Minghao JIANG | 姜 明昊

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EDUCATION

- **Ph.D.** in **Bioinformatics** at **The University of Hong Kong**, Hong Kong, Hong Kong SAR   Sep-2023 — now

  - Department: School of Biomedical Sciences, Li Ka Shing Faculty of Medicine

  - Supervisor: Professor Jason Wing Hon WONG

- **M.Sc.** in **Biology** at **Shanghai Jiao Tong University**, Shanghai, China   Sep-2019 — Jun-2022

  - Department: Shanghai Institute of Hematology, State Key Laboratory of Medical Genomics

  - Supervisor: Professor Lin CHENG

  - GPA: 3.90/4.0

- **B.Sc.** in **Bioinformatics** at **Harbin Medical University**, Harbin, Heilongjiang Province, China   Sep-2014 — Jul-2019

  - College: College of Bioinformatics Science and Technology

  - Average score: 81.41/100 (five-year program)

RESEARCH INTERESTS

`Bioinformatics` | `Computational biology` | `Genome organization` | `RNA biology`

RESEARCH EXPERIENCE

1. Identified dysregulated sub-pathways in cancers by integrating gene expressions, CNVs, and DNA methylations.

2. Identified cell-cell communications associated with prognosis of patients with B-cell acute lymphoblastic leukemia (B-ALL).

3. Revealed TCF12 acted as a co-factor of IGH::DUX4 to enhace the transcativation via a positive feedback in B-ALL.

4. Benchmarked 21 differential splicing tools for RNA-seq analysis at the event level to propose a tool-selection protocol for users.

5. Predicted the spreading of the COVID-19 epidemic in China using a novel time-delay differential equation model.

6. Performed analysis of RNA-seq, ChIP-seq, scRNA-seq, and CyTOF data.

PUBLICATIONS [1]

Xue Q[†], Zhang M[†✉], Mo Y[†], Jiao B[†], Liu X[†], <u>Jiang M</u>, Zhou Y, Tan Y, Li H, Zhang J, Zhang Q, Li Y, Li J, Ma X, Jing DH, Mi JQ, Wang J, Chen Z, Shen SH[✉], Chen SJ[✉]. **Molecular mechanisms of unique therapeutic potential of CUDC-907 for *MEF2D* fusion-driven BCP-ALL.** *Signal Transduct Target Ther.* 2025 Jul 23;10(1):230. 10.1038/s41392-025-02310-y

<u>Jiang M</u>, Jing D, Wong JWH[✉]. **gghic: A Versatile R Package for Exploring and Visualizing 3D Genome Organization.** *arXiv.* 2024 Dec. 10.48550/arXiv.2412.03005

Ye J[†], Wang F[†], Zhou Z[†], <u>Jiang M</u>[†], You Y, Su Y, Hu Q, Chi H, Liu H, Cheng X, Jia J, Shi H, Yang C, Huang J[✉], Teng J[✉], Hu Q[✉], Sun Y[✉]. **Itaconate promoted monocyte migration by increasing chemokine CCL12 expression in autoinflammatory cytokine storm.** *Clin Immunol.* (Under review)

Li Z[†], <u>Jiang M</u>[†], Wang J[†], Zhuo Z[†], Zhang S, Tan Y, Hu W[✉], Zhang H[✉], Meng G[✉]. **Transcription factor 12-mediated self-feedback regulatory mechanism is required in *DUX4* fusion leukaemia.** *Clin Transl Med.* 2023 Dec;13(12):e1514. 10.1002/ctm2.1514.

Yin H[†], Wang J[†], Tan Y[†], <u>Jiang M</u>[†], Zhang H[✉], Meng G[✉]. **Transcription factor abnormalities in B-ALL leukemogenesis and treatment.**[#] *Trends Cancer.* 2023 Oct;9(10):855-870. 10.1016/j.trecan.2023.06.004.

Wu W[†], Tan Y[†], Yin H[†], <u>Jiang M</u>[†], Jiang Y, Ma X, Yin T, Li Y[✉], Zhang H[✉], Cai X[✉], Meng G[✉]. **Phase separation is required for PML nuclear body biogenesis and function.** *FASEB J.* 2023 Jun;37(6):e22986. 10.1096/fj.202300216R.

<u>Jiang M</u>[†✉], Zhang S[†], Yin H[†], Zhuo Z[†], Meng G[✉]. **A comprehensive benchmarking of differential alternative splicing tools at the event level.** *Brief Bioinform.* 2023 May 19;24(3):bbad121. 10.1093/bib/bbad121.

