

Xiaonan L. Liu

Center for Neuroscience
 1544 Newton Ct.
 University of California
 Davis, CA 95618
 E-mail: xliu@ucdavis.edu liuxiaonan87@gmail.com

Research Interest

My research focuses on how information is acquired and retrieved for use in different situations, using a variety of methodologies. These include computational modeling, behavioral studies, neuroimaging (both EEG and fMRI).

Education

Ph.D., Department of Psychology Center for the Neural Basis of Cognition Carnegie Mellon University Committee members: Lynne Reder (Chair), John Anderson, Lori Holt	2010–2015
Awarded National Graduate Scholarship of China	2010–2015
B.S., School of Psychology Beijing Normal University	2006–2010
Awarded Professional Scholarship of Beijing Normal University	2007–2010

Positions

Visiting Assistant Professor, UC Davis	Jul, 2018-
Assistant professor, Xiamen University	Oct. 2015-

Grant Support

Principle Investigator, *Neural Mechanisms Underlying the Testing Effect*, National Science Foundation of China, 31700996, 1/1/2018-12/31/2020.

Principle Investigator, *Neural Correlates of the Feeling of Knowing Judgment*, Chinese Ministry of Education, 16YJC190015, 1/1/2016-12/31/2018.

Publications

➤ Journal Articles (* corresponding author)

Chen, X., Zhang, M., & **Liu, X. L.*** (in preparation). The confidence in accuracy moderates the benefits of the testing effect

Liu, X. L.*, Tan, D., & Reder, L. (2018). The two processes underlying the testing effect—Evidence from Event-Related Potentials (ERPs). *Neuropsychologia*, *112*: 77-85.

Liu, X. L.*, & Reder, L. (2016). fMRI exploration of pedagogical benefit of repeated testing: When more is not always better. *Brain & behavior*, *6*(7): e00476.

Reder, L. M. (advisor), **Liu, X. L.**, Keinath, A., & Popov, V. (2016). Building knowledge requires bricks, not sand: the critical role of familiar constituents in learning. *Psychonomic Bulletin & Review*, *23*(1): 271-277.

Liu, X. L., Liang, P., & Reder, L. (2014). Uncovering the neural mechanisms underlying learning from tests. *PLoS ONE*, *9*(3): e92025.

Liu, X. L., Walsh, M. M., & Reder, L. M. (2014). An attentional-adaptation account of spatial negative priming: Evidence from event-related potentials. *Cognitive, Affective, & Behavioral Neuroscience*, *14*(1): 49-61.

Rao, L. L., **Liu, X. L.**, Li, Q., Zhou, Y., Liang, Z. Y., Sun, H. Y., ... & Li, S. (2013). Toward a mental arithmetic process in risky choices. *Brain and Cognition*, *83*(3), 307-314.

- Griffin, M., Dewolf, M., Keinath, A., **Liu, X. L.**, Reder, L. M. (2013). Identical vs. Conceptual repetition FN400 and parietal old/new erp components occur during encoding and predict subsequent memory. *Brain Research* 1512: 68-77.
- Liang, P., Manelis, A., **Liu, X. L.**, Aizenstein, H. J., Gyulai, F., Quinlan, J. J., & Reder, L. M. (2012). Using arterial spin labeling perfusion MRI to explore how midazolam produces anterograde amnesia. *Neuroscience Letters*. 522(7), 113-117.
- Chen, R., **Liu, X. L.**, & Zhou, R. (2011). The attentional bias to threat stimuli in test-anxious students, *Psychological Science (in China)*, 34(1), 151-154.
- Wang, X., **Liu, X. L.**, Zhao, X., & Zhou, R. (2011). The developmental research on the updating ability of primary school children with mathematics learning disabilities, *Chinese Journal of Education*, 2, 47-51.
- Xu, A., **Liu, X. L.**, Xia, Y., Peng, M., & Zhou, R. (2010). Effect of chewing gums on emotion and cognitive tasks, *Chinese Journal of Clinical Psychology*, 18(4), 407-410.
- Liu, X. L.**, Ying, Y., & Zhou, R. (2009). The validity of subjective and objective awareness threshold in subliminal perception priming, *Psychological Science (in China)*, 6, 1310-1313.
- Liu, X. L.**, Xu, A., & Zhou, R. (2009). Native research of international affective picture system: assessment in university students, *Chinese Journal of Clinical Psychology*, 17(6), 687-689.
- Wang, X., **Liu, X. L.**, Luo, X., & Zhou, R., (2009), The development research on inhibition ability of children with mathematics learning disabilities, *Chinese Journal of Education*, 10, 55-59.

