
Yuejun Liu

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Education

Northwestern Interdepartmental Neuroscience PhD Program (Aug 2020 - present)

Northwestern University, Evanston, IL (Aug 2018 - Sept 2019)

- Master of Science in Neurobiology

Southern Medical University, Guangzhou, China (Sept 2013 - July 2018)

- Bachelor of Medicine
- Minor in Pathology

University of California, Los Angeles, LA, CA (Summer 2015)

- Coursework: Cognitive Psychology and Behavioral Neuroscience

Research Experience

Graduate Student (July 2021 - present)

- PI: Professor Mark Bevan, Neuroscience Department, Feinberg School of Medicine, Northwestern University
- Research focus: dopaminergic modulation of striatum

Lab Technologist (Oct 2019 - Aug 2020)

- PI: Professor Mark Segraves, Neurobiology Department, Northwestern University
- Performed eye movement tracking and chronic neural activity array recording on rhesus monkeys
- Conducted spike sorting, data analyzing and response fields plotting

Master Thesis (Sept 2018 - Sept 2019)

- PI: Professor Yevgenia Kozorovitskiy, Neurobiology Department, Northwestern University
- Project: *Sex specific evaluation of oxytocin circuit structure and body weight control*
- Applied chemogenetic approach to up- and down- regulate oxytocin neuron activity, performed feeding and locomotive behavior, validated DREADDs effect by cell-attached recording and confocal microscopy
- Injected oxytocin-Cre mice intracranially with Cre-dependent AAV virus and Rabies virus to perform anterograde and retrograde trans-synaptic tracing

Undergraduate Research Assistant (Sept 2017 - May 2018)

- PI: Professor Tian-ming Gao, Southern Medical University
- Project: *P2X2 knockout mice depressive-like behavior analysis*
- Genotyped P2X2 knockout mice, conducted western blot to examine P2X2 proteins
- Performed open field test, elevated plus maze test and forced swimming test to identify the mood and anxiety related phenotype

Volunteer Researcher (April - Sept 2017)

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- PI: Professor Tian-ming Gao, Southern Medical University
 - Managed mouse husbandry, breeding and genotyping
 - Conducted PCR, Western Blot, novel object recognition test, and 3-chambered test
 - Performed stereotaxic injection, open field test, elevated plus maze, and forced swimming test

Neurobiology Elite Program Member (Summer 2014 & Summer 2015)

- PI: Professor Xin-hong Zhu and Professor Xiong Cao, Southern Medical University
- Shadowed a PhD student to learn basic experimental skills including cell culture, western blot, and behavioral assays in depression, anxiety, cognition, learning and memory

Mentoring and Instruction Experience

Teaching Assistant (Fall, 2021)

- NEUROSCI_304: Developmental Neurobiology

Teaching Assistant (Winter, 2020)

- NEUROSCI_390: Topics in Neuroscience: From Perception to Action

Shadowing/Clinical Observations

Pathology (Dec 2014 - Feb 2015)

- The Third Affiliated Hospital, Sun Yat-Sen University
- Paraffin pathological sections, hematoxylin and eosin staining
- Pathology diagnostics from human specimens

Neurology (Aug - Sept 2014)

- The Third Affiliated Hospital, Sun Yat-Sen University
- Questionnaires and physical examination of patients
- Differential diagnosis of neurological diseases
- Lumbar puncture for cerebrospinal fluid sampling

Publications

Xiao L, **Liu YJ**, Priest MF, Wu MZ, Kozorovitskiy Y (In preparation). Whole-brain mapping of sexually dimorphic oxytocin circuit structure and function in body weight control.

Presentations

Optimized optical stimulation of granule cells to study presynaptic mechanism of transmission and plasticity at mossy fibers. *Rotation talk*. Feinberg School of Medicine. Chicago, IL, USA. June 2021. Presentation.

Natural Image Search Strategy in Rhesus Macaques. *Rotation talk and Neuroscience PhD interview Poster session*. Neurobiology Department. Evanston, IL, USA. Dec 2020. Presentation and Poster.

Sex-specific Evaluation of Oxytocin Circuit Structure and Body Weight Control. *Master Thesis Poster Section*. Neurobiology Department. Evanston, IL, USA. June 2019. Poster.

Professional Skills

Experimental techniques: whole-cell recording, cell-attached recording, stereotaxic intracranial injection, immunohistochemistry, western blot, PCR, electrophoresis, DNA & protein isolation and purification, cell culture, mice genotyping/breeding.

Imaging and sample prep: microtome frozen sectioning, acute brain slice preparation, epifluorescent microscopy, confocal microscopy.

Behavior assay:

- Mice: feeding, open field, forced swimming test, sucrose preference, elevated plus maze, 3-chamber social test, novel object recognition, Morris water maze
- Monkeys: natural scene search task

Software: MATLAB, OmniPlex, PlexonUtil, Plexon Offline Sorter, GraphPad, ImageJ (FIJI), Microsoft Suite, Adobe Illustrator, Softmouse.