K. (2022). Revealing Mechanisms Underlying Individual Differences in Multitasking: An EEG Study. Poster. „*Psychologie und Gehirn*“ (PuG). Freiburg

Mack, M., Mueckstein, M., Schwarze, S. A., Stojan, R. (2022). Work in progress: Modality compatibility effects in more naturalistic environments across the lifespan (MONALI). Poster. Meeting SPP 1772. Aachen

Mueckstein, M., Heinzl, S., Granacher U., Rapp, A.M. & Stelzel, C. (2021). Work in Progress: Modality Compatibility Affected by Training on a Neural and Behavioral Level. Poster. Meeting SPP 1772. Aachen

Mueckstein, M., Heinzl, S., Granacher U., Rapp, A.M. & Stelzel, C. (2021). Effects of Fatigue on Dual-Task Performance and Task Representational Overlap. Poster. Mental Effort Workshop. Digital

Mueckstein, M., Heinzl, S., Granacher U., Rapp, A.M. & Stelzel, C. (2020). Is a Fatigued Young Adult Comparable to an Old Adult in a Modality Compatibility Mapping Dual-Task Design? Results and Perspective from a Pilot Study. Poster. Summer School SPP 1772. Freiburg

Mueckstein, M., Stievers, J., Andreessen, L, Krol, L., de Sa, V., Zander, O. T. (2017). Work in progress: Investigating cognitive probing in a face space. Poster. Neuroadaptive Technology Conference. Berlin