Darinka Trübutschek

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DOB: 26 February 1987
Married, two children (born: August 2019 & December 2023)

CURRENT POSITION

Jan 2021 – ongoing **Research Fellow**
Max Planck Institute for Empirical Aesthetics, Frankfurt/Main, Germany
Advisor: Prof. Lucia Melloni
Project: Delineating the neural mechanisms of how the immediate past shapes current perception in the human brain
Techniques: psychophysics, eyetracking, computational modeling, **EEG/MEG, intracranial EEG**

CAREER GAPS

Oct 2023 – Dec 2024 **Maternity leave**

Jan 2021 – June 2021 **Reduced working time** due to severely restricted opening hours of childcare facilities

Mar 2020 – Aug 2020 **Full-time caring responsibility for my son** as a result of the Covid-19 related shutdown of childcare and research facilities

Jul 2019 – Dec 2019 **Maternity leave**

EDUCATION

Nov 2014 – Oct 2018 **PhD in Cognitive Neuroscience, with highest honors**
Sorbonne Université, Paris, France
Advisor: Prof. Stanislas Dehaene
Project: Characterizing the relationship between conscious perception and working memory in the human brain
Techniques: psychophysics, computational modeling, **MEG**

Sept 2012 – Dec 2013 **MSc in Behavioral and Cognitive Neuroscience, magna cum laude**
Université Pierre et Marie Curie, Paris, France
Advisor: Dr. Josselin Houenou
Project: Emotional reactivity: A study of the anatomy and resting-state functional connectivity of the fronto-limbic network in bipolar patients and healthy controls
Techniques: **MRI-based VBM, resting-state fMRI-based functional connectivity, DTI**

Sept 2007 – May 2010 **BSc with Honors in Psychology, summa cum laude (valedictorian)**
Washington & Lee University, Lexington, VA, USA

RESEARCH & PROFESSIONAL EXPERIENCE

Jan 2019 – Dec 2020 **Postdoctoral Research Fellow**
University of Oxford, Oxford, UK
Advisor: Prof. Mark Stokes
Project: Characterizing the neural correlates of flexible decision-making in working memory
Techniques: **intracranial EEG/ECoG**

Jan 2014 – Oct 2014 **Research Intern**
Neurospin, Saclay, France; Advisor: Dr. Sébastien Marti

Jun 2010 – Aug 2012 **Postbaccalaureate Fellow in Functional Neuroimaging**
Duke University, Durham, NC, USA
Advisor: Prof. Tobias Egner
Project: Characterizing the neural correlates of declarative and procedural working memory
Techniques: **fMRI**

GRANT FUNDING & FELLOWSHIPS

2022	BIAL Foundation Grant for the project "Event segmentation and time perception: understanding why time feels like flying" (56.000€; co-PI with Dr. Lucia Melloni)
2021	Christiane-Nüsslein-Volhard Fellowship for women in STEM (4.800€)
2021	**Marie Sklodowska-Curie Individual Fellowship** (174.806,40€)
2018	Postdoctoral fellowship from the **Fondation Fyssen** (70.000€)
2015	Grant from the Schneider Electric Foundation to finance two years of a PhD in cognitive neuroscience (72.236€; co-PI with Prof. Stanislas Dehaene)
2012	Graduate fellowship from the Ecole des Neurosciences de Paris to fund a PhD in neuroscience (150.000€)
2010	Postbaccalaureate Fellowship in Functional Neuroimaging from Duke University's Brain Imaging and Analysis Center ($60.000)

HONORS & AWARDS

2022	**L'Oréal-Unesco for Women in Science National Award** (10.000€)
2019	**Prix de la chancellerie des universités de Paris** (PhD award; 10.000€)
2016	Fellowship to attend the NIH Kavli Summer Institute in Cognitive Neuroscience
2010	Robinson Award in English Literature, History, and Social Sciences awarded by Washington & Lee University in recognition of my academic achievements
2007 – 2010	Washington & Lee University Honor Roll
2009	Elected to **Phi Beta Kappa**, a national honor society inducting undergraduates ranked among the top 10%
2009	R.E. Lee Summer Scholar ($3.100 summer research grant)
2009	Psychology Departmental Scholarship awarded by Washington & Lee University
2008	James D. Davidson Memorial Fund Scholarship awarded by Washington & Lee University
2008	Elected to Phi Eta Sigma, a national honor society inducting freshmen ranked among the top 20% of their class
2004	Congress/Bundestag Youth Exchange Scholarship to fund a 1-year high school exchange in Springfield, VA, USA

PEER-REVIEWED PUBLICATIONS

* denotes co-authorship, ___ denotes student co-author

Published/Pre-prints

How do subjective perception and memory shape one another?

