



Ali Rahimpour Joungghani

Research Scientist, Psychiatry and Behavioral Sciences - Interdisciplinary Brain Sciences

Bio

BIO

My long-term research interests lie in advancing our understanding of neuroimaging techniques and their application in mapping developmental pathways of brain networks, with a focus on how alterations in these networks contribute to mental health disorders. My academic training and multidisciplinary research background have provided me with expertise in a range of neuroimaging modalities, including functional MRI (fMRI), structural MRI, electroencephalography (EEG), and functional near-infrared spectroscopy (fNIRS).

During my doctoral studies, I investigated the effects of contextually specific, action-based timing behavior on brain responses, as well as the functional impacts of timing behavior in cochlear implant users. These studies provided valuable insights into the temporal dynamics of brain function. My research has also extended to clinical and cognitive applications, such as studying brain functionality in infants in neonatal intensive care units and in adults with brain disorders.

Currently, as a research scientist at Stanford University, my work bridges psychiatry, cognitive science, and biomedical engineering. I focus on refining neuroimaging data analysis techniques and advancing the use of fNIRS and MRI to explore developmental cognition, particularly for ADHD. A significant part of my current research involves the development of a wearable, cost-effective fNIRS platform for precision mental health. Through my work, I aim to contribute to a deeper understanding of brain disorders and to create practical, cutting-edge tools that advance precision mental health care.

INSTITUTE AFFILIATIONS

- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- Finalist at the 50th Wearable Technologies AG Conference, Innovation World Cup (2024)
- Finalist for the Stanford University High Impact Technology (HIT), Office of Technology Licensing (OTL) (2024)
- NIH T32 CIBSR Postdoctoral Fellowship, Stanford University (2024)
- Associate Editor, Helyion, Cell Press (2023-2024)
- Lead Guest Editor, Frontiers in Human Neuroscience (2023-2024)
- Hatano Cognitive Development Research Fellowship, University of California (2021)
- Organizing committee member of SfNIRS conference, The Society for fNIRS (2021)
- Developmental Student Research Award, University of California (2020)

Research & Scholarship

LAB AFFILIATIONS

- Hadi Hosseini, Computational Brain Research and Intervention (9/5/2022)

Publications

PUBLICATIONS

- **Wearable fNIRS platform for dense sampling and precision functional neuroimaging.** *NPJ digital medicine*
Rahimpour Jounghani, A., Kumar, A., Moreno Carbonell, L., Aguilar, E. P., Picardi, T. B., Crawford, S., Bowden, A. K., Hosseini, S. M.
2025; 8 (1): 271
- **Protocol to predict time perception bias from cortical neurite microstructures in healthy older adults.** *STAR protocols*
Gozdas, E., Kim, T., Jounghani, A. R., Hosseini, S. M.
2025; 6 (2): 103756
- **The fNIRS glossary project: a consensus-based resource for functional near-infrared spectroscopy terminology.** *Neurophotonics*
Stute, K., Gossé, L. K., Montero-Hernandez, S., Perkins, G. A., Yücel, M. A., Cutini, S., Durduran, T., Ehliis, A. C., Ferrari, M., Gervain, J., Mesquita, R. C., Orihuela-Espina, F., Quaresima, et al
2025; 12 (2): 027801
- **Investigating Hemodynamic Patterns During Beat Processing in Cochlear Implant Users: Insights from a Finger Tapping Study.** *Auditory perception & cognition*
O'Connell, S. R., Jounghani, A. R., Papadopoulos, J. M., Bortfeld, H., Lee Goldsworthy, R.
2025; 8 (2): 132-156
- **Neuromonitoring-guided working memory intervention in children with ADHD.** *iScience*
Rahimpour Jounghani, A., Gozdas, E., Dacorro, L., Avelar-Pereira, B., Reitmaier, S., Fingerhut, H., Hong, D. S., Elliott, G., Hardan, A. Y., Hinshaw, S. P., Hosseini, S. M.
2024; 27 (11): 111087
- **Neuromonitoring-guided working memory intervention in children with ADHD** *ISCIENCE*
Jounghani, A., Gozdas, E., Dacorro, L., Avelar-Pereira, B., Reitmaier, S., Fingerhut, H., Hong, D. S., Elliott, G., Hardan, A. Y., Hinshaw, S. P., Hosseini, S.
2024; 27 (11)
- **Investigating the role of auditory cues in modulating motor timing: insights from EEG and deep learning.** *Cerebral cortex (New York, N.Y. : 1991)*
Jounghani, A. R., Backer, K. C., Vahid, A., Comstock, D. C., Zamani, J., Hosseini, H., Balasubramaniam, R., Bortfeld, H.
2024; 34 (10)
- **Cortical neurite microstructural correlates of time perception in healthy older adults.** *Heliyon*
Kim, T., Rahimpour Jounghani, A., Gozdas, E., Hosseini, S. M.
2024; 10 (12): e32534
- **Cortical neurite microstructural correlates of time perception in healthy older adults** *HELIYON*
Kim, T., Jounghani, A., Gozdas, E., Hosseini, S.
2024; 10 (12)
- **Multiple levels of contextual influence on action-based timing behavior and cortical activation.** *Scientific reports*
Rahimpour Jounghani, A., Lanka, P., Pollonini, L., Proksch, S., Balasubramaniam, R., Bortfeld, H.
2023; 13 (1): 7154
- **Where and when matter in visual recognition.** *Attention, perception & psychophysics*
Ghafari, T., Jounghani, A. R., Esteky, H.
2023; 85 (2): 404-417

- **Localizing confined epileptic foci in patients with an unclear focus or presumed multifocality using a component-based EEG-fMRI method.** *Cognitive neurodynamics*
Ebrahimzadeh, E., Shams, M., Rahimpour Jounghani, A., Fayaz, F., Mirbagheri, M., Hakimi, N., Rajabion, L., Soltanian-Zadeh, H.
2021; 15 (2): 207-222
- **Tracking differential activation of primary and supplementary motor cortex across timing tasks: An fNIRS validation study.** *Journal of neuroscience methods*
Rahimpour, A., Pollonini, L., Comstock, D., Balasubramaniam, R., Bortfeld, H.
2020; 341: 108790