

Emir Turkes, PhD

POSTDOCTORAL RESEARCHER - NEUROSCIENCE, BIOINFORMATICS, AI/ML

✉ emir.turkes@eturkes.com | <https://eturkes.com> | <https://data.duff-lab.org>

☎ +81 050 5532 2416 | github.com/eturkes | [in linkedin.com/in/eturkes](https://www.linkedin.com/in/eturkes)

Current Interest: Formal verification and neurosymbolic systems in biomedicine

Nationality: American **Current Location:** Hokkaido, Japan



Education

University College London

PHD NEUROSCIENCE (2019-2025)

Supervisor: Karen E. Duff, PhD. Thesis

The University of Tokyo

MS HEALTH SCIENCE (2016-2018)

Supervisor: Seiichiroh Ohsako, PhD, DVM

Boston University

BA NEUROSCIENCE (2011-2015)

Experience

Postdoctoral Researcher

DEPARTMENT OF DIAGNOSTIC IMAGING, HOKKAIDO UNIVERSITY GRADUATE SCHOOL OF MEDICINE

- Development of a formally verified clinical decision support system that uses controlled natural language for human review.

Sapporo, Japan

April 2026 - Present

Research Assistant

TAUB INSTITUTE AT COLUMBIA UNIVERSITY under Prof. Karen E. Duff, PhD

- Trained in bioinformatics analysis to study cell-type specific vulnerability to pathological tau in Alzheimer's Disease.

New York, NY, USA

February 2019 - August 2019

Research Assistant

BOSTON UNIVERSITY SPEECH LAB under Prof. Frank H. Guenther, PhD

- Worked on MATLAB pipelines to automate the processing of resting-state fMRI images to study speech motor control.

Boston, MA, USA

June 2015 - February 2016

Publications

- [1] G. Crowley, M. Kim, N. O'Neill, **E. Turkes**, ... S. Hong, "C1q and immunoglobulins mediate activity-dependent synapse loss in the adult brain," *Science*, vol. 393, no. 6807, Jul. 9, 2026, Art. no. eadv1219. DOI: 10.1126/science.adv1219
- [2] M. S. Foiani, R. S. Nirujogi, N. Watamura, S. Bez, E. Tsefou, A. Santambrogio, S. Patel, H. Davies, C. Goulbourne, N. Fatima, T. Birkle, E. Camporesi, G. Brinkmalm, H. Zetterberg, M. Wilkinson, S. E. Radford, N. A. Ranson, P. Maglio-Cauhy, **E. Turkes**, ... K. E. Duff, "Distinct mechanistic pathways of early tauopathy revealed by MAPT mutations," *bioRxiv*, Feb. 16, 2026. DOI: 10.64898/2026.02.14.705716
- [3] E. Tsefou, S. Bez, T. J. Y. Birkle, M. Foiani, N. Watamura, M. Bourdenx, D. Gavriouchkina, **E. Turkes**, ... K. E. Duff, "Scalable human neuronal models of tauopathy producing endogenous seed-competent 4R tau," *Science Advances*, vol. 12, no. 31, Jul. 31, 2026, Art. no. eaeg1445. DOI: 10.1126/sciadv.aeg1445
- [4] D. Acosta Ingram, **E. Turkes**, ... H. Fu, "Gramd1b is a regulator of lipid homeostasis, autophagic flux and phosphorylated tau," *Nature communications*, vol. 16, no. 1, p. 3312, 2025. DOI: 10.1038/s41467-025-58585-w
- [5] S. L. Fowler, T. S. Behr, **E. Turkes**, ... B. Ryskeldi-Falcon, "Tau filaments are tethered within brain extracellular vesicles in alzheimer's disease," *Nature Neuroscience*, vol. 28, no. 1, pp. 40-48, 2025. DOI: 10.1038/s41593-024-01801-5
- [6] H.-P. Lipp, S. Krackow, **E. Turkes**, ... H. Russig, "Intellicage: The development and perspectives of a mouse-and user-friendly automated behavioral test system," *Frontiers in Behavioral Neuroscience*, vol. 17, p. 1270538, 2024. DOI: 10.3389/fnbeh.2023.1270538
- [7] N. Watamura, M. S. Foiani, S. Bez, M. Bourdenx, A. Santambrogio, C. Frodsham, E. Camporesi, G. Brinkmalm, H. Zetterberg, S. Patel, N. Kamano, M. Takahashi, J. Rueda-Carrasco, L. Katsouri, S. Fowler, **E. Turkes**, ... T. C. Saido, "In vivo hyperphosphorylation of tau is associated with synaptic loss and behavioral abnormalities in the absence of tau seeds," *Nature Neuroscience*, pp. 1-15, 2024. DOI: 10.1038/s41593-024-01829-7
- [8] S. Chen, Y. Chang, L. Li, D. Acosta, Y. Li, Q. Guo, C. Wang, **E. Turkes**, ... H. Fu, "Spatially resolved transcriptomics reveals genes associated with the vulnerability of middle temporal gyrus in alzheimer's disease," *Acta neuropathologica communications*, vol. 10, no. 1, p. 188, 2022. DOI: 10.1186/s40478-022-01494-6
- [9] A. Kiryk, A. Janusz, B. Zglinicki, **E. Turkes**, ... L. Kaczmarek, "Intellicage as a tool for measuring mouse behavior-20 years perspective," *Behavioural brain research*, vol. 388, p. 112620, 2020. DOI: 10.1016/j.bbr.2020.112620