

Stanford



Byeongwook Lee

Postdoctoral Scholar, Psychiatry

Bio

BIO

My research focus spans over systems neuroscience, machine learning, and data science with a substantial experience in developing and applying novel computational frameworks to understand dynamical aspects of complex brain function in human and non-human models.

HONORS AND AWARDS

- Alzheimer's Association Research Fellowship, Alzheimer's Association (2021-2024)
- Best Doctoral Dissertation Award in Department of Bio and Brain Engineering, Korea Advanced Institute of Science and Technology (KAIST), South Korea (2019)
- National scholarship of Republic of Korea (Integrated M.S. & Ph.D. Course), South Korea (2011-2019)
- National scholarship of Republic of Korea (B.Sc. Course), South Korea (2007-2011)

PROFESSIONAL EDUCATION

- Doctor of Philosophy, Korea Advanced Institute Of Science and Technology (2019)
- Ph.D., Korea Advanced Institute of Science and Technology (KAIST) , Bio and Brain Engineering (2019)
- B.S., Korea Advanced Institute of Science and Technology (KAIST) , Electrical Engineering (2011)

STANFORD ADVISORS

- Vinod Menon, Postdoctoral Faculty Sponsor

Publications

PUBLICATIONS

- **Space wandering in the rodent default mode network.** *Proceedings of the National Academy of Sciences of the United States of America*
Nghiem, T. E., Lee, B., Chao, T. H., Branigan, N. K., Mistry, P. K., Shih, Y. I., Menon, V.
2024; 121 (15): e2315167121
- **Optogenetic stimulation of anterior insular cortex neurons in male rats reveals causal mechanisms underlying suppression of the default mode network by the salience network.** *Nature communications*
Menon, V., Cerri, D., Lee, B., Yuan, R., Lee, S. H., Shih, Y. I.
2023; 14 (1): 866
- **Neuronal dynamics of the default mode network and anterior insular cortex: Intrinsic properties and modulation by salient stimuli.** *Science advances*
Chao, T. H., Lee, B., Hsu, L. M., Cerri, D. H., Zhang, W. T., Wang, T. W., Ryali, S., Menon, V., Shih, Y. I.
2023; 9 (7): eade5732
- **Dopaminergic medication normalizes aberrant cognitive control circuit signalling in Parkinson's disease.** *Brain : a journal of neurology*
Cai, W., Young, C. B., Yuan, R., Lee, B., Ryman, S., Kim, J., Yang, L., Henderson, V. W., Poston, K. L., Menon, V.

2022

- **Latent brain state dynamics and cognitive flexibility in older adults.** *Progress in neurobiology*
Lee, B., Cai, W., Young, C. B., Yuan, R., Ryman, S., Kim, J., Santini, V., Henderson, V. W., Poston, K. L., Menon, V.
2021: 102180
- **Combined Positive and Negative Feedback Allows Modulation of Neuronal Oscillation Frequency during Sensory Processing** *CELL REPORTS*
Lee, B., Shin, D., Gross, S. P., Cho, K.
2018; 25 (6): 1548+
- **The Hidden Control Architecture of Complex Brain Networks** *ISCIENCE*
Lee, B., Kang, U., Chang, H., Cho, K.
2019; 13: 154+