Bio

Laura Gwilliams is jointly appointed between Stanford Psychology, Wu Tsai Neurosciences Institute and Stanford Data Science. Her work is focused on understanding the neural representations and operations that give rise to speech comprehension in the human brain. To do so, she brings together insight from neuroscience, linguistics and machine learning, and takes advantage of recording techniques that operate at distinct spatial scales (MEG, ECoG and Neuropixels).

ACADEMIC APPOINTMENTS

- Assistant Professor, Psychology
- Assistant Professor (By courtesy), Linguistics
- Member, Bio-X
- Member, Stanford Data Science
- Member, Wu Tsai Neurosciences Institute

LINKS

- Gwilliams Laboratory of Speech Neuroscience: https://gwilliams.sites.stanford.edu/
- Laura Gwilliams: https://lauragwilliams.github.io/

Teaching

COURSES

2023-24

- Unravelling the Inner-Workings of the Brain: Data Science for Neuroscience Capstone: DATASCI 125 (Spr)

STANFORD ADVISEES

Postdoctoral Faculty Sponsor

Jill Kries, William Turner

Doctoral Dissertation Advisor (AC)

Irmak Ergin
Publications

PUBLICATIONS

- **Speech prosody enhances the neural processing of syntax.** *Communications biology*
  Degano, G., Donhauser, P. W., Gwilliams, L., Merlo, P., Golestani, N.
  2024; 7 (1): 748

- **Negation mitigates rather than inverts the neural representations of adjectives.** *PLoS biology*
  Zuanazzi, A., Ripollés, P., Lin, W. M., Gwilliams, L., King, J. R., Poeppel, D.
  2024; 22 (5): e3002622

- **Hierarchical dynamic coding coordinates speech comprehension in the brain.** *bioRxiv: the preprint server for biology*
  Gwilliams, L., Marantz, A., Poeppel, D., King, J. R.
  2024

- **Introducing MEG-MASC a high-quality magneto-encephalography dataset for evaluating natural speech processing.** *Scientific data*
  Gwilliams, L., Flick, G., Marantz, A., Pylkkänen, L., Poeppel, D., King, J. R.
  2023; 10 (1): 862