



Education

- **09/2016-01/2022 Peking University (PKU) Beijing, China**
Neuroscience Research Institute, Department of Neurobiology, School of Basic Medical Sciences
Major: Medical Neurobiology **Degree:** Doctor of Philosophy
- **09/2012-06/2016 Peking University (PKU) Beijing, China**
Neuroscience Research Institute, Department of Neurobiology, School of Basic Medical Sciences
Major: Basic Medicine **Degree:** Bachelor of Science

Academic Researches

- **Obstacles and rescue of visumotor learning in Rett Syndrome mice**
Supervisor: Prof. Ian Duguid (The University of Edinburgh) **11/2022-Present**
 - ✧ Training Mecp2^{+/-} mice for the Go/NoGo task.
 - ✧ Performing mesoscale calcium imaging during the Go/NoGo task.
 - ✧ Analyzing the functional connectivity of the cortex in the pre-symptomatic Rett syndrome and after rescue.
- **Electrophysiological characteristics of motor cortex in moving rats**
Supervisors: Dr. Ming Yi, Prof. You Wan (Peking University) **12/2019-10/2022**
 - ✧ Established the rat track and motion behavior camera tracking system.
 - ✧ Collected motor cortex electrical signals in animal start/stop state switch.
 - ✧ Analyzed the firing rate of neurons, spectrum of the local field potential(LFP), and the phase-locked of neurons and LFP in different frequency bands in motor cortex.
- **Interneurons in the ventral hippocampus CA1 modulate chronic inflammatory pain in mice**
Supervisors: Dr. Ming Yi, Prof. You Wan (Peking University) **06/2017-10/2022**
 - ✧ Built the optogenetics and chemogenetics control systems on PV-Cre and SST-Cre transgenic mice respectively.
 - ✧ Injected Freund's adjuvant (CFA) to induce chronic inflammatory pain.
 - ✧ Manipulated the two types of interneurons in the vCA1 *in vivo* to modulate pain and pain-related behaviors.
- **Cortical synaptic AMPA receptor plasticity during motor learning**
Supervisor: Dr. Yong Zhang (Peking University) **09/2016-05/2017**
 - ✧ Basicly analyzed images of spines on dendrites in mice cortical.
- **Wnt signaling contributes to neuropathic pain by regulating sensory neuron excitability and spinal synaptic plasticity in rats**
Supervisor: Prof. Xuejun Song (Peking University) **10/2014-07/2016**
 - ✧ Measured the protein levels of Wnts and Ryk in chronic constriction injury model rats.
 - ✧ Cultured primary ganglion neurons and measured intracellular Ca²⁺.



Teaching experience:

- ✧ **Teaching assistant:**
Theory session of Neurobiology 2017-2018
- ✧ **Teaching assistant:**
Laboratory session of Advanced Neurobiology 2018-2021

Mentorship

- ✧ **Mentor two junior doctoral students**
Experimental technical guidance and project discussion 2019-2022

Honors/Awards

- ✧ National academic scholarship 2016-2021
- ✧ RWD social work scholarship 2016, 2018-2020
- ✧ Peking University outstanding research award 2018, 2020

Professional Skills

- ✧ **Computer skills:** Python (calcium imaging data analysis), MATLAB (electrophysiological data analysis, including spike and LFP analysis), Intan RHD 2000 (electrophysiological chronic recording), KlustaKwik (spike data sorting), Shapr3D (3D modeling), Altium designer (PCB design), LAS X (tissue section shooting and analysis), Image J (image analysis), Graphpad Prism (statistical analysis), SMART (behavior analysis), Adobe Premiere, Procreate.
- ✧ **Technical skills:** Model of chronic pain (CFA, CCI, SNI), *in vivo* Electrophysiology (electrode production and surgery), Optogenetics (virus stereotactic injection and fiber implantation, laser stimulation), Chemogenetics (virus stereotactic injection and CNO intraperitoneal injection, cranial trocar implantation and injection), Animal behavioral experiments (thermal pain measurement, von frey hair, conditioned place preference test, open field test, elevated plus-maze test, forced swimming test, tail suspension test etc.), Polymerase chain reaction (PCR, for genotyping), Immunofluorescence, Western blot.

List of Presentations

- ✧ **Interneurons in the ventral hippocampus modulate chronic inflammatory pain in mice**
Thesis defense, in Peking University 11/2021
- ✧ **Interneurons in the ventral hippocampus modulate chronic inflammatory pain in mice**
Abstract submission, in Peking University Chinese neuroscience society 09/2021
- ✧ **Interneurons in the ventral hippocampus modulate chronic inflammatory pain in mice**
Research progress report, in Department of Neurobiology 07/2019
- ✧ **PV positive interneurons in the vCA1 modulate chronic inflammatory neuropathic pain in mice**
Research proposal defense, in Department of Neurobiology 04/2017