Lu G[†], Ling Y[†], <u>Jiang M</u>[†], Tan Y[†], Wei D[†], Jiang L, Yu S, Jiang F, Wang S, Dai Y, Wang J, Wu G, Zhang X, Meng G[✉], Wang S[✉], Liu F[✉], Fan X[✉], Chen S[✉]. **Primary assessment of the diversity of Omicron sublineages and the epidemiologic features of autumn/winter 2022 COVID-19 wave in Chinese mainland.** *Front Med.* 2023 Aug;17(4):758-767. 10.1007/s11684-022-0981-7.

<u>Jiang M</u>[†], Yin H[†], Zhang S[†], Meng G[✉], Wu G[✉]. **Mathematical appraisal of SARS-CoV-2 Omicron epidemic outbreak in unprecedented Shanghai lockdown.** *Front Med (Lausanne).* 2022 Nov 8;9:1021560. 10.3389/fmed.2022.1021560.

Zhang M[†], Zhang H[†], Li Z[†], Bai L[†], Wang Q, Li J, <u>Jiang M</u>, Xue Q, Cheng N, Zhang W, Mao D, Chen Z, Huang J, Meng G[✉], Chen Z[✉], Chen SJ[✉]. **Functional, structural, and molecular characterizations of the leukemogenic driver MEF2D-HNRNPUL1 fusion.** *Blood.* 2022 Sep 22;140(12):1390-1407. 10.1182/blood.2022016241.

Zhang H[†], Cheng N[†], Li Z[†], Bai L[†], Fang C, Li Y, Zhang W, Dong X, <u>Jiang M</u>, Liang Y, Zhang S, Mi J, Zhu J, Zhang Y, Chen SJ, Zhao Y, Weng XQ, Hu W[✉], Chen Z[✉], Huang J[✉], Meng G[✉]. **DNA crosslinking and recombination-activating genes 1/2 (RAG1/2) are required for oncogenic splicing in acute lymphoblastic leukemia.** *Cancer Commun (Lond).* 2021 Nov;41(11):1116-1136. 10.1002/cac2.12234.

Wu L[†], <u>Jiang M</u>[†], Yu P, Li J, Ouyang W, Feng C, Zhao WL[✉], Dai Y[✉], Huang J[✉]. **Single-Cell Transcriptome Analysis Identifies Ligand-Receptor Pairs Associated With BCP-ALL Prognosis.** *Front Oncol.* 2021 Mar 10;11:639013. 10.3389/fonc.2021.639013.
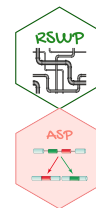
Han J[†✉], Liu S[†], Jiang Y[†], Xu C[†], Zheng B, <u>Jiang M</u>, Yang H, Su F, Li C[✉], Zhang Y[✉]. **Inference of patient-specific subpathway activities reveals a functional signature associated with the prognosis of patients with breast cancer.** *J Cell Mol Med.* 2018 Sep;22(9):4304-4316. 10.1111/jcmm.13720.

SOFTWARE & TOOLS

- gghic
  A versatile R package for exploring and visualizing 3D genome organization

- [smk_sv](#)

  A **s**nake**ma**ke pipeline to call **s**tructural **v**ariants from tumor-only ONT data

- [RSWP](#)

  RNA **s**equencing **w**orkflow by **P**ython

- [ASP](#)

  An **a**lternative **s**plicing **p**ackage in R

- Membership in the [openbiox](#) community

AWARDS

- First-class scholarship, Shanghai Jiao Tong University School of Medicine   2021
- First-class scholarship, Shanghai Jiao Tong University School of Medicine   2020
- Outstanding graduate, Harbin Medical University   2019
- Outstanding volunteer of The Belt and Road China-Russia Medical University Alliance   2018
- Excellent student leader, Harbin Medical University   2016

OTHER ROLES

- Director of Sports Department, Student Union, Shanghai Jiao Tong University School of Medicine   2019 — 2020
- Director of Publicity Department, Student Union, Harbin Medical University   2014 — 2016

SKILLS

- Proficient in R, Python, Shell, Linux, Slurm (Simple Linux Utility for Resource Management), and Adobe Illustrator
- Familiar with Perl, Java, and Adobe Photoshop

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1. *Time-ordered* | [†] *These authors contributed equally* | [✉] *Corresponding authors* | [#] *Review articles* ↩