Curriculum Vitae

Chi Zhang, Ph.D.

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Education

Ph.D. in Plant Molecular Genetics, University of Tennessee, Knoxville, USA, July 2019,
"Functional Study of Plant SABATH Methyltransferases in the Biosynthesis of Methyl Cinnamate, Juvenile Hormone III and Methyl Gibberellins"

M.Sc. in Molecular Ecology, Institute of Applied Ecology, Chinese Academy of Sciences, China, July 2015,
"Functional Study of the GmIDA Genes in Soybean and Transcriptome Data Analysis"

B.Sc. in Ecology, Sun Yat-sen University, China, June 2012

Employment

10/2019 – 3/2022 Post-doctoral Research Fellow, School of Science, Westlake University
4/2022 – 1/2024 Post-doctoral Research Fellow, Department of Plant and Environmental Sciences, University of Copenhagen

Key Skills and Techniques

Bioinformatics (genome assembling, large scale phylogeny, genomic data mining)
Scripting (Python, Bash, R, C++)
Biochemistry (enzyme characterization, radiometric assays, GC-MS)
Molecular biology (gene cloning, tissue culture, transformation)

Honors and Awards

AgResearch Travel Award, UT Institute of Agriculture, 2018
Outstanding Student Leadership, Sun Yat-sen University, 2008, 2010

Professional Services

Reviewer for *Horticulture Research*, *Plant Direct*

Publications

Wang, W., **Zhang, C.**, Guo, H., & Chen, F. (2025). A novel auxin methyltransferase of the SABATH family for phenylacetic acid methylation is conserved in potato and tomato. Plant physiology and biochemistry : PPB, 224, 109972. Advance online publication. https://doi.org/10.1016/j.plaphy.2025.109972

Liang, F., Xie, Y., **Zhang, C.**, Zhao, Y., Motawia, M. S., Kampranis, S. C. (2025). Elucidation of the final steps in Taxol biosynthesis and its biotechnological production. Nature Synthesis, https://doi.org/10.1038/s44160-025-00800-z

Chen, L., Gao, R., Wei, G., Luo, S., Köllner, T. G., Xu, H., Jiang, Y., **Zhang, C.**, Chen, X., Dickschat, J. S., Gershenzon, J., Li, S., Chang, Y., & Chen, F. (2025). Microbial-type terpene synthases significantly contribute to the terpene profile of glandular trichomes of the fern Dryopteris fragrans (L.). The Plant journal : for cell and molecular biology, 121(6), e70079. https://doi.org/10.1111/tpj.70079

Chen, X., Nowicki, M., Wadl, P. A., **Zhang, C.**, Köllner, T. G., Payá-Milans, M., Huff, M. L., Staton, M. E., Chen, F., & Trigiano, R. N. (2023). Chemical profile and analysis of biosynthetic pathways and genes of volatile terpenes in Pityopsis ruthii, a rare and endangered flowering plant. PloS one, 18(6), e0287524.

Magnus, N., von Reuss, S. H., Braack, F., **Zhang, C.**, Baer, K., Koch, A., Hampe, P. L., Sutour, S., Chen, F., & Piechulla, B. (2023). Non-canonical Biosynthesis of the Brexane-Type Bishomosesquiterpene Chlororaphen through Two Consecutive Methylation Steps in Pseudomonas chlororaphis O6 and Variovorax boronicumulans PHE5-4. Angewandte Chemie (International ed. in English), 62(29), e202303692.

Chen, X., Nowicki, M., Wadl, P. A., **Zhang, C.**, Köllner, T. G., Payá-Milans, M., Huff, M. L., Staton, M. E., Chen, F., & Trigiano, R. N. (2023). Chemical profile and analysis of biosynthetic pathways and genes of volatile terpenes in Pityopsis ruthii, a rare and endangered flowering plant. PloS one, 18(6), e0287524.

Zhang, W., Jiang, Y., Chen, F., Guan, Z., Wei, G., Chen, X., **Zhang, C.**, Köllner, T. G., Chen, S., Chen, F., & Chen, F. (2022). Dynamic regulation of volatile terpenoid production and emission from Chrysanthemum morifolium capitula. Plant physiology and biochemistry : PPB, 182, 11–21.

