

CHANNELLE THAM

CURRICULUM VITAE

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Introducing a neuroscientist with almost a decade of experience in multimodal neuroimaging. My work spans f/MRI, magnetic resonance spectroscopy, perfusion imaging, and EEG across clinical and experimental settings. I develop reproducible neuroimaging analysis pipelines in MATLAB, Python, and R, with a focus on robust statistical analysis and methodological transparency. My research has produced peer-reviewed publications and conference presentations, while I continue to mentor junior researchers in computational neuroimaging techniques.

Areas of expertise.

- Neuroimaging analysis
- Multimodal & reproducible neuroimaging pipelines
- Open science
- Programming & statistical analysis
- Version control & collaborative computing
- Clinical & cognitive research methods
- Scientific communication & teaching

Education.

MSc Cognitive Neuroscience (September 2022 - August 2024): Radboud University, NL

BA Honours Specialization in Psychology (September 2017 - April 2022): University of Western Ontario, CAN

Honours & Awards.

- University of Western Ontario Dean's Honors List (2019, 2020, and 2021)
- Mitacs-DAAD Globalink RISE Scholarship (2021)
- University of Western Ontario Entrance Scholarship (2017)

Research & Teaching Experience.

CONNExIN Perfusion Team Leader (September 2024 - Present)

Multimodal Imaging of Neurodegenerative Disease Lab, CAN and Medical Artificial Intelligence Lab, NG

- Mentor a group of students and clinicians from low middle income countries (LMICs) on neuroscience programming, specifically arterial spin labelling analysis

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Chanelle Tham, MSc

- Lead weekly sessions to guide and teach the team neuroimaging analysis concepts
- Create educational materials (slides, notebooks, documentation) to support training
- Review and refine training materials to ensure clarity and scientific communication

Research Masters thesis (September 2023 - August 2024)

Donders Institute for Brain, Cognition, and Behaviour, NL

- Prepared mice for f/MRI scanning procedures, ensuring proper protocols were followed.
- Collected biological samples (blood, urine, stool, and brain tissue).
- Developed and executed Python and R scripts for magnetic resonance spectroscopy analysis, focusing on the thalamus and prefrontal cortex.
- Gained in-depth knowledge of metabolite properties through SHANK3 genotyping in rodent models.
- Carefully documented experimental procedures, datasets, and results, ensuring consistency and accuracy in reports and publications

DAAD RISE Student Research Assistant (September 2021 - December 2021)

RWTH Aachen Uniklinikum, DE

- Received a partnership scholarship award with Mitacs for the Globalink Research Internship program (GRI) and German Academic Exchange Service (DAAD).
- Assisted in patient recruitment and data acquisition for behavioural cyberball and social exclusion studies using neuropsychological questionnaires, virtual environment paradigms and fMRI/EEG.
- Verified and organized study data and documentation, ensuring accuracy and consistency for eventual publication and reporting

Student Research Assistant (September 2019 – April 2020)

Lawson Health Research Institute, CAN

- Created protocol to analyze brain matter thickness.
- Evaluated patients with vascular cognitive impairment over the course of an exercise intervention designed to help prevent further brain decline.

Student Research Assistant (May 2019 - August 2019)

Lawson Health Research Institute, CAN

- Used a novel toolbox CAT12 (<http://www.neuro.uni-jena.de/cat/>), via MATLAB and SPM to measure and analyze cortical thickness from MRI scans.
- Identified locations of cortical thinning in frontotemporal dementia patients and created a protocol to complete whole brain cortical and statistical analysis for other ongoing studies in the Lab.

Student Research Assistant (July 2017 - December 2017)

Lawson Health Research Institute, CAN

- Investigated the noise characteristics of an MRI head coil developed by the lab by comparing signal-to-noise ratio maps and tissue fraction histograms to a commercial Siemens PET/MRI hybrid head coil.
- Generated figures using MATLAB scripts to identify performance issues in the head coil to encourage further improvements.

Partners in Experiential Learning Cooperative Program (October 2016- June 2017)

Schulich School of Medicine & Dentistry and Lawson Research Health Institute, CAN

- Investigated voxel based morphometric differences between major depressive disorder,

schizophrenia, and healthy brains.

- Analyzed magnetic resonance imaging (MRI) brain scans of patient and control groups using SPM and MATLAB.

Skills & Certifications

- SPM, FSL, Quantiphyse, CAT12, CONN, MarsBaR, MRICro, BIDS, DCM2NII, SPEC2NII, SPANT
- MATLAB, Python, SPSS, R/R-Studio, Java, HTML
- Git/Github, Google Colab

Publications & Presentations

Peer-reviewed journal papers/articles

- *Research article in Magnetic Resonance in Medicine (2024)*
 - Paschoal...Tham et al. (2024). Reproducibility of arterial spin labeling cerebral blood flow image processing: A report of the ISMRM open science initiative for perfusion imaging (OSIPI) and the ASL MRI challenge
 - <https://doi.org/10.1002/mrm.30081>

Conference abstracts and presentations

- *Poster presentation: Alzheimer's Association International Conference (2025)*
 - Tham et al. (2025). Towards Reproducible and Resource-Efficient Perfusion Imaging Analysis for African Dementia Imaging Research
- *Power pitch and poster presentation: ISMRM Perfusion Workshop (2025)*
 - Tham et al. (2025). CONNExIN: Advancing Reproducible Perfusion Imaging Analysis for African Neuroscientists
- *Poster presentation: Dutch Neuroscience Meeting (2024)*
 - Tham et al. (2024). ¹H spectroscopy in the SHANK3 mouse model for autism spectrum disorder
- *Poster presentation: ISMRM Benelux (2024)*
 - Tham et al. (2024). 1H spectroscopy in the SHANK3 mouse models for autism spectrum disorder
- *Project challenge presentation: ISMRM 31st Annual Meeting & Exhibition (2023)*
 - Tham et al. (2023). The ASL Challenge Reproduction Study: Replicating Findings from the OSIPI- ISMRM ASL MRI Challenge.
- *Poster presentation: Euregio Brain Networking Conference (2021)*
 - Tham et al. (2021) Analysis of Cortical Thickness in Behavioural-Variant Frontotemporal Dementia using the CAT12 Toolbox in SPM12.
- *Poster presentation: Schulich Medicine and Dentistry Clinical Neurological Science Research Day (2019)*
 - Tham et al. (2019) Measuring cortical thickness in behavioural-variant frontotemporal dementia using the CAT12 Toolbox in SPM.