

# Bohan Zhao Ph.D.

AHA Postdoctoral Fellow

*Dorris Neuroscience Center*

*Howard Hughes Medical Institute (HHMI)*

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## Employment:

- 2023- **The Scripps Research Institute**  
Postdoctoral Associate, Department of Neuroscience/HHMI  
*American Heart Association (AHA) Postdoctoral Fellowship*  
Advisor: Li Ye
- 2021-2023 **University of Oxford**  
Postdoctoral Fellow, Department of Physiology, Anatomy and Genetics  
*European Molecular Biology Organization (EMBO) Postdoctoral Fellowship*  
Advisor: Gero Miesenböck

## Education:

- 2015 - 2021 **Tsinghua University**  
Ph.D. in Neurobiology, IDG/McGovern Neuroscience Institute  
Advisor: Yi Zhong  
Dissertation: *"Neural network mechanisms underlying context-dependent long-term memory and merged long-term memory"*
- 2011 - 2015 **Sichuan University**  
B.S. in Biology (National Key Fundamental Class), School of Life Sciences  
Dissertation: *"The distribution of orientation-selected neurons in primary visual cortex of mice"*

## Research Experience:

- 2023.1 - **The Scripps Research Institute**  
*Dorris Neuroscience Center*  
*Howard Hughes Medical Institute*  
Postdoc Fellow; Advisor: Li Ye
- Investigating brain-body crosstalk during metabolic processes in mice.
  - Studying somatosensory innervations in adipose tissues.

- 2021 – 2023    **University of Oxford**  
*Centre for Neural Circuits and Behaviour*  
 Postdoc Fellow; Advisor: Gero Miesenböck
- Exploring mechanisms underlying sleep-wake regulation in *Drosophila*.
  - Studying the firing properties of dopaminergic neurons during sleep.
- 2015 – 2021    **Tsinghua University**  
*Laboratory for Memory, IDG/McGovern Institute for Brain Research*  
 Graduate Student; Advisor: Yi Zhong
- Discovering a multisensory integration-mediated context-dependent long-term memory in *Drosophila*.
  - Uncovering a merged long-term memory supporting the conservative escape strategy after occasional dangers in *Drosophila*.
  - Revealing distinct forgetting mechanisms underlying learned fear and learned safety in *Drosophila*.
- 2014 – 2015    **Tsinghua University**  
*Laboratory for Neural circuit, IDG/McGovern Institute for Brain Research*  
 Student Intern; Advisor: Ji-Song Guan
- Investigating distribution of orientation selective neurons in layer 2/3 and layer 5 of mouse primary visual cortex using the immediate early gene *EGR1* and two-photon *in vivo* imaging.
  - Studying the alterations of task-evoked neuron population and activity in primary motor cortex over time.
  - Identifying the cortical regions involved in thermogenesis.
- 2013 – 2014    **Chinese Academy of Sciences**  
*Center for Amphibian and Reptile, Chengdu Institute of Biology*  
 Undergraduate Student; Advisor: Jiatang Li
- Participating in establishment of DNA barcoding COI (cytochrome c oxidase subunit I) database for identification of tree frogs *Rhacophoridae*.
  - Conducted fieldwork and collected tree frog specimens independently at Fengtongzhai National Natural Reserve, Baoxing.
- 2013            **Sichuan University**  
*The College of Life Sciences*  
 Undergraduate Fellow; Advisor: Heng Xu
- Exploring biological methods for controlling the growth and spread of pan drug-resistant bacteria using *Bdellovibrio*.

## Publications:

Zhao J., Zhang X., **Zhao B.**, Wang L., Hu W., Zhong Y., & Li Q. (2023). Genetic dissection of mutual interference between two consecutively learned tasks in *Drosophila*. *eLife*, 12, e83516.

**Zhao B.**, Zhang X., & Li Q. (2022). Exclusion and co-expression of aversive olfactory long-term memories in *Drosophila*. *Neurosci Bull*, 38, 657-660.

**Zhao B.**, Sun J., Li Q., & Zhong Y. (2021). Differential conditioning produces merged long-term memory in *Drosophila*. *eLife*, 10, e66499.

**Zhao B.**, Sun J., Zhang X., Mo H., Niu Y., Li Q., Wang L., & Zhong Y. (2019). Long-term memory is formed immediately without the need for protein synthesis-dependent consolidation in *Drosophila*. *Nat Commun*, 10, 4550.

Dang N., Sun F., Lv Y., **Zhao B.**, Wang J., Murphy R., Wang W., & Li J. (2016). DNA barcoding and the identification of tree frogs (Amphibia: Anura: Rhacophoridae). *Mitochondrial DNA A DNA Mapp Seq Anal*, 27, 2574-2584.

Ma L., **Zhao B.**, Tan T., Zou L., & Xu H. (2015). Study of Bdellovibrio on the lysis of pan drug-resistant Gram-negative bacteria and culture conditions, *J Sichuan U (Nat Sci Ed)*, 4, 896-900. (In Chinese).

## Invited Talks:

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|-----------------|---|
| 2021            | <b>CAS Brain Science &amp; Intelligence Technology Forum for Young Scholars</b>   |
| Shanghai, China | Lecture: Multiple memory components are formed after an aversive experience       |
| 2021            | <b>Annual Conference of IDG/McGovern Institute at Tsinghua</b>                    |
| Beijing, China  | Lecture: Multiple long-term memories are formed after an aversive experience      |
| 2020            | <b>Biology Forum of Tsinghua University in 2020</b>                               |
| Beijing, China  | Lecture: Single-trial training forms merged long-term memory in <i>Drosophila</i> |
| 2019            | <b>The 29<sup>th</sup> Beijing Area Fly Meeting</b>                               |
| Beijing, China  | Lecture: Context Effects: are forgotten memories really disappeared?              |
| 2019            | <b>International Symposium on Nerve Cells, Circuits, and Behaviors</b>            |
| Beijing, China  | Poster: Research on how encoding context facilitates memory retrieval             |
| 2018            | <b>Society for Neuroscience 2018: the 48<sup>th</sup> Annual Meeting</b>          |
| San Diego, CA   | Poster: Context Effects: a latent memory refreshed by context                     |
| 2018            | <b>The 17<sup>th</sup> Molecular and Cellular Cognition Society</b>               |
| San Diego, CA   | Poster: Context Effects: a latent memory refreshed by context                     |

### **Awards & Honors:**

2023-2025	AHA Postdoctoral Fellowship, American Heart Association
2023	Dorris Scholarship, The Scripps Research Institute
2021-2023	EMBO Postdoctoral Fellowship, European Molecular Biology Organization
2020	First-Class Comprehensive Scholarship/Optics Valley Scholarship, Tsinghua University
2019	Award for Outstanding Research Achievement, IDG/McGovern-Tsinghua
2019	National Graduate Scholarship <i>The highest national award for outstanding graduate students in China</i>
2013	Top Talent Scholarship, Sichuan University