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**EDUCATION**

- 09/2009-01/2016 **Ph.D., Neurobiology**  
 Peking University, Beijing, China
- 09/2004-07/2009 **Bachelor of Medicine (M.B.), Basic Medical Sciences**  
 Peking University, Beijing, China

**RESEARCH**

- 09/2023-present **Assistant Professor**  
 University of South Florida Morsani College of Medicine, Tampa, FL
- 06/2020-09/2023 **Research Associate**  
 Johns Hopkins University School of Medicine, Baltimore, MD
- 01/2016-05/2020 **Postdoctoral Fellow** (Mentor: Dr. Fengquan Zhou)  
 Johns Hopkins University School of Medicine, Baltimore, MD
- 09/2009-01/2016 **Doctoral Student** (Mentor: Dr. Cailian Cui)  
 Peking University, Beijing, China
- 09/2006-08/2009 **Undergraduate Research Assistant** (Mentor: Dr. Cailian Cui)  
 Peking University, Beijing, China

**GRANT SUPPORT**

- 03/2024-02/2027 **R00EY031742** NIH Pathway to Independence Award (K99/R00) from the National Eye Institute  
 Title: Deciphering the transcriptional regulatory network controlling RGC axon growth to promote RGC axon regeneration and cell survival after axonal injury
- 03/2024-02/2026 Merkin Peripheral Neuropathy and Nerve Regeneration Center  
 Title: Elucidating the mechanisms by which H3K27me3 maintains normal axon regeneration

**HONORS AND AWARDS**

- 2024 **Travel Grant**, RReSTORE Conference
- 2022 **Travel Grant**, RReSTORE Conference
- 2022 **Travel Grant**, Central Nervous System Injury and Repair Gordon Research Seminar
- 2010-2011 **Tri-merit Outstanding Student**, Peking University
- 2009-2012 **Graduate Student Scholarship**, Peking University

**PUBLICATIONS**Select publications

- Wang, X. W.\*<sup>#</sup>**, Yang, S. G.\*<sup>#</sup>, Hu, M. W.\*<sup>#</sup>, Wang, R. Y.\*<sup>#</sup>, Zhang, C., Kosanam, A. R., Ochuba, A. J., Jiang, J. J., Luo, X., Guan, Y., Qian, J., Liu, C. M.<sup>#</sup>, & Zhou, F. Q.<sup>#</sup> (2023). Histone methyltransferase Ezh2 coordinates mammalian axon regeneration via regulation of key regenerative pathways. *The Journal of clinical investigation*, 134(3), e163145. (\*co-first authors, <sup>#</sup>co-corresponding authors)  
<https://doi.org/10.1172/JCI163145>
- Yang, S. G.\*<sup>#</sup>, **Wang, X. W.\*<sup>#</sup>**, Li, C. P.\*<sup>#</sup>, Huang, T.\*<sup>#</sup>, Li, Q., Zhao, L. R., Qian, C., Saijilafu, Liu, C. M., & Zhou,

F. Q. (2023). X chromosome encoded histone demethylase UTX regulates mammalian axon regeneration via microRNA-124. *bioRxiv* 2023.09.12.557354. (\*co-first authors)

<https://doi.org/10.1101/2023.09.12.557354>

3. Yang, S. G.\*, **Wang, X. W.\***, Qian, C., & Zhou, F. Q. (2022). Reprogramming neurons for regeneration: The fountain of youth. *Progress in neurobiology*, 214, 102284. (\*co-first authors)  
<https://doi.org/10.1016/j.pneurobio.2022.102284>
4. **Wang, X. W.\***, Yang, S. G.\*, Zhang, C.\*, Hu, M. W., Qian, J., Ma, J. J., Zhang, Y., Yang, B. B., Weng, Y. L., Ming, G. L., Kosanam, A. R., Saijilafu, & Zhou, F. Q. (2020). Knocking out non-muscle myosin II in retinal ganglion cells promotes long-distance optic nerve regeneration. *Cell reports*, 31(3), 107537. (\*co-first authors)  
<https://doi.org/10.1016/j.celrep.2020.107537>
5. **Wang, X. W.**, Li, Q., Liu, C. M., Hall, P. A., Jiang, J. J., Katchis, C. D., Kang, S., Dong, B. C., Li, S., & Zhou, F. Q. (2018). Lin28 signaling supports mammalian PNS and CNS axon regeneration. *Cell reports*, 24(10), 2540–2552.e6.  
<https://doi.org/10.1016/j.celrep.2018.07.105>
6. Jia, M.\*, **Wang, X.\***, Zhang, H., Wang, X., Ma, H., Yang, M., Li, Y., & Cui, C. (2021). MicroRNA-132 is involved in morphine dependence via modifying the structural plasticity of the dentate gyrus neurons in rats. *Addiction biology*, e13086. Advance online publication. (\*co-first authors)  
<https://doi.org/10.1111/adb.13086>
7. Shen, F.\*, **Wang, X. W.\***, Ge, F. F., Li, Y. J., & Cui, C. L. (2016). Essential role of the NO signaling pathway in the hippocampal CA1 in morphine-associated memory depends on glutaminergic receptors. *Neuropharmacology*, 102, 216–228. (\*co-first authors)  
<https://doi.org/10.1016/j.neuropharm.2015.11.008>