Chen, S., *__Zhang, C.__, & Zhang, L. (2022). Investigation of the Molecular Landscape of Bacterial Aromatic Polyketides by Global Analysis of Type II Polyketide Synthases. Angewandte Chemie (International ed. in English), 61(24), e202202286. (*Co-first authors)

Jiang, Y., Liu, G., Zhang, W., **Zhang, C.**, Chen, X., Chen, Y., Yu, C., Yu, D., Fu J., Chen, F., 2021. Biosynthesis and emission of methyl hexanoate, the major constituent of floral scent of a night-blooming water lily *Vicoria cruziana*. Phytochemistry. 191:112899

Piechulla, B., **Zhang, C.**, Eisenschmidt-Bönn, D., Chen, F., Magnus, N., 2021. Non-canonical substrates for terpene synthases in bacteria are synthesized by a new family of methyltransferases. FEMS Microbiol Rev. fuab024.

Zhang, C., Chaiprasongsuk, M., Chanderbali, A.S., Chen, X., Fu, J., Soltis, D.E., Chen, F., 2020. Origin and evolution of a gibberellin-deactivating enzyme GAMT. Plant Direct. 4(12):e00287.

Zhang, L., Chen, F., Zhang, X., Li, Z., Zhao, Y., Lohaus, R., Chang, X., Dong, W., Ho, S.Y.W., Liu, X., Song, A., Chen, J., Guo, W., Wang, Z., Zhuang, Y., Wang, H., Chen, X., Hu, J., Liu, Y., Qin, Y., Wang, K., Dong, S., Liu, Y., Zhang, S., Yu, X., Wu, Q., Wang, L., Yan, X., Jiao, Y., Kong, H., Zhou, X., Yu, C., Chen, Y., Li, F., Wang, J., Chen, W., Chen, X., Jia, Q., **Zhang, C.**, Jiang, Y., Zhang, W., Liu, G., Fu, J., Chen, F., Ma, H., Van de Peer, Y., Tang, H., 2020. The water lily genome and the early evolution of flowering plants. Nature. 577(7788):79-84.

Wei, G., Eberl, F., Chen, X., **Zhang, C.**, Unsicker, S.B., Köllner, T.G., Gershenzon, J., Chen, F., 2020. Evolution of isoprenyl diphosphate synthase-like terpene synthases in fungi. Sci Rep. 10(1):14944

Zhang, C., Chen, X., Crandall-Stotler, B., Guo, H., Qian, P., Köllner, T. and Chen, F., 2019. Biosynthesis of methyl (*E*)-cinnamate in the liverwort *Conocephalum salebrosum* and evolution of cinnamic acid methyltransferase. Phytochemistry. 164, 50-59.

*Chaiprasongsuk, M., ***Zhang, C.**, Qian, P., Chen, X., Li, G., Trigiano, R. N., Guo, H. and Chen, F., 2018. Biochemical characterization in Norway spruce (*Picea abies*) of SABATH methyltransferases that methylate phytohormones. Phytochemistry. 149, 146-154. (*Co-first authors)

Zhang, C., Gao, Z., Dong, Y. and Cui, M., 2015. Transcriptome analysis of inflorescences from four soybean cultivars. Chinese Journal of Ecology. 34, 3391-3396. (*In Chinese*)

Li, Y., Gao, Z., **Zhang, C.**, Li, N. and Liu, C., 2015. Research progress on the molecular regualtion mechanism of anthocyanin biosynthesis pathway. Chinese Journal of Ecology. 34, 2937-2942. (*In Chinese*)

Song, Q., Liu, C., Gao, Z., Li, Y., **Zhang, C.** and Cui, M., 2014. Optimal temperature for hsp18.2 promoter in gene expression of anthocyanin biosynthesis of *Antirrhinum majus*. Chinese Journal of Ecology. 33, 2436-2441. (*In Chinese*)

Conference Presentation

"Biochemical Characterization of SABATH Methyltransferases in Liverworts" iMOSS 2018, St. Petersburg, Florida, June 2018.

Student Supervision

Helena Buhrgard, Msc Student, Lund University, 2024
Thesis: "Expression of Terpene Synthases from Edible Fungi using Yeast Chassis"

Patents

Method for producing the anticancer agent taxol (pending)
Method for producing taxol and its analogs (pending)

Research Interests

Natural product biosynthesis
Pathway evolution
Biological data mining
Synthetic biology applications
Systems biology

References

Prof. Sotirios Kampranis
Section for Plant Biochemistry, Department of Plant and Environmental Sciences
University of Copenhagen

Email: soka@plen.ku.dk
Relationship: Supervisor during postdoctoral research on terpene gene clusters.

Prof. Feng Chen
Department of Plant Sciences
University of Tennessee
Email: fengc@tennessee.edu
Relationship: PhD Advisor during my doctoral research on SABATH methyltransferases.

Prof. Yong Zhao
Department of Life Sciences
Xiamen University
Email: yong.zhao@xmu.edu.cn
Relationship: Collaborator