

# Basic information

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## Education Background

- 2019.08 to 2022.06: The Chinese University of Hong Kong; PhD (Orthopaedics and Traumatology)  
Supervisor: *Prof. Patrick Yung AND Prof. Yangzi Jiang*
- 2016.08 to 2019.06: Nanjing Medical University; MPhil (Orthopaedics)  
Supervisor: *Prof. Jiang Qing*
- 2011.09 to 2016.06 Nanjing Medical University; MBBS

## Research interest

- Targeting aberrant epigenetic modifications in osteoarthritis
- Development of biomaterials in osteoarthritis

## Publication

### I. First / Corresponding author:

1. Zhu X, Chen F, Lu K, et al. 2019. PPAR $\gamma$  preservation via promoter demethylation alleviates osteoarthritis in mice. *Ann. Rheum. Dis.* :1420–1429. (**IF: 27.873; Citations:96**)
2. Chen X<sup>#</sup>, Zhu X<sup>#</sup>, Wei A, et al. 2021. Nrf2 epigenetic derepression induced by running exercise protects against osteoporosis. *Bone Res.* 9(1):15 (**IF: 13.567; Citations: 68**)
3. X Zhu, M Cao, K Li, Y Chan, H Chan, Y Mak, H Yao, J Sun, M Ong, K Ho, C Lee, O Lee, P Yung, Y Jiang 2024. Intra-articular sustained-release of pirfenidone as a disease-modifying treatment for early osteoarthritis. *Bioact Mater.* 2024 May 23:39:255-272 (**IF: 18.90; Citations:5**)

4. J Jin, D Wang, H Qian, C Ruan, Y Yang, D Li, G Wang, **X Zhu** \*, Y Hu,\*, P Lei\*. 2025. Precision pore structure optimization of additive manufacturing porous tantalum scaffolds for bone regeneration: A proof-of-concept study. *Biomaterials*. *Biomaterials*. 2025;313(August 2024):122756. (**IF:12.60; Citations:9**)
5. **Zhu X**, Lee C-W, Xu H, et al. 2021. Phenotypic alteration of macrophages during osteoarthritis: a systematic review. *Arthritis Res. Ther.* 23(1):110 (**IF: 5.156; Citations:46**)
6. **Zhu X**, Chan YT, Yung PSH, et al. 2021. Subchondral Bone Remodeling: A Therapeutic Target for Osteoarthritis. *Front. Cell Dev. Biol.* 8(January) (**IF: 6.684; Citations:160**)
7. **Zhu X**, Zhang K, Lu K, et al. 2019. Inhibition of pyroptosis attenuates Staphylococcus aureus-induced bone injury in traumatic osteomyelitis. *Ann. Transl. Med.* 7(8):170–170. (**IF: 3.932; Citations:61**)
8. **Zhu X**, Yao Y, Yao C, Jiang Q. 2018. Predictive value of lymphocyte to monocyte ratio and monocyte to high-density lipoprotein ratio for acute deep vein thrombosis after total joint arthroplasty: a retrospective study. *J. Orthop. Surg. Res.* 13(1):211. (**IF: 2.359; Citations:31**)

## **II. Co-author**

9. M. Cao, S. Yao, **X. Zhu**, M. T. Y. Ong, P. S. H. Yung, Y. Jiang, 2023 Doxycycline Promotes Graft Healing and Attenuates Posttraumatic Osteoarthritis After Anterior Cruciate Ligament Reconstruction in a Rat Model. *Am. J. Sports Med.* 51, 461–475 (**IF: 2.359; Citations:3**)
10. K. Lu, T.S. Shi, S.Y. Shen, W.L. Lu, J. Wu, K.J. Zhang, **X.B. Zhu**, et al. 2018. Egr1 deficiency disrupts dynamic equilibrium of chondrocyte extracellular matrix through PPAR $\gamma$ /RUNX2 signaling pathways. *Am. J. Transl. Res.* 10(6):1620–1632. (**IF: 4.060; Citations:12**)

11. K. Lu, T. Shi, L. Li, K. Zhang, **X. Zhu**, et al. 2018. Zhuangguguanjie formulation protects articular cartilage from degeneration in joint instability-induced murine knee osteoarthritis. *Am. J. Transl. Res.* 10(2):411–421. (**IF: 4.060; Citations:7**)
12. Y. Ma, J. Jiang, Y. Gao, T. Shi, X. Zhu., et al. 2018. Research progress of the relationship between pyroptosis and disease. *Am. J. Transl. Res.* 10(7):2213–2219 (**IF: 4.060; Citations:49**)
13. Li Y, Chen F, Wei A, Bi F, Zhu X. et al. 2019. Klotho recovery by genistein via promoter histone acetylation and DNA demethylation mitigates renal fibrosis in mice. *J. Mol. Med.* (**IF: 4.599; Citations:64**)
14. Xu H, Lee C-W, Wang Y-F, Huang S, Shin L-Y, Wang Y-H, Zhu X, et al. 2020. The Role of Paracrine Regulation of Mesenchymal Stem Cells in the Crosstalk With Macrophages in Musculoskeletal Diseases: A Systematic Review. *Front. Bioeng. Biotechnol.* 8(November). (**IF: 5.890; Citations:17**)

### III. Book chapter

Li X, **Zhu X** et al., Stem Cells and the Application in Orthopaedics. 2021 Biofabrication for Orthopedics.

## Fundings

**【Funding 1】** Methyl-CpG-binding domain protein 2 contributes to osteoarthritis via epigenetically depressing PPAR $\gamma$  ——PI

National Natural Science Foundation of China (2024.01-2026.12); ¥300,000 ; No. 82302728

**【Funding 2】** The roles of epigenetic modifications in OA —— PI

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**【Funding 3】** The roles of epigenetic repression of PPAR $\gamma$  in OA pathogenesis —— PI

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**【Funding 4】** Grancalcin+ Immune Cells in Osteoarthritis: Cellular and Molecular Targets  
for Future Intervention ——Co-Investigator

NSFC-RGC programme (2023.01.01-2026.12.31) 120,0000 HKD

## Honor

- TERMIS-AP “Best Oral Presentation Award” (2023)
- ICMRS “Young Investigator Award” Second Award (2019)