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EDUCATION

2010.09-2014.06 B.Sc. in Agronomy, Anhui Agricultural University, Hefei, China

2014.09-2019.06 Ph.D. in Botany, College of Biological Sciences, China
Agricultural University, Beijing, China

PROFESSIONAL EXPERIENCE

2019.07-2022.10 Postdoctoral researcher, Department of Molecular, Cell and
Developmental Biology, University of California, Los Angeles, CA,
USA.

2022.10-2024.07 Postdoctoral researcher, Department of Chemistry, The University
of Chicago, Chicago, IL, USA.

2024.07-present Associate Professor, School of Life Sciences & Biotechnology,
Shanghai Jiao Tong University, Shanghai, China.

RESEARCH INTEREST

Plants produce biomass through photosynthesis, thereby providing the material basis for human development. Investigating the mechanisms underlying plant physiological regulation holds significant scientific and economic value, and serves as a fundamental means of ensuring food security. In plants, RNA modifications broadly influence growth, development, and responses to environmental stresses. Previous work by our team has elucidated the molecular mechanisms by which light signals coordinate m⁶A modification to facilitate the efficient utilization of solar energy, as well as the molecular basis by which light-induced photobody phase separation activates m⁶A modification. Building on these findings, we will investigate the molecular mechanisms by which RNA modifications regulate light energy utilization, examine how RNA modifications influence plant development, and explore the roles of non-coding RNAs in governing plant growth and development in *Arabidopsis*, soybean, and maize.

PUBLICATIONS (#co-first author and *corresponding author)

1. Jiang, B. #*, Zhong Z.#, Gu, L.#, Zhang X., Wei, J., Ye, C., Lin, G., Qu, G., Xiang, X., Chen, W., Hummel, M., Bailey-Serres, J., He C., Wang X.* and Lin, C.* (2023). Light-induced LLPS of the CRY2/SPA1/FIO1 complex regulating mRNA methylation and chlorophyll homeostasis in *Arabidopsis*. **Nature Plants** 9, 2042–2058 (Invited with Research Briefing, ESI Highly cited Paper)

2. Jiang, B. #*, Zhong, Z. #, Su, J. #, Zhu, T., Yueh, T., Bragasin, J., Bu, V., Zhou, C., Lin, C., and Wang, X*. (2023). Co-condensation with photoexcited cryptochromes facilitates MAC3A to positively control hypocotyl growth in *Arabidopsis*. **Science Advances** 9, eadh4048.

3. Jiang B. * (2024). Light-induced cryptochrome 2 liquid–liquid phase separation and mRNA methylation. **New Phytologist** 244, 6, 2163-2169. (Invited Tansley insight)

