William Turner

Postdoctoral Researcher · Department of Psychology, Stanford University

Personal Website · *wft@stanford.edu* · *Google Scholar*

EMPLOYMENT

Postdoctoral Researcher, Department of Psychology, Stanford University — 2024 – Present
Supervisor: A/Prof. Laura Gwilliams

Postdoctoral Researcher, Timing Lab, QUT & The University of Melbourne — 2021 – 2024
Supervisor: Prof. Hinze Hogendoorn · Promoted to Level B in 2023

Research Assistant, Decision Neuroscience Lab, The University of Melbourne — 2016 – 2017
Supervisor: A/Prof. Stefan Bode

EDUCATION

PhD, Psychology — The University of Melbourne — 2017 – 2021
Visiting scholar at MetaLab, UCL
Thesis nominated for Chancellor's Prize and passed with no revisions

BSc, Psychology & Neuroscience — The University of Melbourne — 2013 – 2016
First-class Honours

GRANTS

American Australian Association Award — 2024
$20,000 USD

QUT Early Career Researcher Ideas Scheme — 2023
$21,885 AUD

Decision Science Hub Research Support Scheme — 2021
$2,000 AUD

Research Training Program Scholarship — 2017
$31,200 AUD p.a. x 3.5 years

AWARDS

Postdoctoral Oral Award, ACNS — 2021
Nominated for Best PhD Thesis Award & Chancellor's Prize — 2021
Istvan Tork Oral Award, ANS — 2018
Student Travel Award, ANS — 2018
People's Choice Award, MSPS PhD Conference — 2018
Honours Oral Award, ACNS — 2016
Dean's Honours List (Top 3% in 2015; top 1.5% in 2016, Faculty of Science) — 2015 – 2016

PUBLICATIONS

Forthcoming

[1] **Turner, W.**, Hogendoorn, H. & Gwilliams, L. (Forthcoming). On the speed of conscious perception: How soon is now? *Behavioral and Brain Sciences.* Paper

[2] Ergin, I., **Turner, W.** & Gwilliams, L. (Forthcoming). How does our brain read the future when we hear speech? *Frontiers for Young Minds.*

Preprints

[1] de Heer Kloots, M., Kazemian, A., **Turner, W.**, Parvizi, J. & Gwilliams, L. (2026). Distinct yet neighboring neural populations encode past, future, and surrounding speech context in the human temporal lobe. *bioRxiv.* Preprint

Peer-Reviewed Journal Articles

[1] Cottier, T., **Turner, W.**, Chae, V., Holcombe, A. & Hogendoorn, H. (2025). No evidence that individual alpha frequency (IAF) represents a mechanism underlying motion-position illusions. *European Journal of Neuroscience.* Paper

[2] **Turner, W.**, Kwon, O.-S., Kim, M. & Hogendoorn, H. (2025). Rapid re-weighting of sensory inputs and predictions in visual perception. *Neural Computation.* Paper · Code

[3] **Turner, W.**, Sexton, C., Johnson, P., Wilson, E. & Hogendoorn, H. (2025). Predictable motion is progressively extrapolated across temporally distinct processing stages in the human visual cortex. *PLOS Biology.* Paper · Code + Data

[4] Melling, J., **Turner, W.** & Hogendoorn, H. (2024). Concurrent perception of competing predictions: a 'Split-Stimulus Effect'. *Journal of Vision.* Paper · Code + Data

[5] **Turner, W.**, Sexton, C. & Hogendoorn, H. (2024). Neural mechanisms of visual motion extrapolation. *Neuroscience and Biobehavioral Reviews.* Paper

[6] Cottier, T., **Turner, W.**, Holcombe, A. & Hogendoorn, H. (2023). Exploring the extent to which shared mechanisms contribute to motion-position illusions. *Journal of Vision.* Paper · Code + Data

[7] **Turner, W.**, Blom, T. & Hogendoorn, H. (2023). Visual information is predictively encoded in occipital alpha/low-beta oscillations. *The Journal of Neuroscience.* Paper · Code + Data

[8] Ko, Y., Feuerriegel, D., **Turner, W.**, Overhoff, H., Niessen, E., Stahl, J., Hester, R., Fink, G., Weiss, P. & Bode, S. (2022). Divergent effects of absolute evidence magnitude on decision accuracy and confidence in perceptual judgements. *Cognition.* Paper

[9] **Turner, W.**, Feuerriegel, D., Hester, R. & Bode, S. (2022). Initial sensory information biases the likelihood and speed of subsequent changes of mind. *PLOS Computational Biology.* Paper · Code + Data

[10] Feuerriegel, D., Jiwa, M., **Turner, W.**, Andrejević, M., Hester, R. & Bode, S. (2021). Tracking dynamic adjustments to decision making and performance monitoring processes in conflict tasks. *NeuroImage.* Paper · Code + Data

