

## Xiao-Xiong LIN

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CONTACT INFORMATION	In.xxng@gmail.com	XiaoXiongLin.com
EDUCATION	<b>Ludwig-Maximilian University of Munich</b> , Munich, Germany	
	Fast-track PhD, Computational and Systems Neuroscience, Oct. 2016 – Sept. 2023	
	<b>Peking University</b> , Beijing, P.R.China	
	B.S., Cognitive Neuroscience , GPA: 3.6/4.0	July 2016
	B.A., Art History	July 2017
RESEARCH EXPERIENCE	<b>Postdoctoral Research</b>	July 2024 – present
	Bernstein Center Freiburg, University of Freiburg	
	Advisors: Prof. Christian Leibold	
	<ul style="list-style-type: none"><li>• Egocentric visual navigation with hippocampal sequences</li><li>• Navigation in abstract spaces with hippocampus-inspired architectures</li></ul>	
	<b>PhD Research Project</b>	Apr. 2018 – Jan. 2024
	Department of Neurosurgery, Technical University of Munich	
	Advisors: Prof. Simon Jacob, Prof. Christian Leibold, Prof. Moritz Grosse-Wentrup	
	<ul style="list-style-type: none"><li>• population-level neural coding for working memory and flexible behavior</li></ul>	
	<b>Research Project</b>	Oct. 2017 – Mar. 2018
	Faculty of Philosophy, Philosophy of Science and Religious Studies, Ludwig-Maximilian University of Munich	
	Advisor: Prof. Ophelia Deroy	
	<ul style="list-style-type: none"><li>• Contextual value representation</li></ul>	
	<b>Research Project</b>	Apr. 2017 – Aug. 2017
	Technical University of Munich	
	Organizer: Prof. Jorg Conradt	
	<ul style="list-style-type: none"><li>• Image segmentation with event camera input</li></ul>	
	<b>Research Project</b>	Mar. 2017 – May 2017
	Graduate School of Systemic Neuroscience, Ludwig-Maximilian University of Munich	
	Advisor: Prof. Christian Leibold	
	<ul style="list-style-type: none"><li>• Computational modeling of hippocampal representation of space</li></ul>	
	<b>Research Assistant</b>	May 2014 – July 2016
	School of Psychological and Cognitive Sciences, Peking University	
	Advisors: Prof. Yan Bao and Prof. Ernst Pöppel	
	<ul style="list-style-type: none"><li>• Frequency modulated analytic and holistic processing modes of auditory temporal order perception</li><li>• Temporal information processing in poetry appreciation</li><li>• Temporal integration indexed by mismatch negativity (EEG)</li></ul>	
TEACHING	Teaching Assistant, Cold Spring Harbor Asia	
	<ul style="list-style-type: none"><li>• Cognitive and Computational Neuroscience Summer School</li></ul>	July 2025
	Teaching Assistant, Neuromatch Academy	

- deep learning Aug 2021
  - methods in computational neuroscience Aug 2020
- Instructor, ViaX online education Nov 2016 – Oct 2018
- perception and cognition

AWARDS	Graduate School of Systemic Neuroscience, University of Munich	
	• Doctoral scholarship	2017
	Peking University	
	• Award for Excellence in Research	2015
	• Research Grant from President's Foundation	2014
	• Award for Excellence in Courses	2013
	China Computer Federation	
	• First Award in 17th National Olympiad in Informatics in Provinces (awarded <1.5%)	2011

PUBLICATIONS

Computational and systems neuroscience

1. **Lin, X.-X.**, Yiu, Y.-H., Leibold, C. (2026). Emergence of Spatial Representation in an Actor-Critic Agent with Hippocampus-Inspired Sequence Generator. ICLR.
2. **Lin, X.-X.**, Nieder, A., Jacob, S.N. (2023). The neuronal implementation of representational geometry in primate prefrontal cortex. Science Advances.
3. Eisenkolb, V. M., Held, L. M., Utschmid, A., **Lin, X.-X.**, Krieg, S. M., Meyer, B., ... & Jacob, S. N. (2023). Human acute microelectrode array recordings with broad cortical access, single-unit resolution and parallel behavioral monitoring. Cell Reports.

