

Stanford



Tong Shan

Postdoctoral Scholar, Psychiatry

Bio

BIO

Tong completed her Ph.D. at the University of Rochester. She also holds an M.S. in Biostatistics from Northwestern University and a B.S. in Medical Imaging from Sichuan University.

In her research, Tong has explored topics such as subcortical and cortical neural responses to naturalistic speech and music, neural mechanisms underlying musical perception, and the impact of visual cues on speech-in-noise comprehension.

Currently, Tong is involved in the Speaker-Listener projects, where she investigates brain activities related to natural communication. She is excited to deepen her understanding of auditory processing of speech during communication and its implications for improving quality of life, particularly in clinical populations such as individuals with ASD, AD, etc.

Outside of her research, Tong is a music producer, creating original songs and soundtracks for video games. She has a passion for exploring the intersection of art and technology.

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Committee member, Association for Research in Otolaryngology (2023 - present)

PROFESSIONAL EDUCATION

- PhD, University of Rochester , Biomedical Engineering (2024)
- MSc, Northwestern University , Biostatistics (2018)
- BSc, Sichuan University , Medical Technology (Medical Imaging) (2016)

STANFORD ADVISORS

- Vinod Menon, Postdoctoral Faculty Sponsor

LINKS

- LinkedIn: <https://www.linkedin.com/in/tongshan-cu/>

Research & Scholarship

LAB AFFILIATIONS

- Daniel Abrams, Speech and Social Neuroscience Lab (10/1/2024)
- Vinod Menon, Stanford Cognitive & Systems Neuroscience Laboratory (10/1/2024)

Publications

PUBLICATIONS

- **Chimeric Music Reveals an Interaction of Pitch and Time in Electrophysiological Signatures of Music Encoding** *JOURNAL OF NEUROSCIENCE*
Shan, T., Lalor, E. C., Maddox, R. K.
2026; 46 (4)
- **Comparing methods for deriving the auditory brainstem response to continuous speech in human listeners.** *Imaging neuroscience (Cambridge, Mass.)*
Shan, T., Maddox, R. K.
2025; 3
- **Subcortical responses to music and speech are alike while cortical responses diverge.** *Scientific reports*
Shan, T., Cappelloni, M. S., Maddox, R. K.
2024; 14 (1): 789
- **Speech-In-Noise Comprehension is Improved When Viewing a Deep-Neural-Network-Generated Talking Face.** *Trends in hearing*
Shan, T., Wenner, C. E., Xu, C., Duan, Z., Maddox, R. K.
2022; 26: 23312165221136934
- **Abnormal developmental of hippocampal subfields and amygdalar subnuclei volumes in young adults with heavy cannabis use: A three-year longitudinal study.** *Progress in neuro-psychopharmacology & biological psychiatry*
Zhang, X., Chen, Z., Becker, B., Shan, T., Chen, T., Gong, Q.
2024; 136: 111156
- **Long-term tract-specific white matter microstructural changes after acute stress.** *Brain imaging and behavior*
Meng, L., Shan, T., Li, K., Gong, Q.
2021; 15 (4): 1868-1875

PRESENTATIONS

- A Cortical Hierarchy of Temporal Integration Windows During Naturalistic Speech Processing in Children - Association for Research in Otolaryngology Mid Winter Meeting (2/7/2026 - 2/11/2026)