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PUBLICATIONS: [ORCID: 0000-0002-6571-4413](https://orcid.org/0000-0002-6571-4413); [pubmed.ncbi.nlm.nih.gov/?term=martin+tik](https://pubmed.ncbi.nlm.nih.gov/?term=martin+tik)

**EDUCATION:**

Nov 2014 – Dec 2019 Medical Physics (PhD), Medical University of Vienna  
Thesis title: “Imaging Transcranial Magnetic Stimulation”  
Oct 2008 – Oct 2014 University of Vienna, Mag. rer.nat (MSc-equivalent)  
Major: Psychology (Diploma)  
Thesis title: “To Win Or Not To Lose: Neuronal Correlates of Altered Reward Processing Induced by rTMS of the left DLPFC in Smokers”  
Mar 2005 – Jun 2005 Technical University Vienna - Software and Information Engineering

**EMPLOYMENT:**

Oct 2021 – present (tenured) Principal Investigator, CMPBME, Medical University of Vienna  
Oct 2021 - Dec 2022 Postdoctoral Research Fellow, Psychiatry, Stanford University Faculty  
Sponsor: Prof. Dr. Nolan Williams  
Jan 2020 – Oct 2021 Postdoctoral Faculty Staff, CMPBME, Medical University of Vienna  
Center for Medical Physics and Biomedical Engineering  
Projects include e.g. “Calibrated Brain Stimulation by Concurrent TMS/fMRI Stimulation” (FWF, Austrian Science Fund, P 33180)  
Nov 2014 – Dec 2019 Graduate Research Associate, Medical University of Vienna  
PhD student, funded by “Creativity enhancement through advanced brain mapping and stimulation” (CREAM; FP7, ICT-2013.8.1, 612022)

**SELECTED TEACHING:**

WS2020, SS2022, 2024 “Functional Magnetic Resonance Imaging” - N94 PhD, Medical Physics, MUW  
WS2016, 2017, 2020, 2021 “Causal inference in cognitive neuroscience (neuroimaging&stimulation)”  
Master MEi:Cognitive Science University of Vienna

**MENTORING/SUPERVISION:**

PD current Maria Vasileiadi, Medical Physics, Medical University of Vienna (now UoT)  
Role: PhD Supervisor (graduated 2024), current postdoc mentor  
PhD current Sarah Grosshagauer, Medical Physics, Medical University of Vienna  
Role: Supervisor  
DI 2019 Roland Fischer, Technical Physics, Technical University of Vienna

- MSc 2023 Klára Finta, Cognitive Science, University of Budapest (now Charité Berlin)  
Role: Supervisor “Virtual Lesion Approach to Explain Linguistic Impairment”
- MSc 2018 Matic Princic, Cognitive Science, University of Ljubljana  
Role: Co-supervisor “Emotion processing circuits as TMS targets”

Mentoring training includes postdoctoral career development courses at the Medical University of Vienna (Leadership Curriculum) and Stanford University (General Safety, Injury Prevention (IIPP), Emergency Preparedness, Harassment Prevention Training for Supervisors, Supervision).

#### RESEARCH PROJECTS:

- 2024 Intra- and inter-individual moderators of prefrontal excitability investigated using simultaneous TMS with neuroimaging  
Source of Funding: Mental Health Research Center, Hong Kong Polytechnic University; Role: Co-I; Amount: 114k€
- 2023 Interleaved TMS-fMRI to evaluate intermittent theta-burst and dorsolateral prefrontal circuit engagement in ultra-treatment resistant depression  
Source of Funding: Harquail Centre for Neuromodulation, Sunnybrook Health Science Centre; Role: Co-I; Amount: 100k€
- 2021 Improving presurgical language mapping through concurrent TMS/fMRI Source of Funding: ÖAW (Austrian Academy of Sciences) to Maria Vasileiadi  
Role: Co-Author, Supervisor; Amount: 114k€
- 2019 Research Innovation and Sustainable Pan-European Network in Peripartum Depression Disorder; Source of Funding: EU, COST Action 18138; Role: Management
- 2019 Calibrated brain stimulation via concurrent TMS/fMRI (P 6314)  
Source of Funding: FWF (Austrian Science Fund), Stand-Alone Project  
Project Role: Co-Author; Amount: 370k€

#### RESEARCH INTERESTS:

Non-invasive brain stimulation, interleaved TMS-fMRI, personalized brain stimulation, depression

#### 10 MOST IMPORTANT PUBLICATIONS:

- Groschagauer S, Woletz M, Vasileiadi M, Linhardt D, Nohava L, Schuler A, Windischberger C, Williams N & **Tik M** “Chronometric TMS-fMRI of personalized left dorsolateral prefrontal target reveals state-dependency of subgenual anterior cingulate cortex effects”. *Molecular Psychiatry*. 2024.
- Vasileiadi M, Schuler AL, Woletz M, Linhardt D, Windischberger C & **Tik M** “Functional connectivity explains how neuronavigated TMS of posterior temporal subregions differentially affect language processing”. *Brain Stimulation*. 2023.

3. **Tik M**, Woletz M, Vasileiadi M, Linhardt D, Schuler A, Windischberger C. "Concurrent TMS/fMRI reveals individual DLPFC dose-response pattern". *Neuroimage*. 2023 Oct 5.
4. **Tik M**, Woletz M, Schuler A, Vasileiadi M, Cash RFH, Zalesky A, Lamm C, Windischberger C. "Acute TMS/fMRI response explains specific depression network target engagement". *Neuroimage*. 2023.
5. Chang K & **Tik M\***, Mizutani-Tiebel Y, Schuler AL, Taylor P, Campana M, Vogelmann U, Huber B, Dechantsreiter E, Thielscher A, Bulubas L, Padberg F, Keeser D. Neural response during prefrontal theta burst stimulation: Interleaved TMS-fMRI of full iTBS protocols. *Neuroimage*. 2024 Mar 29;291:120596
6. Geissberger N & **Tik\*** M, Sladky R, Woletz M, Schuler AL, Willinger D, Windischberger C. "Reproducibility of amygdala activation in facial emotion processing at 7T". *Neuroimage*. 2020 May
7. **Tik M**, Sladky R, Luft CDB, Willinger D, Hoffmann A, Banissy MJ, Bhattacharya J, Windischberger C. "Ultra-high-field fMRI insights on insight: Neural correlates of the Aha!- moment". *Human Brain Mapping* 2018 Apr 17.
8. **Tik M**, Hoffmann A, Sladky R, Tomova L, Hummer A, Navarro de Lara L, Bukowski H, Pripfl J, Biswal B, Lamm C, Windischberger C. "Towards understanding rTMS mechanism of action: Stimulation of the DLPFC Causes Network-specific Increase in Functional Connectivity." *Neuroimage* ,162, 289-296. 2017 Nov 15.
9. Navarro de Lara L, **Tik M**, Woletz M, Frass-Kriegel R, Moser E, Laistler E, Windischberger C. "High-sensitivity TMS/fMRI of the Human Motor Cortex Using a Dedicated Multichannel MR Coil." *NeuroImage*. 2017 Apr 15
10. Chen, L., Klooster, D. C. W., **Tik**, M., Thomas, E. H. X., Downar, J., Fitzgerald, P. B., Williams, N. R., & Baeken, C. (2023). Accelerated Repetitive Transcranial Magnetic Stimulation to Treat Major Depression: The Past, Present, and Future. *Harvard review of psychiatry*, 31(3), 142–161.

#### **SELECTED ADDITIONAL ACHIEVEMENTS:**

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| 2022 | Visiting scholarships AI "ML based optimization for personalized brain stimulation" Bavaria California Technology Center                |
| 2022 | Travel Award "Interslice TMS/fMRI enables EPI during continuous clinical rTMS and iTBS protocols" Stanford Bio-X                        |
| 2021 | Merit Abstract Award, Awarded by OHBM "Network Target Engagement in the Prefrontal Brain explained by Concurrent TMS/fMRI"              |
| 2018 | Janssen Special Award Life-science-success audience prize "TMS Treatment system that is easy to handle and tailored on patient's needs" |
| 2017 | Merit Abstract Award, Awarded by OHBM, "Connectomic insights into depression and TMS as a treatment option"                             |