

# Zeping Xie, MD, PhD

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## EDUCATION / WORK EXPERIENCE

- **Master's Degree and PhD in Medicine** Sep. 2017 – Dec.2023  
Southern Medical University (SMU)  
Research Field: Pharmacological research on Alzheimer's disease
- **Joint PhD / Research Fellow** Feb. 2022 – Aug.2023  
Harvard Medical School (HMS), Massachusetts General Hospital (MGH)  
Research Field: Ultra High-Field Preclinical MRI; Multimodal fMRI Research in coma rat model
- **Bachelor's Degree in Medicine** Sep.2012 – Jun.2017  
Southern Medical University (SMU)  
Major: Integrity of Traditional Chinese Medicine and Western Medicine

## SKILLS

- **Animal Behavioral and Cognitive Testing:** Proficient in conducting a variety of tests to assess animal behavior and cognition.
- **Small Animal Imaging:** Experienced in a range of imaging techniques, including functional MRI (fMRI), electrophysiology, optogenetics, and fiber photometry.
- **Wet Lab Techniques:** Skilled in flow cytometry, immunohistochemistry, immunofluorescence, Western blot (WB), and RT-qPCR.
- **Animal Surgical Procedures:** Competent in performing various animal surgeries, including stereotaxic injections.
- **Data Analysis and System Operation:** Familiar with basic data analysis in MATLAB and system operations in the Linux environment. Proficient in executing and applying pre-written scripts and programs.
- **Analytical and Problem-Solving Skills:** Strong ability in analytical thinking and creative problem-solving.

## PUBLICATIONS

**Xie Z**, Lu H, Yang S, Zeng Y, Li W, Wang L, Luo G, Fang F, Zeng T, Cheng W. Salidroside Attenuates Cognitive Dysfunction in Senescence-Accelerated Mouse Prone 8 (SAMP8) Mice and Modulates Inflammation of the Gut-Brain Axis. *Front Pharmacol.* 2020 Dec 9;11:568423.

Yang S, **Xie Z (co-first)**, Pei T, Zeng Y, Xiong Q, Wei H, Wang Y, Cheng W. Salidroside attenuates neuronal ferroptosis by activating the Nrf2/HO1 signaling pathway in A $\beta$ 1-42-induced Alzheimer's disease mice and glutamate-injured HT22 cells. *Chin Med.* 2022 Jul 4;17(1):82.

**Xie Z**, WEN F, LI W, et al. The Role of Immunosenescence in Cancer and Immunotherapy [J]. *China Cancer*, 2019,28(12):934-940. (Chinese Core Journal)

Hike D, Liu X, **Xie Z**, Zhang B, Choi S, Zhou XA, Liu A, Murstein A, Jiang Y, Devor A, Yu X. High-resolution

awake mouse fMRI at 14 Tesla. eLife13:RP95528.

D. R. Miller, X. A. Zhou, S. Liang, **Z. Xie**, B. Fu, P. Shin, Q. Pian, Y. Jiang, A. Liu, J. Tang, A. Devor, X. Yu, S. Sakadzic. Multi-modal microvascular cerebral blood flow velocity mapping with 14T single-vessel MRI and optical microscopy in the mouse brain. bioRxiv 2023.11.07.566001.

Zhang X, Sun W, Wang L, **Xie Z**, Liu M, Wang J. Selective pyrophosphate detection via metal complexes. iRadiology. 2023 Dec.

FAN H, **XIE Z**, L U Z, et al. Anti-inflammatory and immune response regulation of Si-Ni-San in 2,4-dinitrochlorobenzene induced atopic dermatitis-like skin dysfunction [J]. Journal of ethnopharmacology, 2018, 222(1-10).

FANG F, **XIE Z**, QUAN J, et al. Baicalin suppresses Propionibacterium acnes-induced skin inflammation by downregulating the NF- $\kappa$ B/MAPK signaling pathway and inhibiting activation of NLRP3 inflammasome [J]. Brazilian journal of medical and biological research, 2020, 53(12): e9949.

