



江海海 博士

讲师，硕士研究生导师

● 教育和工作背景:

2007-2011 年，西南大学，动物医学专业，学士；

2011-2014 年，中国农业科学院，预防兽医学专业，硕士；

2014-2019 年，中国农业大学/中国科学院微生物所，预防兽医学专业，联合培养博士；

2020/11—至今，南昌大学基础医学院，讲师。

● 研究兴趣、领域:

主要利用结构生物学（X 射线晶体学和冷冻电镜）结合生物化学、细胞生物学和病原学等多学科技术手段研究病原体关键蛋白的结构与功能，以揭示相关生物学过程的分子机制，从而为合理的药物和疫苗设计提供科学依据和理论基础。

近年来，在 **Nature Microbiology**、**Nature Communications**、**mBio**、**Structure**、**Journal of Molecular Biology**、**Journal of Virology**、**Acta Biochimica et Biophysica Sinica** 和 **Viruses** 等学术期刊发表论文 20 余篇，其中第一作者或通讯作者（含共同）14 篇。

● 学术兼职:

中国微生物学会会员；中国生物物理学会会员；*Applied Microbiology and Biotechnology*、*Molecular Biomedicine*、*Virology* 等杂志审稿人。

● 主要成果、荣誉、奖励（#第一作者，*通讯作者）:

[1] **Jiang H#**, Peng W#, Qi J, Chai Y, Song H, Bi Y, Rijal P, Wang H, Oladejo BO, Liu J, Shi Y, Gao GF*, Townsend AR*, Wu Y*. Structure-Based Modification of an Anti-neuraminidase Human Antibody Restores Protection Efficacy against the Drifted Influenza Virus. **mBio**. 2020, 11(5).

[2] Huang KA#*, Rijal P#, **Jiang H#**, Wang B#, Schimanski L, Dong T, Liu YM, Chang P, Iqbal M, Wang MC, Chen Z, Song R, Huang CC, Yang JH, Qi J, Lin TY, Li A, Powell TJ, Jan JT, Ma C, Gao GF*, Shi Y*, Townsend AR*. Structure-function

analysis of neutralizing antibodies to H7N9 influenza from naturally infected humans. **Nat Microbiol.** 2019, 4(2): 306-315.

[3] Lin C#, **Jiang H#**, Li W, Zeng P, Zhou X, Zhang J*, Li J*. Structural basis for the inhibition of coronaviral main proteases by ensitrelvir. **Structure**, 2023, 31(9): 1016-1024.e3. (封面文章)

[4] Li J, Lin C, Zhou X, Zhong F, Zeng P, McCormick PJ, **Jiang H***, Zhang J*. Structural Basis of Main Proteases of Coronavirus Bound to Drug Candidate PF-07304814. **J Mol Biol.** 2022, 434(16): 167706.

[5] Chen Y, Wang F, Yin L, **Jiang H**, Lu X, Bi Y, Zhang W, Shi Y, Burioni R, Tong Z, Song H, Qi J*, Gao GF*. Structural basis for a human broadly neutralizing influenza A hemagglutinin stem-specific antibody including H17/18 subtypes. **Nat Commun.** 2022, 13(1): 7603.

[6] **Jiang H#***, Yang P#, Zhang J*. Potential Inhibitors Targeting Papain-Like Protease of SARS-CoV-2: Two Birds With One Stone. **Front Chem.** 2022, 10: 822785.

[7] Hu X#, Lin C#, Xu Q#, Zhou X, Zeng P, McCormick PJ, **Jiang H***, Li J*, Zhang J*. Structural Basis for the Inhibition of Coronaviral Main Proteases by a Benzothiazole-Based Inhibitor. **Viruses.** 2022, 14(9): 2075.

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[9] **Jiang H#**, Zou X#, Zeng P, Zeng X, Zhou X, Wang J, Zhang J*, Li J*. Crystal structures of main protease (M^{pro}) mutants of SARS-CoV-2 variants bound to PF-07304814. **Mol Biomed.** 2023, 4(1): 23.

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- [12] **Jiang H***, Li J, Jian Y, Yang T, Zhang J*, Li J*. Expression, purification, and crystal structure of mpox virus A41 protein. **Protein Expr Purif**. 2024, 219:106480.
- [13] **Jiang H**, Zou X, Zhou X, Zhang J*, Li J*. Crystal structure of SARS-CoV-2 main protease (M^{Pro}) mutants in complex with the non-covalent inhibitor CCF0058981. **Biochem Biophys Res Commun**. 2024, 692:149352.
- [14] **Jiang H#**, Zhou Y#, Zou X#, Hu X, Wang J, Zeng P, Li W, Zeng X, Zhang J*, Li J*. Evaluation of the Inhibition Potency of Nirmatrelvir against Main Protease Mutants of SARS-CoV-2 Variants. **Biochemistry**. 2023, 62(13):2055-2064.
- [15] Yu B#, Lu Q#, Li J#, Cheng X#, Hu H, Li Y, Che T, Hua Y, **Jiang H**, Zhang Y, Xian C, Yang T, Fu Y, Chen Y, Nan W, McCormick PJ, Xiong B, Duan J, Zeng B, Li Y*, Fu Y*, Zhang J*. Cryo-EM structure of human HCN3 channel and its regulation by cAMP. **J Biol Chem**. 2024, 300(6):107288.
- [16] 国家自然科学基金（32360223），2024.01-2027.12，32 万，主持.
- [17] 江西省自然科学基金（20224BAB216004），2023.01-2025.12，10 万，主持.
- [18] 江西省自然科学基金（20232BAB205025），2023.07-2026.06，10 万，主持.
- [19] 南昌大学青年人才培养创新基金（PYQN20230025），2023.07-2026.06，20 万，主持.
- [20] 指导本科生获得全国大学生生命科学竞赛（2023，创新创业类）二等奖.

● **联系方式:**

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