#9. **Trübutschek, D.***, Kienitz, R.*, Winkler, M., Öztürk, S., & Melloni, L. (submitted). Sequence learning without consciousness.

#8. Stockart, F.*, Schreiber, M.*, …, **Trübutschek, D.**, … & Mudrik, L. (under review). Studying unconscious processing: towards a consensus on best practices.

#7. Zheng, Z., **Trübutschek, D.**, Huang, S., Cai, Y., & Melloni, L. (2024). What you saw a while ago determines what you see now: The effect and temporal dynamics of awareness priming on implicit behavior. *PsyArXiv*. doi: https://doi.org/10.31234/osf.io/9dysm

#6. **Trübutschek, D.** & Melloni, L. (2023). Stable perceptual phenotype of the magnitude of history biases even in the face of global task complexity. *Journal of Vision, 23*(4), 1-20. doi: https://doi.org/10.1167/jov.23.8.4

#5. **Trübutschek, D.** (2022). Context-independent item representations in human working memory. *Annals Fyssen No. 35*, 124-142.

#4. **Trübutschek, D.**, Marti, S., Ueberschär, H., & Dehaene, S. (2019). Probing the limits of activity-silent, non-conscious working memory. *PNAS, 116*(28), 14358-14367. doi: https://doi.org/10.1073/pnas.1820730116.

#3. **Trübutschek, D.**, Marti, S., & Dehaene, S. (2019). Temporal-order information can be maintained in non-conscious working memory. *Scientific Reports, 9*(6484). doi: https://doi.org/10.1038/s41598-019-42942-z

#2. **Trübutschek, D.**, Marti, S., Ojeda, A., King, J.-R., Mi, Y., Tsodyks, M., & Dehaene, S. (2017). A theory of working memory without consciousness or sustained activity. *eLife*. doi: https://dx.doi.org/10.7554/eLife.23871.001

#1. Naccache, L., Marti, S., Sitt, J. D., **Trübutschek, D.**, & Berkovitch, L. (2016). Why the P3b is still a plausible correlate of conscious access? A commentary on Silverstein et al., 2015. *Cortex, 85*. 126-128. doi: https://doi.org/10.1016/j.cortex.2016.04.003

Shaping the future of (neuro-)science

#5. Aczel, B.*, Szaszi, B.*, ... **Trübutschek, D.**, …, & Nosek, B. A. (submitted). Investigating the analytical robustness of the social and behavioral sciences.

#4. Sarafoglou, A., Hoogeveen, S., van den Bergh, D., Aczel, B., Albers, C. J., Althoff, T., Botvinik-Nezer, R., ..., **Trübutschek, D.**, ..., & Wagenmakers, E.-J. (accepted). Subjective Evidence Evaluation Survey for Many-Analyst Studies. *Royal Society Open Science*.

#3. **Trübutschek, D.***, Yang, Y.-F.*, Gianelli, C.*, Cesnaite, E., Fischer, N. L., Vinding, M. C., Marshall, T. R., Algermissen, J., Pascarella, A., Puoliväli, T., Busch, N., & Nilsonne, G. (2024). EEGManyPipelines: A large-scale, grassroots multi-analyst study of electroencephalography analysis practices in the wild. *Journal of Cognitive Neuroscience, 36*(2). doi: https://doi.org/10.1162/jocn_a_02087

#2. Ruzzoli, M., Torralba Cuello, M., Molingaro, N., Benwell, C. S. Y., Berkowitz, D., Brignani, D., Falciati, L., …, **Trübutschek, D.**, …, & Veniero, D. (2023). An #EEGManyLabs study to test the role of the alpha phase on visual perception (a replication and new evidence). *PsyArxiv*. doi: https://doi.org/10.31234/osf.io/3dhpx

#1. Pike, A. C., Atherton, K., Bauer, Y., Crittenden, B. M., van Ede, F., Hall-McMaster, S., von Lautz, A. H., ..., **Trübutschek, D.**, ..., & Noonan, M. P. (2022). 10 simple rules for a supportive lab environment. *Journal of Cognitive Neuroscience, 35*(1), 44-48. doi: https://doi.org/10.1162/jocn_a_01928

Pre-PhD

#2. Coyle, E. F., Fulcher, M., & **Trübutschek, D.** (2016). Sissies, mama's boys, and tomboys: Is children's gender nonconformity more acceptable when nonconforming traits are positive? *Archives of Sexual Behavior, 45*, 1827-1838. doi: https://doi.org/10.1007/s10508-016-0695-5

#1. **Trübutschek, D.**, & Egner, T. (2012). Negative emotion does not modulate rapid feature integration effects. *Frontiers in Psychology, 3*(100). doi: https://doi.org/10.3389/fpsyg.2012.00100

In preparation

Zheng, Z., **Trübutschek, D.**, Aru, J., & Melloni, L. (in prep). The intrinsic feature filtering function from consciousness to working memory.

