



## Curriculum Vitae

Institute of Nutrition, Mahidol University (INMU)

999 Phutthamonthon 4 Rd., Salaya, Phutthamonthon

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**Name: Jarukitt Limwachiranon**

**E-mail address: jarukitt.lim@mahidol.ac.th**

**Current position: Lecturer**

### Education

- 2019            Ph.D. (Food Sciences)  
College of Biosystems Engineering and Food Science, Zhejiang University, China
- 2014            M.Sc. (Food Production Management)  
School of Biosciences, The University of Nottingham, UK
- 2013            B.Sc. (Food Science and Technology)  
Science Division, Mahidol University International College, Thailand

### Work Experience

- 2025.03 – present            Lecturer, Institution of Nutrition, Nakhon Pathom, Thailand
- 2024.08 – 2025.03            Lecturer, Chulabhorn Royal Academy, Bangkok, Thailand
- 2020.05 – 2024.06            Postdoctoral Research Fellow, Department of Microbiology, School of Medicine, Zhejiang University, Hangzhou, China
- (2020.05 – 2023.07)            Postdoctoral Research Fellow, Zhejiang Second Affiliated Hospital, Yiwu, China*
- (2023.08 – 2024.06)            Postdoctoral Research Fellow, Zhejiang Fourth Affiliated Hospital, Hangzhou, China*

### Research Interest and Expertise

- Targeted and untargeted metabolomics analyses
- Elucidation of natural product biosynthetic pathways



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### Research Experiences

- **Bioactive Compound Extraction:** Isolation of secondary metabolites from plant and microbial sources.
- **Separation and Purification:** Purification of plant and microbe secondary metabolites using flash chromatography and semi-preparative HPLC-UV.
- **Compound Identification:** Characterization of secondary metabolites via HPLC-UV and LC-MS; structure elucidation of novel compounds using NMR spectroscopy.
- **Bioaccessibility and Bioavailability Studies:** Evaluation of the digestive stability and absorption potential of bioactive compounds.
- **Complexation and Encapsulation:** Enhancement of compound stability and delivery through complexation and encapsulation techniques.
- **Genetic Engineering:** Genetic modification of bacterial and fungal strains using homologous recombination.
- **Molecular Biology Techniques:** Gene cloning, plasmid construction, transformation, and optimization of gene expression.
- **Protein Analysis:** Expression and purification of recombinant proteins; analysis of protein expression levels.
- **Enzyme Characterization:** Functional analysis of enzymes involved in natural product biosynthesis through gene deletion, site-directed mutagenesis, in vitro enzyme assays, and bioinformatics approaches.

### Fundings

#### International Young Scientist Research Funding

2022

- granted by National Natural Science Foundation of China (NSFC), 32250410279
- Research Title: Investigating the roles of fungal cytochrome P450 monooxygenases as versatile biocatalysts in ETP/DKP biosynthetic pathways
- 400,000 RMB research funding



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### **Talented Postdoctoral International Exchange Program award** **2020**

- granted by China Postdoctoral Science Foundation
- Research Title: Characterization of the enzymes of the allicin biosynthetic pathways, China

### **Zhejiang University Scholarship** **2015**

Zhejiang University, China

### **Chinese Government Scholarship** **2015**

China Scholarship Council (CSC), China

### **Face The World Exchange Program Scholarship** **2007**

USA

## **Publications**

### **International**

1. Han, Y., Guo, Y., Zhang, N., Xu, F., **Limwachiranon, J.**, Xiong, Z., Xu, L., Mao, X. & Scharf, DH. (2024). Biosynthesis of iron-chelating terramides A-C and their role in *Aspergillus terreus* infection. *Communications Chemistry*, 7, 221.
2. **Limwachiranon, J.**, Xu, F., Xu, L., Xiong, Z., Han, Y., Guo, Y., Zhang, N. & Scharf, DH. (2024). Enzymatic Dimerization of Fungal Natural Products through Intermolecular Disulfide Bridges. *Advanced Synthesis & Catalysis*. 10.1002/adsc.202400671
3. