



Jil Bahlig

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● ABOUT ME

My main interests in cognitive neuroscience include network and temporal dynamics of oscillations, and how these relate to short- and long-term memory and learning processes, investigated with human electrophysiology and noninvasive brain stimulation.

● WORK EXPERIENCE

UNIVERSITY RESEARCH ASSISTANT (MASTERS RESEARCH ELECTIVE) – LAURIE GALAS AND ANTONIA RAISSLE –
01/02/2026 – 01/10/2026 – MAASTRICHT, NETHERLANDS

Department: Brain Stimulation and Cognition | **Website:** <https://tedyum.github.io>

Within the **Temporal Dynamics Lab** in the **Brain Stimulation and Cognition** research group.

Aiding in **data collection** and **signal processing analysis in Matlab** for two experiments investigating the role of **oscillatory phase** in **attention** and **associative memory**.

1) The effect of task difficulty on behavioural oscillation phase in attentional task performance

- Eye tracking
- Cognitive-behavioural experimentation
- Data analysis in MATLAB
- Signal Detection Theory

2) The effect of stimulation theta phase on associative memory.

Control analysis to distinguish perceptual from memory-related effects.

- Conducted EEG connectivity analysis in MATLAB using FieldTrip.
- Applied weighted Phase Lag Index (wPLI) to assess frontal-occipital phase connectivity across stimulation-phase conditions.
- Performed frequency-band analyses across theta, alpha, and beta bands.
- Conducted statistical analyses and data visualisation.

UNIVERSITY RESEARCH ASSISTANT (HONOURS RESEARCH ELECTIVE) – FILIP VAN OPSTAL, UNIVERSITY OF AMSTERDAM –
01/02/2025 – 30/06/2025 – AMSTERDAM, NETHERLANDS

- Conducted research on the resource depletion hypothesis as an explanation of mind wandering.
- Assisted in improving study design
- Programmed cognitive task in Python
- Recruited and tested participants
- Eye tracking

● EDUCATION AND TRAINING

01/09/2025 – CURRENT Maastricht, Netherlands

RESEARCH MASTER COGNITIVE AND CLINICAL NEUROSCIENCE Maastricht University

Relevant Coursework:

- **Methods:** NIBS, EEG, fMRI, Diffusion Weighted Imaging, Statistics, Matlab Programming, Mathematics, Signal analysis, Research Grant Writing
- **Topics:** Visual Perception and Attention, Auditory and Language Processing, Sensorimotor Processing, Neuroanatomy, Connectivity and Connectomics, Translational Neuroscience, The Brain's Memory Engram
- **Review Paper NIBS:** "Evaluating an oscillatory phase coding model: *What noninvasive brain stimulation reveals about the theta-gamma code in working memory*" - Grade: 8.5
- **Review Paper EEG:** "The Oscillatory Dynamics of Multisensory Episodic Memory Encoding" - Grade: 9

Current credits earned: 61/120

Current GPA: 9.43

Website <https://www.maastrichtuniversity.nl/master-programmes/cognitive-clinical-neuroscience> |

Field of study Cognitive Neuroscience | **Level in EQF** EQF level 7 | **Type of credits** ECTS | **Number of credits** 120

01/09/2022 – 30/06/2025 Amsterdam, Netherlands

BACHELOR OF SCIENCE IN PSYCHOLOGY University of Amsterdam

Brain and Cognition: Theoretical knowledge of neural and cognitive mechanisms of behaviour. Practical training in laboratory work (macro- and micro-anatomy of the rat brain, tracing neuromodulator pathways), programming skills-training (python, R, Neurotask), and conducting cognitive research in the thesis.

Clinical Developmental Psychology: Theoretical knowledge of typical and atypical child, adolescent, adult and elderly development. Practical clinical training in psychological assessment, clinical interviewing, diagnostics, prevention and treatment.

Website <https://www.uva.nl/> | **Field of study** Major in Brain and Cognition, Minor in Clinical Developmental Psychology |

Final grade 9.20 (Distinction) | **Level in EQF** EQF level 6 | **Type of credits** ECTS | **Number of credits** 180 |

Thesis The Effect of White Noise on Consonant Superiority in Lexical Access

SKILLS

Programming Languages and Statistical Packages

Python (computer programming) | MATLAB | MATLAB Toolboxes (Fieldtrip, EEGLAB) | R | BrainVoyager |
Statistical packages: SPSS and JASP

Cognitive Neuroscience Methods

electroencephalography | Noninvasive Brain Stimulation (TMS, TES, closed-loop EEG-TMS) | functional Magnetic Resonance Imaging | Statistics: ANOVA, multiple regression, mixed-effects, repeated-measures, SEM, bootstrapping

Personal Skills

Communication skills: presenting data, writing reports | Problem-solving and analytical: piloting experiments, running analyses, experimental design | Collaboration: working in lab groups | Management and Organisation: planning and executing experiments, managing data

LANGUAGE SKILLS

Mother tongue(s): **ENGLISH**

Other language(s):

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
GERMAN	C1	C1	C1	C1	C1
DUTCH	B1	B1	A2	A2	A2

Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user