Trübutschek, D., Fischer, C., Bledowski, C., & Melloni, L. (in prep). Attractive biases in working memory arise at the level of decisions, not perception.

Trübutschek, D., Vieten, I., Schwiedrzik, C., & Melloni, L. (in prep). Not so automatic? Active, but not latent working memory templates trump serial dependence.

Trübutschek, D., Wasmuht, D., Spaak, E., & Stokes, M. (in prep). Dynamic brain states for flexible decision-making in working memory.

INVITED TALKS

2023	Faculty of Psychology at the University of Leiden (online): *Deciphering the neural code and computational principles of subjective perception and memory in the human brain*
2023	Faculty of Psychology at the University of Graz (Graz, Austria): *Deciphering the neural code of subjective perception and memory in the human brain*
2023	Faculty of Medicine at Goethe University (Frankfurt/Main, Germany): *Decomposing our inner life: Using time-resolved electrophysiology to decipher the neural code of subjective perception and memory in the human brain*
2022	Women in Neuroscience Panel discussion on 'Family, maternity, and caring duties: finding work-life balance (online)
2022	Neural Dynamics Forum (University of Bristol, UK): *Flexible decision-making in working memory*

2021 65th Congress of the German Society for Clinical Neurophysiology and Functional Imaging (DGKN; Frankfurt/Main, Germany): *Decoding our thoughts: Tracking the contents of (non-)conscious working memory*

2020 **Aggregate Intellect's Spotlight Series** (online seminar): *Decoding our thoughts: Tracking the contents of (non-)conscious working memory*

2020 Barnes' lab (University College London, UK): *The neuro-cognitive architecture of complex working memory*

2019 **Royal Netherlands Academy of Arts & Sciences Colloquium on 'New Perspectives on Visual Working Memory'** (Amsterdam, Netherlands): *Characterizing the neuro-cognitive architecture of non-conscious working memory*

2018 Stokes' lab (University of Oxford, UK): *Characterizing the neuro-cognitive architecture of non-conscious working memory*

2018 **Basque Center on Cognition, Brain and Language external speaker seminar series** (San Sebastian, Spain): *Non-conscious working memory and its boundary conditions*

2016 Ecole des Neurosciences de Paris seminar series (Paris, France): *A theory of working memory without consciousness or sustained activity*

2015 Egner lab (Duke University, USA): *Disentangling the relationship between conscious perception and working memory*

2015 Neurophilosophy workshop of the Berlin School of Mind and Brain (Venice, Italy): *(Un)conscious working memory?*

CONFERENCE PRESENTATIONS

2024 **Symposium talk** at PuG (Psychologie und Gehirn) 24 (Hamburg, Germany): *Challenging current theories of conscious perception? – The case of activity-silent, non-conscious 'working' memory*

2023 **Talk** at the Association for the Scientific Study of Consciousness 26 (New York, USA): *Can we learn information non-consciously? – Exploring the relationship between non-conscious working memory and statistical sequence learning*

2017 **Poster** at ICON 13 (Amsterdam, Netherlands): *The limits of non-conscious working memory*

2017 **Talk** at the Association for the Scientific Study of Consciousness 21 (Beijing, China): *The limits of non-conscious working memory*

2016 **Talk** at the Neuroscience Workshop Saclay (Gif/Yvette, France): *Disentangling the relationship between conscious perception and working memory*

2016 **Poster** at the Neuroscience Workshop Saclay (Gif/Yvette, France): *Disentangling the relationship between conscious perception and working memory*

2015	**Poster** at SFN (Chicago, USA): *(Un)conscious working memory? – Disentangling the relationship between conscious perception and working memory*
2015	**Symposium talk** at the Association for the Scientific Study of Consciousness 19 (Paris, France): *Perception and working memory during conscious and unconscious processing*
2011	**Poster** at SRCD (Montréal, Canada): *Male gender non-conformity and derogatory labels: Young adults' attitudes about and labels for preschoolers*
2009	**Poster** at Science, Society, and the Arts Conference (Lexington, USA): *Effects of parental closeness on emerging adults' engagement in risk-taking behaviors and adult status*