[11] Andrejević, M., Feuerriegel, D., **Turner, W.**, Laham, S. & Bode, S. (2021). How do basic personality traits map onto moral judgements of fairness-related actions? *Social Psychological and Personality Science.* Paper · Code + Data

[12] **Turner, W.**, Angdias, R., Feuerriegel, D., Chong, T., Hester, R. & Bode, S. (2021). Perceptual decision confidence is sensitive to foregone effort expenditure. *Cognition.* Paper · Code + Data

[13] Andrejević, M., Feuerriegel, D., **Turner, W.**, Laham, S. & Bode, S. (2020). Moral judgements of fairness-related actions are flexibly updated to account for contextual information. *Scientific Reports.* Paper · Code + Data

[14] **Turner, W.**, Feuerriegel, D., Andrejević, M., Hester, R. & Bode, S. (2020). Perceptual change-of-mind decisions are sensitive to absolute evidence magnitude. *Cognitive Psychology*. Paper · Code + Data

[15] **Turner, W.**, Johnston, P., de Boer, K., Morawetz, C. & Bode, S. (2017). Multivariate pattern analysis of event-related potentials predicts the subjective relevance of everyday objects. *Consciousness and Cognition.* Paper

Opinion & Commentary

[1] **Turner, W.** (2023). Perceiving the probable present. *Nature Reviews Psychology*. Paper

[2] **Turner, W.** (2022). Unravelling the neural mechanisms which encode rapid streams of visual input. *The Journal of Neuroscience.* Paper

Conference Proceedings

[1] **Turner, W.**, Parvizi, J. & Gwilliams, L. (2025). Spatiotemporal tracking of phonetic content and probability in the human brain during continuous speech understanding. *CCN 2025 (2-page report)*. Paper

INVITED TALKS

Electrophysiological correlates of surprisal during speech processing. *Stanford EEG Preprocessing and Analysis Workgroup - 2026*

A spatiotemporal hierarchy of surprisal sensitivity in the human brain listening to speech. *Stanford Psychology Frisem - 2026*

Exploring object localisation via visual position illusions. *Stanford Vision Brunch - 2024*

Investigating prediction and delay compensation in the neural encoding of moving objects. *Bogacz Lab, University of Oxford; Kok Lab, University College London; Centre de Recherche Cerveau et Cognition (CerCo), Toulouse - 2022*

Investigating the predictive encoding of moving objects. *BEPSI, The University of Queensland - 2021*

How we evaluate and overrule our perceptual decisions. *Decision Science Hub Seminar, The University of Melbourne - 2020*

Information processing dynamics underlying perceptual changes of mind. *MetaLab, UCL – 2020*

CONFERENCE PRESENTATIONS

Turner, W., Parvizi, J. & Gwilliams, L. (2025). Spatiotemporal tracking of phonetic content and probability in the human brain during continuous speech understanding. *ACNS 2025, Melbourne (Oral).*

Turner, W., Parvizi, J. & Gwilliams, L. (2025). Spatiotemporal tracking of phonetic content and probability in the human brain during continuous speech understanding. *CCN 2025, Amsterdam (Poster).*

Turner, W., Sexton, C., Johnson, P., Wilson, E. & Hogendoorn, H. (2024). Visual motion extrapolation of moving objects drives real-time temporal re-alignment across hierarchical neural position representations. *VSS 2024, Florida (Poster).*

Turner, W., Blom, T. & Hogendoorn, H. (2022). Decoding visual predictions from occipital alpha oscillations. *European Conference on Visual Perception, Nijmegen (Oral).*

Turner, W., Blom, T. & Hogendoorn, H. (2021). Investigating the encoding of predictive sensory representations in EEG frequency spectra. *Australasian Cognitive Neuroscience Society, Virtual (Oral).* **Best Oral Award.**

Angdias, R., **Turner, W.**, Feuerriegel, D., Hester, R. & Bode, S. (2019). Perceptual decision confidence is sensitive to foregone effort expenditure. *ACNS, Tasmania (Oral).* **Best Oral Award.**

Turner, W., Feuerriegel, D., Andrejević, M., Hester, R. & Bode, S. (2019). The effect of absolute evidence magnitude on perceptual changes of mind. *Association for the Scientific Study of Consciousness, London, Ontario (Oral).*

Turner, W., Feuerriegel, D., Andrejević, M., Hester, R. & Bode, S. (2019). *Australasian Mathematical Psychology Conference, Melbourne (Oral).*

Turner, W., Feuerriegel, D., Andrejević, M., Hester, R. & Bode, S. (2018). Perceptual change-of-mind decisions are sensitive to absolute evidence magnitude. *Australasian Neuroscience Society, Brisbane (Oral).* **Istvan Tork Oral Award.**

Turner, W., Feuerriegel, D., Andrejević, M., Hester, R. & Bode, S. (2018). The effect of absolute evidence magnitude on perceptual changes of mind. *ACNS, Melbourne (Oral).*

Turner, W., Feuerriegel, D., Andrejević, M., Hester, R. & Bode, S. (2018). The effect of absolute evidence magnitude on perceptual changes of mind. *MSPS Annual PhD Student Conference, Melbourne (Oral).* **People's Choice Award.**

Turner, W., Johnston, P., de Boer, K., Morawetz, C. & Bode, S. (2016). Multivariate pattern analysis of event-related potentials predicts the general desirability of objects. *ACNS, Newcastle (Oral).* **Best Oral Award.**

TEACHING

Professional Development

Postdoctoral Teaching Certificate — Stanford University 2024 – Present

Structured program in evidence-based pedagogy, inclusive teaching practices, and curriculum design, combining formal training with supervised classroom practice and a reflective teaching portfolio.