#### Other publications

1. Zhang, C., Huang, Q., Ford, N. C., Limjunyawong, N., Lin, Q., Yang, F., Cui, X., Uniyal, A., Liu, J., Mahabole, M., He, H., **Wang, X. W.**, Duff, I., Wang, Y., Wan, J., Zhu, G., Raja, S. N., Jia, H., Yang, D., Dong, X., ... Guan, Y. (2024). Human birth tissue products as a non-opioid medicine to inhibit post-surgical pain. *bioRxiv* 2024.05.19.594874.  
<https://doi.org/10.1101/2024.05.19.594874>
2. Xu, M., Thottappillil, N., Cherief, M., Li, Z., Zhu, M., Xing, X., Gomez-Salazar, M., Mwirigi, J. M., Sankaranarayanan, I., Tavares-Ferreira, D., Zhang, C., **Wang, X. W.**, Archer, M., Guan, Y., Tower, R. J., Cahan, P., Price, T. J., Clemens, T. L., & James, A. W. (2024). Mapping Somatosensory Afferent Circuitry to Bone Identifies Neurotrophic Signals Required for Fracture Healing. *bioRxiv* 2024.06.06.597786.  
<https://doi.org/10.1101/2024.06.06.597786>
3. Soucy, J. R., Aguzzi, E. A.\*, Cho, J.\*, Gilhooley, M. J.\*, Keuthan, C.\*, Luo, Z.\*, Monavarfeshani, A.\*, Saleem, M. A.\*, **Wang, X. W.\***, Wohlschlegel, J.\*, RReSTORE Consortium, Baranov, P., Di Polo, A., Fortune, B., Gokoffski, K. K., Goldberg, J. L., Guido, W., Kolodkin, A. L., Mason, C. A., Ou, Y., ... Johnson, T. V. (2023). Retinal ganglion cell repopulation for vision restoration in optic neuropathy: a roadmap from the RReSTORE Consortium. *Molecular neurodegeneration*, 18(1), 64. (\*co-second authors listed by alphabetical order of last name initials)  
<https://doi.org/10.1186/s13024-023-00655-y>
4. Zhang, C., Hu, M. W., **Wang, X. W.**, Cui, X., Liu, J., Huang, Q., Cao, X., Zhou, F. Q., Qian, J., He, S. Q., & Guan, Y. (2022). scRNA-sequencing reveals subtype-specific transcriptomic perturbations in DRG neurons of *Pirt<sup>EGFPf</sup>* mice in neuropathic pain condition. *eLife*, 11, e76063.  
<https://doi.org/10.7554/eLife.76063>
5. Zheng, Q., Xie, W., Lückemeyer, D. D., Lay, M., **Wang, X. W.**, Dong, X., Limjunyawong, N., Ye, Y., Zhou, F.

