Stanford



# Jill Kries

Postdoctoral Scholar, Psychology

## Bio

### BIO

I am a postdoc at the Stanford Psychology Department and Wu Tsai Neurosciences Institute, working with Prof. Laura Gwilliams. My work is situated in the field of cognitive neuroscience, where I study how speech and language are implemented in the brain. How does our brain make sense of the sounds that we're hearing? What happens in the brain while we speak? These are questions that I address in my research. I approach them using natural language paradigms, neurophysiology, computational methods and cognitive tests, in healthy adults as well as in people with diverse language phenotypes, such as at different time points of the lifespan (development and aging) or people with language disorders (for example aphasia, dyslexia, epilepsy). Characterizing speech processing in these populations helps (1) understanding the life stage or disorder better and (2) identifying crucial mechanisms involved in language processing in the neurotypical brain. My research contributes to both theoretical understanding and practical applications, exploring the potential for developing diagnostic and therapeutic tools. The neural recording techniques I am mainly focusing on to achieve this are scalp EEG, intracranial EEG, and OPM-MEG.

### HONORS AND AWARDS

- Trainee Professional Development Award, Society for Neuroscience (2026)
- Outstanding PhD Thesis Award, Luxembourg National Research Fund (2025)
- Travel award, Society for the Neurobiology of Language (2024)
- Travel award, Academy of aphasia (2023)
- 4-year grant for doctoral research (AFR grant), Luxembourg National Research Fund (2019-2023)

### BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, Stanford Psychology Diversity Committee (2024 - present)

### STANFORD ADVISORS

- Laura Gwilliams, Postdoctoral Faculty Sponsor

### LINKS

- My linktree: https://linktr.ee/jillkries

## Research & Scholarship

### LAB AFFILIATIONS

- Laura Gwilliams, Gwilliams Laboratory of Speech Neuroscience (10/1/2023)

# Publications

## PUBLICATIONS

- **Measuring naturalistic speech comprehension in real time.** *Behavior research methods*
  Ergin, I., Kries, J., Gupta, S., Papworth Burrel, M., Gwilliams, L.
  2026; 58 (4)

- **The Text Aphasia Battery (TAB): A Clinically-Grounded Benchmark for Aphasia-Like Deficits in Language Models**
  Roll, N., Kries, J., Jin, F., Wang, C., Finley, A., Sumner, M., Shain, C., Gwilliams, L.
  edited by Zirikly, A., Bar, K., MacAvaney, S., Ireland, M., Ophir, Y., Atzil-Slonim, D., Varadarajan, Bedrick, S., Desmet, B.
  ASSOC COMPUTATIONAL LINGUISTICS-ACL.2026: 340-354

- **The spatio-temporal dynamics of phoneme encoding in aging and aphasia.** *The Journal of neuroscience : the official journal of the Society for Neuroscience*
  Kries, J., Vandermosten, M., Gwilliams, L.
  2025

- **Neural tracking of natural speech: an effective marker for post-stroke aphasia** *BRAIN COMMUNICATIONS*
  De Clercq, P., Kries, J., Mehraram, R., Vanthornhout, J., Francart, T., Vandermosten, M.
  2025; 7 (2): fcaf095

- **EEG reveals brain network alterations in chronic aphasia during natural speech listening.** *Scientific reports*
  Mehraram, R., Kries, J., De Clercq, P., Vandermosten, M., Francart, T.
  2025; 15 (1): 2441

- **Functional connectivity of stimulus-evoked brain responses to natural speech in post-stroke aphasia** *JOURNAL OF NEURAL ENGINEERING*
  Mehraram, R., De Clercq, P., Kries, J., Vandermosten, M., Francart, T.
  2024; 21 (6)

- **Detecting Post-Stroke Aphasia Via Brain Responses to Speech in a Deep Learning Framework.** *Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Annual International Conference*
  De Clercq, P., Puffay, C., Kries, J., Van Hamme, H., Vandermosten, M., Francart, T., Vanthornhout, J.
  2024; 2024: 1-5

- **Exploring neural tracking of acoustic and linguistic speech representations in individuals with post-stroke aphasia.** *Human brain mapping*
  Kries, J., De Clercq, P., Gillis, M., Vanthornhout, J., Lemmens, R., Francart, T., Vandermosten, M.
  2024; 45 (8): e26676

- **Acoustic and phonemic processing are impaired in individuals with aphasia** *SCIENTIFIC REPORTS*
  Kries, J., De Clercq, P., Lemmens, R., Francart, T., Vandermosten, M.
  2023; 13 (1): 11208

- **Neural tracking of linguistic and acoustic speech representations decreases with advancing age** *NEUROIMAGE*
  Gillis, M., Kries, J., Vandermosten, M., Francart, T.
  2023; 267: 119841