

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 | CAS Brain Science & Intelligence Technology Forum for Young Scholars |
| Shanghai, China | Lecture: Multiple memory components are formed after an aversive experience |
| 2021 | Annual Conference of IDG/McGovern Institute at Tsinghua |
| Beijing, China | Lecture: Multiple long-term memories are formed after an aversive experience |
| 2020 | Biology Forum of Tsinghua University in 2020 |
| Beijing, China | Lecture: Single-trial training forms merged long-term memory in <i>Drosophila</i> |
| 2019 | The 29th Beijing Area Fly Meeting |
| Beijing, China | Lecture: Context Effects: are forgotten memories really disappeared? |
| 2019 | International Symposium on Nerve Cells, Circuits, and Behaviors |
| Beijing, China | Poster: Research on how encoding context facilitates memory retrieval |
| 2018 | Society for Neuroscience 2018: the 48th Annual Meeting |
| San Diego, CA | Poster: Context Effects: a latent memory refreshed by context |
| 2018 | The 17th Molecular and Cellular Cognition Society |
| 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
The highest national award for outstanding graduate students in China
- 2013 Top Talent Scholarship, Sichuan University