Yang S, Wang L, **Xie Z**, Zeng Y, Xiong Q, Pei T, Wei D, Cheng W. The Combination of Salidroside and Hedysari Radix Polysaccharide Inhibits Mitochondrial Damage and Apoptosis via the PKC/ERK Pathway. Evid Based Complement Alternat Med. 2022 Jun 25;2022:9475703.

Liu M, Zhang X, Wang L, Sun W, **Xie Z**, Wang J, A dual-mode mechanism terpyridine-based fluorescent probe (Tpy-Zn) for ATP sensing [J]. Journal of Molecular Structure, 2024 May 5, 1303(137558).

Yang S, Wang L, Zeng Y, Wang Y, Pei T, **Xie Z**, Xiong Q, Wei H, Li W, Li J, Su Q, Wei D, Cheng W. Salidroside alleviates cognitive impairment by inhibiting ferroptosis via activation of the Nrf2/GPX4 axis in SAMP8 mice. Phytomedicine. 2023 Jun;114:154762.

Zeng T, Deng G, Zhong W, Gao Z, Ma S, Mo C, Li Y, Huang S, Zhou C, Lai Y, Xie S, **Xie Z**, Chen Y, He S, Lv Z, Gao L. Indoleamine 2, 3-dioxygenase 1 enhances hepatocytes ferroptosis in acute immune hepatitis associated with excess nitrate stress. Free Radic Biol Med. 2020 May 20;152:668-679.

### **PEER REVIEW INVOLVEMENT**

- Reviewer for "Phytomedicine" Journal
- Subject Editor for "Chinese Journal of Magnetic Resonance Imaging"

### **CONFERENCE POSTER PRESENTATIONS**

D. R. Miller, X. Zhou, **Z. Xie**, B. Fu, P. Shin, Q. Pian, Y. Jiang, Q. Pian, X. Yu, S. Sakadzic. Imaging penetrating arterioles and venules in mouse cortex using 14T single vessel fMRI and optical microscopy. Society for Neuroscience (SfN). 2023.

**Z Xie**, W Man, X Liu, Y Jiang, D Hike, A. B. Edlow, and X Yu. Identifying spreading depression during real-time brainstem coma induction with multi-modal fMRI. 9th BRAIN Initiative. 2023.

Hike D, Liu X, **Xie Z**, Zhang B, Yang W, Murstein A, Liu A, Glen D, Reynolds R, Yu X. Implanted coils enable ultra-high resolution EPI-based fMRI in awake mice at 14T. 9th Annual BRAIN Initiative. Bethesda, 2023.

**Z Xie**, W Man, X Liu, Y Jiang, D Hike, A Liu, Brian L. Edlow, and Xin Yu. Identifying Spreading Depression during Coma Induction with Multi-modal fMRI. Scientific Advisory Committee meeting (SAC). 2023.

S Choi, **Z Xie**, X Liu, B Zhang, D Hike, A Liu, and X Yu. Detecting high temporospatial laminar-specific

fMRI responses in Awake Mouse. International Society for Magnetic Resonance in Medicine (ISMRM). 2023.

D Hike, X Liu, **Z Xie**, and X Yu. Ultra-High Resolution fMRI in Awake Mice at 14T. Experimental Nuclear Magnetic Resonance Conference (ENC). 2023.

**Z Xie** , Y Jiang, B Zhang, A Liu, B. Edlow, and X Yu. Real-time brainstem coma induction model for neuro-glio-vascular (NGV) signaling with multi-modal fMRI platform. Society for Neuroscience (SfN). 2022.

Hike D, Murstein A, **Xie Z**, Liu X, Liu A, Choi SC, Zhang B, Jiang, Y, Yu X. Implanted RF coils enable 100um resolution of EPI-fMRI images in ultra-high field preclinical MRI. Neuroscience 2022. San Diego, 12-16 November 2022.

## **HONORS**

- Awarded "Outstanding Postgraduate Student" at Southern Medical University.
- Recipient of the First Prize Scholarship from Southern Medical University.
- The Grand Prize at the 2023 Graduate Academic Annual Conference hosted by the Gansu University of Chinese Medicine.