Lectures, Tutorials & Workshops

Guest Lecturer — NEPR 207: Neurosciences Cognitive Core (graduate) 2026

Stanford University. Host: Prof. Justin Gardner. Co-designed seminar on language neuroscience and AI with Dr. Jill Kries; developed an interactive Jupyter notebook for hands-on student learning.

Guest Lecturer — PSYCH 50: Introduction to Cognitive Neuroscience (undergraduate) 2026

Stanford University. Host: Prof. Justin Gardner. Developed and delivered 'Introduction to EEG' lecture to two cohorts, featuring a live EEG demonstration, history of the technology, and applied examples.

Guest Lecturer — Language Neuroscience Seminar 2024

Stanford University. Host: A/Prof. Laura Gwilliams. Taught a flipped-classroom model where students presented and discussed evidence for predictive neural mechanisms in speech comprehension.

Guest Presenter — Undergraduate Neuroscience Seminar 2024

University of Queensland. Host: Prof. Derek Arnold. Interactive journal club with students discussing my work on prediction mechanisms in vision.

Guest Presenter — Psychological Science: Theory & Practice (PSYC30021) 2021

University of Melbourne. Host: Dr. Daniel Feuerriegel. Delivered a guest presentation on my work on effort and confidence.

Workshop Co-Presenter — DSH EEG Methods Workshop 2019

University of Melbourne. Hands-on workshop on EEG experimental design and data collection.

Undergraduate Tutor — Neuroscience and the Mind (PSYC30018) 2018

University of Melbourne. Designed tutorial content, delivered tutorials, and managed assessments. Nominated for MSPS Teaching Award.

Exam Marker — 4th Year Cognitive Neuroscience 2017

University of Melbourne.

Research Supervision

Honours Co-Supervisor 2020 – 2024

Co-supervised 6 honours students (University of Melbourne, QUT). All awarded first-class honours. Student awards include: 2 ACNS Best Honours Oral, MSPS 4th Year Conference Best Oral, ACNS Travel Award.

Undergraduate Research Supervisor 2022 – Present

Supervised 5 undergraduate research students across QUT, Melbourne, and Stanford. Stanford student awarded an Undergraduate Major Grant to support our ongoing research ($8000 USD).

PhD Committee Member 2021 – 2024

Timothy Cottier (University of Melbourne); Jie Sun (University of Melbourne).

PROFESSIONAL SERVICE

Chair, Sensation and Perception Session — ACNS 2025 2025

Co-organiser — Stanford Center for Neural Data Science Seminar Series 2024 – Present

Local Organising Committee — Australasian Neuroscience Society 2022 (600+ delegates) 2022

ECR Focus Group Member – MDHS, University of Melbourne 2021

OHS Committee Member – MSPS, University of Melbourne 2018 – 2019

Treasurer — Graduate Researchers in Psychological Sciences, University of Melbourne 2017 – 2019

Open Day Volunteer — MSPS, The University of Melbourne 2017 – 2019

Peer Reviewer (ad hoc)

Nature Communications, eLife, Imaging Neuroscience, NeuroImage, Journal of Cognitive Neuroscience, Cognition, Scientific Reports, Current Psychology, CCN, Psychonomic Bulletin & Review, Cognitive Psychology.

SKILLS

Neuroimaging: EEG (scalp and intracranial), MEG (cryogenic and OPM), MRI.

Analysis: Source localisation, time-frequency analysis, multivariate decoding/encoding, computational modelling.

Software: Python, MATLAB, R, Git, High Performance Computing (SLURM, PBS).

Hardware: BioSemi ActiveTwo, Biopac TSD121C dynamometers, ColorCAL MKII colorimeter.

REFERENCES

A/Prof. Laura Gwilliams — *Postdoctoral Supervisor*
Stanford University · *laura.gwilliams@stanford.edu*
Prof. Hinze Hogendoorn — *Postdoctoral Supervisor*
Queensland University of Technology · *hinze.hogendoorn@qut.edu.au*
A/Prof. Stefan Bode — *Primary PhD Supervisor*
NYU Abu Dhabi · *sb10382@nyu.edu*
Dr. Daniel Feuerriegel — *Secondary PhD Supervisor*
University of Melbourne · *daniel.feuerriegel@unimelb.edu.au*