➤ Book translations

Herz, R. (2013). *That's Disgusting! Unraveling the Mysteries of Repulsion*. (Liu, X. L., & Liu, R., Chinese trans.). Beijing: China Light Industry Press. (Original work published 2012).

Conference Presentations

Liu, X. L., & Reder, L. (2016, Nov). *Examining the short vs. Long term testing effect by constraining trials based on subjects' confidence rating*. Poster session presented at the Psychonomic Society Annual Meeting. Boston, MA.

Liu, X. L., Tan, D., Zhang, Y., & Reder, L. (2016, May). *The two processes underlying the test effect: Evidence from event-related potentials (EPRs)*. Paper presented at the International Meeting of the Psychonomic Society. Granada, Spain.

Reder, L., Liu, X. L., Keinath, A., & Popov, V. (2016, May). *Building knowledge requires bricks, not sand: The critical role of familiar constituents in learning*. Paper presented at the International Meeting of the Psychonomic Society. Granada, Spain.

Reder, L., Liu, X. L., Keinath, A., & Popov, V. (2016, Apr). *Constructing new knowledge: The interplay of familiarity, discrimination, partial matching and working memory*. Paper presented at the Society of Experimental Psychologists. Columbia University.

Reder, L., Liu, X. L., Keinath, & Povov, V. (2015, Nov). *Building knowledge requires bricks, not sand: The critical role of familiar constituents in learning*. Paper presented at the Psychonomic Society Annual Meeting. Chicago, IL.

Reder, L., Liu, X. L., Keinath, & Povov, V. (2015, Jul). *Building knowledge requires bricks, not sand: The critical role of familiar constituents in learning*. Paper presented at the Special Symposium of the Psychonomic Society Governing Board. University of Edinburgh, Edinburgh, Scotland,

- Liu, X. L.,** Tan, D., Zhang, Y., & Reder, L. (2014, Nov). *Neural mechanisms underlying mnemonic benefits of repeated retrieval*. Poster session presented at the Psychonomic Society Annual Meeting. Long Beach, CA.
- Liu, X. L.,** Liang, P., Li, K., & Reder, L. (2014, Apr). *Brain activity during testing predicts later learning success*. Poster session presented at the Cognitive Neuroscience Society Annual Meeting. Boston, MA.
- Liu, X. L.,** Liang, P., Li, K., & Reder, L. (2013, Nov). *Brain activity during testing predicts later learning success*. Paper presented at the Psychonomic Society Annual Meeting, Toronto, Canada.
- Liu, X. L.,** & Siegle, G. (2012, Jun). *The distinct effect of emotional valence and arousal on working memory: An fMRI study*. Poster session presented at the 18th Annual Meeting of the Organization for Human Brain Mapping, Beijing, China.
- Liu, X. L.,** Walsh, M., & Reder, L. (2011, Apr). *An attentional adaptation account of spatial negative priming: Evidence from ERP*. Poster session presented at the Cognitive Neuroscience Society Annual Meeting, San Francisco, CA.
- Zhou, R., & **Liu, X. L.,** (2010, Apr). *The time course of automatic processing for negative emotional stimuli with unattended condition: evidence from functional data analysis and ERPs*. Poster session presented at the Cognitive Neuroscience Society Annual Meeting, Montreal, Canada.
- Liu, X. L.,** Rao, L., Zhou, Y., Liang, Z., Chen, X., Zhou, R & Li, S., (2010, Jun). *Is risky choice based on an expectation computation? An ERP study*. Poster session presented at the Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain.
- Liu, X. L.,** Hu, S., Zhang, J & Zhou, R., (2010, Jun). *fMRI reveals emotion provoked activation*

of brain areas. Poster session presented at the Annual Meeting of the Organization for Human Brain Mapping, Barcelona, Spain.

Teaching

- Cognitive Psychology (Fall)
- How to Think Straight About Psychology (Spring, Summer)
- Cognitive Neuroscience (Summer, Fall)

Extracurricular Service:

- Ad hoc Reviewer:

Consciousness and Cognition, Psychological Review, Psychonomic Bulletin & Review, Journal of Memory and Language, PLoS One, NeuroImage, Journal of Neuroscience, APS student research award

- Professional Affiliations

The Psychonomic Society

The Cognitive Neuroscience Society

Association for Psychological Science

- University and Departmental Service

Director of EEG lab, Xiamen University

June 2016-

Professional Skills:

EEG/ERP and fMRI data analysis: EEGLAB, SPM, AFNI

Statistical analysis: SPSS, R

Computational modeling: MATLAB, Lens