SUPERVISION & MENTORING

since Sept 2021	co-supervised 3 PhD students (Qiyuan Zeng, Maximilian Winkler, Zefan Zheng) supervised 1 Master student (Ilona Vieten), 3 research assistants (Chiara Grasso, Sophie Danielle Oprée, Cécile Pernossi), & 2 undergraduate Erasmus interns (Tuba Ozcan, Sümeyye Öztürk)
2018 – 2019	Participated in the mentoring program ***Letters to a Pre-scientist***, pairing up a researcher and high school student from a disadvantaged background to be pen pals for the duration of the academic year
2018	Plenary lecture as part of the Brain Awareness Week (together with Sébastien Marti; Saclay, France): *How does the brain construct our conscious experience?*
2017 – ongoing	Participated in the mentoring program ***Skype a Scientist***, allowing school children from all over the world to interact with a researcher through skype
2010 – 2012	Co-supervisor of Alex Irwin & Hannah Gold (undergraduate research interns)
2009 – 2010	Resident advisor for first-year students at Washington & Lee University
Fall 2009	**Teaching Assistant for a Laboratory Statistics Course**, Washington & Lee University
2008 – 2010	Peer tutor in German & Psychology at Washington & Lee University
2005 – 2012	Volunteer for the American Field Service (AFS; exchange organization): co-organized exchange student recruitment & selection; mentored participating host families and students

SERVICE TO THE COMMUNITY

since 2021	**Social media manager** for the Melloni lab
since 2020	**Founding member of the steering committee of the EEGManyPipelines project**

since 2017	Ad-hoc **reviewer** for *Behavioral Brain Research, Cerebral Cortex, Consciousness & Cognition, Imaging Neuroscience, Neuroscience of Consciousness, Scientific Reports, Quarterly Journal of Experimental Psychology*
2016 – 2017	**Co-organizer** of the Neuroscience Workshop Saclay (NEWS 2017): *Neural circuits and behavior: from cells to connectivity and function*; 9 international plenary speakers, 8 local trainee speakers, 153 attendees
2015 – 2016	**Elected representative** for the Ecole des Neurosciences de Paris student body; managed the annual budget (~2.500€), organized a seminar series on "New Frontiers in Neuroscience", coordinated cultural & social events
2014 – 2018	**Co-organizer** of the weekly *Consciousness Seminar* in the Dehaene lab

OUTREACH

2023	**Deutschlandfunk podcast** "How does consciousness emerge? A bet between philosophy and experiment"; co-advised producers on scientific content & provided interview material
2018 – 2019	**Letters to a Pre-scientist**; cf. #Supervision, Mentoring, & Teaching
2018	**Brain Awareness Week** (Paris, France); cf. #Supervision, Mentoring, & Teaching
since 2017	**Skype a Scientist**; cf. #Supervision, Mentoring, & Teaching
2017	NHK (Japanese Broadcasting Corporation) **documentary series on the human body**; co-advised producers on scientific content
2016	**ARTE documentary** "Déchiffrer la conscience"; co-advised producers on scientific content & participated in scenes on MEG data acquisition
2013	**Brain Awareness Week** (Paris, France); co-organized a seminar on "A headful of music"
2011	**Brain Awareness Week** (Durham, NC, USA); organized & hosted lab visits for the general public, gave introductory lectures on the brain in several local elementary & high schools

TECHNICAL SKILLS

Methods	MEG, intracranial EEG, EEG, (f)MRI/DTI, eyetracking, psychophysics
Programming	Matlab, Python, R
Stimulus presentation	PsychoPy, Psychtoolbox, Presentation, E-prime
Data analysis	MNE Python, Fieldtrip, Brainstorm, scikit-learn, SPM, FSL, SPSS
Version control	git, gitHub
Operating systems	MacOS, Linux, Windows

LANGUAGES

German	Native language
English	Native level
French	Fluent
Italian	Beginner

MAJOR ONGOING COLLABORATIONS

Dr. Lucia Melloni (**Max Planck Institute for Empirical Aesthetics, Germany**): exploring how the past shapes current perception

Cora Fischer & Dr. Christoph Bledowski (**Goethe University, Germany**): serial biases in conscious perception

Dr. Ricardo Kienitz (**Goethe University, Germany**): the role of the hippocampus for non-conscious working memory

Xin You Tai (**University of Oxford, UK**): the effect of inter-ictal discharges on cognitive performance

EEGManyPipelines project (**world-wide collaboration**): multi-analyst project to assess variability in (preprocessing) analysis parameters & their effect on obtained results