- Q., Strong, J. A., Zhang, J. M., & Dong, X. (2022). Synchronized cluster firing, a distinct form of sensory neuron activation, drives spontaneous pain. *Neuron*, *110*(2), 209–220.e6.  
<https://doi.org/10.1016/j.neuron.2021.10.019>
6. Tower, R. J., Li, Z., Cheng, Y. H., **Wang, X. W.**, Rajbhandari, L., Zhang, Q., Negri, S., Uytingco, C. R., Venkatesan, A., Zhou, F. Q., Cahan, P., James, A. W., & Clemens, T. L. (2021). Spatial transcriptomics reveals a role for sensory nerves in preserving cranial suture patency through modulation of BMP/TGF- $\beta$  signaling. *Proceedings of the National Academy of Sciences of the United States of America*, *118*(42), e2103087118.  
<https://doi.org/10.1073/pnas.2103087118>
7. Costa, A. R., Sousa, S. C., Pinto-Costa, R., Mateus, J. C., Lopes, C. D., Costa, A. C., Rosa, D., Machado, D., Pajuelo, L., **Wang, X.**, Zhou, F. Q., Pereira, A. J., Sampaio, P., Rubinstein, B. Y., Mendes Pinto, I., Lampe, M., Aguiar, P., & Sousa, M. M. (2020). The membrane periodic skeleton is an actomyosin network that regulates axonal diameter and conduction. *eLife*, *9*, e55471.  
<https://doi.org/10.7554/eLife.55471>
8. Wang, Z., Yue, L., Cui, C., Liu, S., **Wang, X.**, Li, Y., & Ma, L. (2019). Top-down control of the medial orbitofrontal cortex to nucleus accumbens core pathway in decisional impulsivity. *Brain structure & function*, *224*(7), 2437–2452.  
<https://doi.org/10.1007/s00429-019-01913-w>
9. Jia, M., **Wang, X.**, Zhang, H., Ye, C., Ma, H., Yang, M., Li, Y., & Cui, C. (2019). MicroRNA-132 in the Adult Dentate Gyrus is Involved in Opioid Addiction Via Modifying the Differentiation of Neural Stem Cells. *Neuroscience bulletin*, *35*(3), 486–496.  
<https://doi.org/10.1007/s12264-019-00338-z>
10. Zhang, H., Jia, M., **Wang, X. W.**, Ye, C., Li, Y., Wang, N., Elefant, F., Ma, H., & Cui, C. (2019). Dentate gyrus  $\mu$ -opioid receptor-mediated neurogenic processes are associated with alterations in morphine self-administration. *Scientific reports*, *9*(1), 1471.  
<https://doi.org/10.1038/s41598-018-37083-8>
11. Meng, X., Shen, F., Li, C., Li, Y., & **Wang, X.** (2016). Depression-like behaviors in tree shrews and comparison of the effects of treatment with fluoxetine and carbetocin. *Pharmacology, biochemistry, and behavior*, *145*, 1–8.  
<https://doi.org/10.1016/j.pbb.2016.03.006>
12. Jiang, J. J., Liu, C. M., Zhang, B. Y., **Wang, X. W.**, Zhang, M., Saijilafu, Zhang, S. R., Hall, P., Hu, Y. W., & Zhou, F. Q. (2015). MicroRNA-26a supports mammalian axon regeneration in vivo by suppressing GSK3 $\beta$  expression. *Cell death & disease*, *6*(8), e1865.  
<https://doi.org/10.1038/cddis.2015.239>
13. Xiang, X., Jiang, Y., Ni, Y., Fan, M., Shen, F., **Wang, X.**, Han, J., & Cui, C. (2012). Catechol-O-methyltransferase polymorphisms do not play a significant role in pain perception in male Chinese Han population. *Physiological genomics*, *44*(5), 318–328.  
<https://doi.org/10.1152/physiolgenomics.00162.2011>
14. Zuo, Y., Wang, X., Cui, C., Luo, F., Yu, P., & **Wang, X.** (2012). Cocaine-induced impulsive choices are accompanied by impaired delay-dependent anticipatory activity in basolateral amygdala. *Journal of cognitive neuroscience*, *24*(1), 196–211.  
[https://doi.org/10.1162/jocn\\_a\\_00131](https://doi.org/10.1162/jocn_a_00131)

**RESEARCH PRESENTATIONS**

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- 2022 **Targeting chromatin accessibility to promote axon regeneration in the CNS** (invited talk)  
Central Nervous System Injury and Repair, Gordon Research Seminar, Oxnard, CA
- 2022 **Epigenetic rejuvenation to enhance CNS axon regeneration** (invited talk)  
Optic Nerve Regenerative Initiative Meeting
- 2021 **Epigenetic rejuvenation to enhance CNS axon regeneration** (invited talk)  
SCBA DC-Baltimore Chapter 2021 Annual Symposium
- 2021 **The polycomb group protein Ezh2 promotes optic nerve regeneration** (invited talk)  
ARVO Annual Meeting
- 2021 **Polycomb group protein Ezh2 supports mammalian axon regeneration in peripheral and central nervous systems** (poster presentation, chair of the Neurobiology and Neuronal Signaling discussion group)  
Experimental Biology Annual Meeting
- 2021 **Polycomb group protein Ezh2 promotes mammalian axon regeneration in the central nervous system** (poster presentation)  
SfN Global Connectome
- 2017 **Regulation of mammalian axon regeneration by Lin28/let-7 pathway** (poster presentation)  
Neuroscience program students recruiting, Johns Hopkins University, Baltimore, MD
- 2016 **Regulation of mammalian axon regeneration by Lin28/let-7 pathway** (poster presentation)  
SfN Annual Meeting, San Diego, CA

