



Alexandra Nicole Trelle

Instructor, Neurology & Neurological Sciences

Bio

BIO

I completed my undergraduate degree at the University of Toronto, and my PhD at the University of Cambridge. My work explores the neural mechanisms supporting episodic memory, and how these are affected by aging and Alzheimer's disease. I am currently leading the Stanford Aging and Memory Study, a large-scale longitudinal project examining individual differences in episodic memory in older adults. My research combines structural and functional MRI, PET imaging, and analysis of molecular and genetic risk factors for Alzheimer's disease.

ACADEMIC APPOINTMENTS

- Instructor, Neurology & Neurological Sciences

Publications

PUBLICATIONS

- **Post-translational modifications linked to preclinical Alzheimer's disease-related pathological and cognitive changes.** *Alzheimer's & dementia : the journal of the Alzheimer's Association*
Abiose, O., Rutledge, J., Moran-Losada, P., Belloy, M. E., Wilson, E. N., He, Z., Trelle, A. N., Channappa, D., Romero, A., Park, J., Yutsis, M. V., Sha, S. J., Andreasson, et al
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- **Cerebrospinal fluid immune dysregulation during healthy brain aging and cognitive impairment.** *Cell*
Piehl, N., van Olst, L., Ramakrishnan, A., Teregulova, V., Simonton, B., Zhang, Z., Tapp, E., Channappa, D., Oh, H., Losada, P. M., Rutledge, J., Trelle, A. N., Mormino, et al
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- **Performance of a fully-automated Lumipulse plasma phospho-tau181 assay for Alzheimer's disease.** *Alzheimer's research & therapy*
Wilson, E. N., Young, C. B., Ramos Benitez, J., Swarovski, M. S., Feinstein, I., Vandijck, M., Le Guen, Y., Kasireddy, N. M., Shahid, M., Corso, N. K., Wang, Q., Kennedy, G., Trelle, et al
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- **Medial temporal lobe structure, mnemonic and perceptual discrimination in healthy older adults and those at risk for mild cognitive impairment.** *Neurobiology of aging*
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2022; 122: 88-106
- **Thalamic nuclei atrophy at high and heterogeneous rates during cognitively unimpaired human aging.** *NeuroImage*
Choi, E. Y., Tian, L., Su, J. H., Radovan, M. T., Tourdias, T., Tran, T. T., Trelle, A. N., Mormino, E., Wagner, A. D., Rutt, B. K.
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- **Executive function and high ambiguity perceptual discrimination contribute to individual differences in mnemonic discrimination in older adults.** *Cognition*
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- **Association of CSF Biomarkers with Hippocampal-dependent Memory in Preclinical Alzheimer Disease.** *Neurology*
Trelle, A. N., Carr, V. A., Wilson, E. N., Swarovski, M. S., Hunt, M. P., Toueg, T. N., Tran, T. T., Channappa, D. n., Corso, N. K., Thieu, M. K., Jayakumar, M. n., Nadiadwala, A. n., Guo, et al
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- **Hippocampal and cortical mechanisms at retrieval explain variability in episodic remembering in older adults.** *eLife*
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2020; 9
- **Tau PET imaging with 18F-PI-2620 in aging and neurodegenerative diseases.** *European journal of nuclear medicine and molecular imaging*
Mormino, E. C., Toueg, T. N., Azevedo, C. n., Castillo, J. B., Guo, W. n., Nadiadwala, A. n., Corso, N. K., Hall, J. N., Fan, A. n., Trelle, A. N., Harrison, M. B., Hunt, M. P., Sha, et al
2020
- **Neural evidence for age-related differences in representational quality and strategic retrieval processes.** *Neurobiology of aging*
Trelle, A. N., Henson, R. N., Simons, J. S.
2019; 84: 50–60
- **Dissociable contributions of thalamic nuclei to recognition memory: novel evidence from a case of medial dorsal thalamic damage** *LEARNING & MEMORY*
Newsome, R. N., Trelle, A. N., Fidalgo, C., Hong, B., Smith, V. M., Jacob, A., Ryan, J. D., Rosenbaum, R., Cowell, R. A., Barense, M. D.
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- **Declines in Representational Quality and Strategic Retrieval Processes Contribute to Age-Related Increases in False Recognition** *JOURNAL OF EXPERIMENTAL PSYCHOLOGY-LEARNING MEMORY AND COGNITION*
Trelle, A. N., Henson, R. N., Green, D. E., Simons, J. S.
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- **Identifying Age-Invariant and Age-Limited Mechanisms for Enhanced Memory Performance: Insights From Self-Referential Processing in Younger and Older Adults** *PSYCHOLOGY AND AGING*
Trelle, A. N., Henson, R. N., Simons, J. S.
2015; 30 (2): 324–33
- **Decoding the Role of the Angular Gyrus in the Subjective Experience of Recollection** *JOURNAL OF NEUROSCIENCE*
Trelle, A.
2014; 34 (43): 14167–69
- **Hyper-Binding Across Time: Age Differences in the Effect of Temporal Proximity on Paired-Associate Learning** *JOURNAL OF EXPERIMENTAL PSYCHOLOGY-LEARNING MEMORY AND COGNITION*
Campbell, K. L., Trelle, A., Hasher, L.
2014; 40 (1): 293–99