Xiaoqian Xiao PhD
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Postdoctoral Research Appointment

2017 - 2023 Stanford Brain Stimulation Laboratory, Stanford, CA
2016 - 2017 the Center for Brain and Cognitive Learning Sciences, the National State Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University. Beijing

Educations

2009 - 2016 **PhD, Cognitive Neuroscience**
the National Key Laboratory of Cognitive Neuroscience and Learning, Beijing Normal University. Beijing, China.

2012 - 2014 Visiting Student
Imaging Research Center and the Department of Psychology, University of Texas at Austin. Austin, Texas, The USA.

2005 - 2009 **BS, Psychology**
The School of Psychology, Beijing Normal University. Beijing, China.

Research Experience

Stanford University, Stanford, CA August 2017 – July 2019 and September 2020-2023

- Project leader of aiTBS treatment related rs-MRI changes in depression patients
- Developed and implemented denoising pipeline for neuroimaging (MRI) data
- Generated the decision metrics for denoising methods from literature
- Created detailed reports of 24 denoising methods for lab director and team
- Statistical analysis of clinical trial data involving various data types (MRI, clinical assessments) to understand the neural correlates of effective brain stimulation treatment for depression.
- two first author manuscripts related to this work were published in ***BioRxiv*** (2019) and ***Translational Psychiatry*** (2023)

Beijing Normal University, Beijing, China
+ University of Texas at Austin, TX October 2012 – July 2017

- Project leader of item-specific reinstatement in memory encoding and retrieval

- Design the experiment to obtain the neural bases of reinstatement during memory encoding and retrieval.
- Conducted research in both TX and Beijing and collected 50 sets of data.
- Built analysis model to detect the feature of the item-specific information, individual-specific information, and shared representation crossed participants.
- Built the model to test the cross-validation of the results.
- Using simulate data for providing extra evidence of the hypothesis which the experimental data could not cover.
- First Author papers were published in ***NeuroImage*** (2020) and ***The Journal of the Society for Neuroscience*** (2017).

Beijing Normal University, Beijing, China October 2010 – July 2013

- Project leader of neural mechanism of effective learning
- Design the experiment to obtain the neural bases of how spaced study could improve learning efficiency.
- Conducted research and collected 60 sets of data.
- Built analysis models to detect the factors contribute to spacing effect, and also the mediator of the effect.
- First Author paper was published in ***Cortex*** (2016).

Publications

First Author Publications:

1. Batail, J.-M., **Xiao, X**.**(Co-first Author)**, Azeez, A., Tischler, C., Kratter, I. H., Bishop, J. H., Saggar, M., & Williams, N. R. (2023). Network effects of Stanford Neuromodulation Therapy (SNT) in treatment-resistant major depressive disorder: A randomized, controlled trial. ***Translational Psychiatry***, *13*(1), 240. https://doi.org/10.1038/s41398-023-02537-9

2. **Xiao, X**., Zhou, Y., Liu, J., Ye, Z., Yao, L., Zhang, J., Chen, C., & Xue, G. (2020). Individual-specific and shared representations during episodic memory encoding and retrieval. *NeuroImage*, *217*, 116909. https://doi.org/10.1016/j.***neuroimage***.2020.116909

3. **Xiao, X**., Bentzley, B. S., Cole, E. J., Tischler, C., Stimpson, K. H., Duvio, D., Bishop, J. H., DeSouza, D. D., Schatzberg, A., Keller, C., & others. (2020). Functional connectivity changes with rapid remission from moderate-to-severe major depressive disorder. ***BioRxiv***, 672154.

4. **Xiao, X**., Dong, Q., Gao, J., Men, W., Poldrack, R. A., & Xue, G. (2017). Transformed Neural Pattern Reinstatement during Episodic Memory Retrieval. ***The Journal of Neuroscience****: The Official Journal of the Society for Neuroscience*, *37*(11), 2986–2998. https://doi.org/10.1523/JNEUROSCI.2324-16.2017

5. **Xiao, X**., Dong, Q., Chen, C., & Xue, G. (2016). Neural pattern similarity underlies the mnemonic

advantages for living words. ***Cortex**; a Journal Devoted to the Study of the Nervous System and Behavior*, *79*, 99–111. https://doi.org/10.1016/j.cortex.2016.03.016

6. **Xiao, X**., Ye Z., Zheng, Li., Xue, G. (2016). Pattern Reinstatement during Memory Encoding and Retrieval [J]. ***Journal of Beijing Normal University (Natural Science)***., 2016(06): 765-772.

Others:

1. Cole, E. J., Stimpson, K. H., Bentzley, B. S., Gulser, M., Cherian, K., Tischler, C., Nejad, R., Pankow, H., Choi, E., Aaron, H., Espil, F. M., Pannu, J., ***Xiao, X***., Duvio, D., Solvason, H. B., Hawkins, J., Guerra, A., Jo, B., Raj, K. S., … Williams, N. R. (2020). Stanford Accelerated Intelligent Neuromodulation Therapy for Treatment-Resistant Depression. ***The American Journal of Psychiatry***, *177*(8), 716–726. https://doi.org/10.1176/appi.ajp.2019.19070720

2. Bishop, J., Davis, Z., Xiao, X., Sudheimer, K., & Williams, N. (2019). Stability of hierarchical clustering for targeted transcranial magnetic stimulation. ***Brain Stimulation***, *12*(2), 540. https://doi.org/10.1016/j.brs.2018.12.783

3. De Souza, D., Gulser, M., Cole, E., Stimpson, K., ***Xiao, X***., Tischler, C., Bishop, J., Tate, W., Sudheimer, K., & Williams, N. (2019). Structural correlates of accelerated intermittent theta-burst stimulation for treatment-refractory depression. ***Brain Stimulation***, *12*(2), 529. https://doi.org/10.1016/j.brs.2018.12.743

4. Zheng, L., Gao, Z., ***Xiao, X***., Ye, Z., Chen, C., & Xue, G. (2018). Reduced Fidelity of Neural Representation Underlies Episodic Memory Decline in Normal Aging. ***Cerebral Cortex*** *(New York, N.Y.: 1991)*, *28*(7), 2283–2296. https://doi.org/10.1093/cercor/bhx130

5. Zhao, L., Chen, C., Shao, L., Wang, Y., ***Xiao, X***., Chen, C., Yang, J., Zevin, J., & Xue, G. (2017). Orthographic and Phonological Representations in the Fusiform Cortex. ***Cerebral Cortex*** *(New York, N.Y.: 1991)*, *27*(11), 5197–5210. https://doi.org/10.1093/cercor/bhw300

6. Zhao, X., Wang, C., Liu, Q., ***Xiao, X***., Jiang, T., Chen, C., & Xue, G. (2015). Neural mechanisms of the spacing effect in episodic memory: A parallel EEG and fMRI study. ***Cortex**; a Journal Devoted to the Study of the Nervous System and Behavior*, *69*, 76–92. https://doi.org/10.1016/j.cortex.2015.04.002

Selected Published Abstracts

1. **Xiaoqian Xiao**, Gui Xue. Item-specific pattern reinstatement during encoding and retrieval [A]. OHBM[C]., 2016

2. **Xiaoqian Xiao**, Qi Dong, Chuansheng Chen,Gui Xue. Neural pattern similarity underlies the mnemonic advantages for living words [A]. OHBM[C]., 2015

3. **Xiaoqian Xiao**, Russell Poldrack, Qi Dong, Gui Xue. Variable Encoding Improves Memory and Increases Neural Pattern Similarity [A]. OHBM[C]., 2013

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