**TEACHING AND MENTORING**

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- 2024- **Carla Andreia Abreu de Santana**  
Postdoctoral Fellow at University of South Florida
- 2018-2020 **Anish Kosanam** (co-author of Wang et al., *Cell reports*, 2020 and Wang et al., *Journal of Clinical Investigation*, 2023)  
Undergraduate Research Assistant at Johns Hopkins University  
Current position: Medical Student at Case Western Reserve University  
Project: Intrinsic and extrinsic factors affecting mammalian axon regeneration
- 2018-2019 **Arinze Ochuba** (co-author of Wang et al., *Journal of Clinical Investigation*, 2023)  
Undergraduate Research Assistant at Johns Hopkins University  
Current position: Medical Student at Johns Hopkins University School of Medicine  
Project: PNS models of mammalian axon regeneration
- 2018-2019 **Yingchi Zhang** (co-author of Wang et al., *Cell reports*, 2020)  
Visiting Student at Johns Hopkins University  
Current position: Surgeon at Tongji Hospital, Wuhan, China  
Project: Non-muscle myosin II and mammalian axon regeneration
- 2017 summer **John Lee Soto-Vargas**  
NIDDK STEP-UP Program Summer Student at Johns Hopkins University  
Current position: Graduate Student at Yale School of Medicine  
Project: Tissue clearing and confocal imaging of whole-mount mouse spinal cord
- 2017-2018 **Bryan Dong** (co-author of Wang et al., *Cell reports*, 2018)  
High School Research Assistant  
Current position: MD/PhD Student at Johns Hopkins University School of Medicine  
Project: Roles of reprogramming factors and epigenetic regulators in mammalian axon regeneration
- 2016, 2017 and 2018 summer **Joe Xie**  
Undergraduate Research Assistant from Vanderbilt University  
Current position: Dental Student at UTHSC, College of Dentistry  
Project: Genotyping of transgenic mouse lines

- 2016-2018 **Binbin Yang** (co-author of Wang et al., *Cell reports*, 2020)  
 Visiting Scholar at Johns Hopkins University  
 Current position: Physician at the 2nd Xiangya Hospital, Changsha, China  
 Project: Cytoskeleton and mammalian axon regeneration
- 2016-2018 **Qiao Li** (co-author of Wang et al., *Cell reports*, 2018)  
 Visiting Scholar at Johns Hopkins University  
 Current position: Surgeon at the First Hospital of Jilin University, Changchun, China  
 Project: Role of Lin28 RNA-binding proteins in mammalian axon regeneration in the PNS
- 2016-2017 **Sehwa Kang** (co-author of Wang et al., *Cell reports*, 2018)  
 Undergraduate Research Assistant at Johns Hopkins University  
 Current position: Medical student at UT Health San Antonio, Long School of Medicine  
 Project: Role of Lin28 RNA-binding proteins in mammalian axon regeneration in the PNS and CNS
- 2015-2016 **Christopher Katchis** (co-author of Wang et al., *Cell reports*, 2018)  
 Undergraduate Research Assistant at Johns Hopkins University  
 Current position: Medical Student at New York Medical College  
 Project: Role of Lin28 RNA-binding proteins in mammalian axon regeneration in the PNS
- 2010-2011 **Instructor**, graduate student course and lab “Neurobiological Experiments”  
 Peking University, Beijing, China

## EDITORIAL SERVICE

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- Editorial board **Frontiers in Cellular Neuroscience**  
 Ad hoc reviewer **Journal of Neurological Sciences, Frontiers in Pharmacology, Neural Regeneration Research**

## OTHER ACTIVITIES

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- 03/2009 **Interpreter**  
 Eli Lilly and Company, meeting with Center for Drug Evaluation, China Food and Drug Administration, Beijing, China
- 10/2008 **Interpreter**  
 Eli Lilly and Company, meeting with Center for Drug Evaluation, China Food and Drug Administration, Beijing, China
- 02/2008-  
 08/2008 **Clinical trainee**  
 Peking University Shenzhen Hospital, Shenzhen, Guangdong Province, China
- 2005-  
 2011 **Volunteer**  
 New Day Foster Home (an orphanage for abandoned children with birth defects), Beijing, China