4. Fu, D., & **Jiang, B.** * (2025). Liquid-liquid phase separation regulates gene expression in plants. ***Agriculture Communications***, 100084. (**Accepted as cover story**)
5. Fu, D., Wang H., **Jiang, B.** * (2025). Molecular mechanisms and crop improvement potential of N⁶-methyladenosine RNA methylation in plants. ***aBIOTECH*** (**Accepted**)
6. Wang, X. #, **Jiang, B.** #, Gu, L. #, Chen, Y., Mora, M., Zhu, M., Noory, E., Wang, Q*., and Lin C.* (2021). A photoregulatory mechanism of the circadian clock in *Arabidopsis*. ***Nature Plants*** 7, 1397–1408. (**Cover story** and Highlighted with a News & Views in *Nature Plants*) (**ESI Highly cited Paper**, recommended by *Faculty opinions*)
7. **Jiang, B.** #, Shi, Y. #, Peng, Y., Jia, Y., Yan, Y., Dong, X., Li, H., Dong, J., Li, J., Gong, Z., and Yang, S.* (2020). Cold-induced CBF-PIF3 interaction enhances freezing tolerance by stabilizing the phyB thermosensor in *Arabidopsis*. ***Molecular Plant*** 13, 894-906. (Highlighted with a Spotlight article in *Trends in Plant Science*) (**ESI Highly cited Paper**)
8. **Jiang, B.** #, Shi, Y. #, Zhang, X., Xin, X., Qi, L., Guo, H., Li, J.*., and Yang, S. # (2017). PIF3 is a negative regulator of the CBF pathway and freezing tolerance in *Arabidopsis*. ***Proc. Natl. Acad. Sci. USA*** 114, E6695-E6702. (Highlighted with a News & Views in *Nature Plants* and a Spotlight article in *Trends in Plant Science*) (**ESI Highly cited Paper**)
9. Wang, P., Ye, C., Zhao, M., **Jiang, B.**, & He, C. (2025). Small-molecule-catalysed deamination enables transcriptome-wide profiling of N⁶-methyladenosine in RNA. ***Nature Chemistry***, 1-11.
10. Gao, B., **Jiang, B.**, Zou, Z., Liu, B., Liu, W., Chen, L., ... & He, C. (2025). Nuclear 2'-O-methylation regulates RNA splicing through its binding protein FUBP1. ***bioRxiv***, 2025-04.
11. Li, H., Wang, G., Ye, C., Zou, Z., **Jiang, B.**, Yang, F., ... & He, C. (2025). Quantitative RNA pseudouridine maps reveal multilayered translation control through plant rRNA, tRNA and mRNA pseudouridylation. ***Nature Plants***, 1-14.
12. Qu G., **Jiang, B.**, and Lin, C.* (2023). The dual-action mechanism of *Arabidopsis* cryptochromes. ***Journal of Integrative Plant Biology*** 66(5): 883-896. (**ESI Highly cited Paper**)
13. Peng, Y. #, Ming, Y. #, **Jiang, B.**, Zhang, X., Fu, D., Lin, Q., ... & Yang, S. # (2024). Differential phosphorylation of Ca²⁺-permeable channel CYCLIC NUCLEOTIDE-GATED CHANNEL20 modulates calcium-mediated freezing tolerance in *Arabidopsis*. ***The Plant Cell***, 36(10), 4356-4371. (**ESI Highly cited Paper**)
14. Wang G, Li H, Ye C, He K, Liu S, **Jiang B.**, Ge R, Gao B, Wei J, Zhao Y, et al. (2024) Quantitative profiling of m⁶A at single base resolution across the life cycle of rice and *Arabidopsis*. ***Nat Communications*** 15(1): 4881.
15. Zhang, L.*., Ju, C. **Jiang, B.**, and He, C. (2023). Base-resolution quantitative DAMM-seq for mapping RNA methylations in tRNA and mitochondrial polycistronic RNA. *Enzymes in RNA Science and Biotechnology: Part B*, pp. 39-54. 10.1016/bs.mie.2023.08.001. (Book chapter)
16. Dong, X., Yan, Y., **Jiang, B.**, Shi, Y., Jia, Y., Cheng, J., Shi, Y., Kang, J., Li, H., Zhang, D., et al. (2020). The cold response regulator CBF1 promotes *Arabidopsis* hypocotyl growth at ambient temperatures. ***EMBO Journal***. 39, e103630.
17. Yan, Y., Li, C., Dong, X.J., Li, H., Zhang, D., Zhou, Y.Y., **Jiang, B.C.**, Peng, J., Qin, X.Y., Cheng, J.K., et al. (2020). MYB30 is a key negative regulator of *Arabidopsis* photomorphogenic development that promotes PIF4 and PIF5 protein accumulation in the Light. ***Plant Cell*** 32, 2196-2215.

AWARDS

2024 New Phytologist Tansley Medal (Runner up and invited with Tansley insight)
2024 Shanghai Rising-Star Program
2023 China Overseas High-Level Talents Program
2019 Excellent Graduates in Beijing
2018 China Agricultural University First Prize Doctoral Scholarship
2017 China National Scholarship
2017 Syngenta Graduate Scholarship
2017 China Agricultural University Presidential Scholarship
2014 Excellent Graduates in Anhui Province

MEMBERSHIP OR REVIEWER FOR ACADEMIC SOCIETY

Early-Career Editorial Board Member of The Innovation, aBIOTECH and Frontiers in Bioscience-Landmark.

Reviewer for Plant Communications; Plant, Cell & Environment; Horticulture Research; Plant Science; Plant cell reports; BMC plant biology; Frontiers in Plant Science; Journal of Plant Physiology; Guest editor for Frontiers in Genome Editing