

Curriculum Vitae

Yu Xin, Ph.D.

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EDUCATION

- 2013-2020 **Ph.D.** in Neurobiology
Institute of Neuroscience, CAS, Shanghai, China
Advisor: Ninglong Xu
- 2009-2013 **B.S.**, Biological Engineering
Shanghai University, Shanghai, China

RESEARCH EXPERIENCE

- 2023-present ***Postdoctoral Research***, Zuckerman institute, New York, US
Advisor: Dr. Attila Losonczy
- 2020-2023 ***Postdoctoral Research***, Institute of Neuroscience, Shanghai, China
Advisor: Dr. Ninglong Xu
- Designed and set up the **behavior control system used for electrophysiology recording experiments**. This system allows us to train head-fixed mouse with an auditory-related flexible decision-making task and perform in-vivo electrophysiology recording simultaneously.
 - Built a **high-throughput in vivo electrophysiological recording system**, which allows a **maximum of four Neuropixel probes (1.0) to perform in-vivo recording simultaneously in head-fixed mouse brain**. Developed the electrophysiological data processing pipeline.
 - Studied the **neural representation of task information in multiple brain regions while animal performs a flexible decision-making task**.
- 2013-2020 ***Doctoral Research***, Institute of Neuroscience, Shanghai, China
Advisor: Dr. Ninglong Xu
- Developed and optimized behavior control and recording system for head-fixed mouse,

optimized behavior training protocol, customized headstage design.

- Optimized the chronic two-photon imaging procedure in the lab, developed two-photon imaging data processing pipeline.
- Studied the dynamic processing of auditory information in primary auditory cortex under different behavioral contexts.

PUBLICATIONS

Liu, Y., **Xin, Y.**, Xu, NL. A cortical circuit mechanism for structural knowledge-based flexible sensorimotor decision-making. *Neuron* (2021), 109: 2009-2024.e6.

Xin Y, Zhong L, Zhang Y, Zhou TT, Pan JW and Xu NL. Sensory-to-category transformation via dynamic reorganization of ensemble structures in mouse auditory cortex. *Neuron* (2019), 103:909-921.e6.