Cognitive neuroscience

1. Zhang, Z.; **Lin, X.**; Bao, Y. (2023). Holistic temporal order judgment of tones requires top-down disentanglement. PsyCh Journal, 12(4), 491-499.
2. Bao, Y., Pöppel, E., Wang, L., **Lin, X.**, Yang, T., Avram, M., ... Vedder, A. (2015). Synchronization as a biological, psychological and social mechanism to create common time: a theoretical frame and a single case study. PsyCh Journal, 4(4), 243-254.
3. Bao, Y., Yang, T., **Lin, X.**, & Pöppel, E. (2016). Donders revisited: Discrete or continuous temporal processing underlying reaction time distributions? PsyCh Journal, 5(3), 177-179.
4. Wang, L., Bao, Y., Zhang, J., **Lin, X.**, Yang, L., Pöppel, E., & Zhou, B. (2016). Scanning the world in three seconds: Mismatch negativity as an indicator of temporal segmentation. PsyCh Journal, 5(3), 170-176.
5. Wang, L., **Lin, X.**, Zhou, B., Pöppel, E., & Bao, Y. (2015). Subjective present: a window of temporal integration indexed by mismatch negativity. Cognitive Processing, 16(1), 131-135.
6. Wang, L., **Lin, X.**, Zhou, B., Pöppel, E., & Bao, Y. (2016). Rubberband effect in temporal control of mismatch negativity. Frontiers in Psychology, 7.

Neural aesthetics

1. Bao, Y., Yang, T., Zhang, J., Zhang, J., **Lin, X.**, Paolini, M., ... & Silveira, S. (2017). The "third abstraction" of the Chinese artist LaoZhu: Neural and behavioral indicators of aesthetic appreciation. *PsyCh Journal*, 6(2), 110-119.
2. Bao, Y., Yang, T., **Lin, X.**, Fang, Y., Wang, Y., Pöppel, E., & Lei, Q. (2016). Aesthetic Preferences for Eastern and Western Traditional Visual Art: Identity Matters. *Frontiers in Psychology*, 7.

## SKILLS

### Coding

- proficient: Python (Numpy, PyTorch, Scikit-learn, Tensorflow, Matplotlib)
- have experience: MatLab, C++, html+css+JavaScript, GLSL

### Language

- Mandarin Chinese (native), English (fluent), German (good command)

## ARTISTIC WORK

### Hidalgo Collective

Nov 2022 – present

- concept development and technical supervision *Der Ewige Ton (The eternal sound; 2025)*
- facial expression recognition web app for concert "Who Are You" (2023)
- stage design for classical music concerts
- conceptual art
- AI technology support

### PKU Drama Society

Sept 2012 – July 2016

- Director, *The Ghost Sonata* (2016) Beijing, China
- Actor, *the 3rd International Youth Classical Drama Festival* (2014) Messini, Greece
- Actor, *Beijing International Youth Drama Festival* (2014) Beijing, China
- Instructor of actor training

## REFERENCES

### **Prof. Christian Leibold**

Theoretical Systems neuroscience

University of Freiburg

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Email: [christian.leibold@biologie.uni-freiburg.de](mailto:christian.leibold@biologie.uni-freiburg.de)

Website: <https://www.neurotheory.uni-freiburg.de/>

Relationship: PostDoc supervisor, PhD thesis advisor, lab rotation supervisor, mentor

### **Prof. Simon Jacob**

Translational NeuroTechnology Lab

Technical University of Munich

Ismaninger Str. 22

81675 Munich

Germany

Phone: +49 (89) 4140-7636

Email: [simon.jacob@tum.de](mailto:simon.jacob@tum.de)

Website: <http://simonjacob.de/>

Relationship: PhD supervisor

**Prof. Ernst Pöppel**

Institute of Medical Psychology

University of Munich

Goethestr. 31

80336 Munich

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Phone: +49 (0)89-2180-75650

Email: [Ernst.Poeppel@med.uni-muenchen.de](mailto:Ernst.Poeppel@med.uni-muenchen.de)

Website: <https://www.ernst-poeppel.com/>

Relationship: Collaborator, mentor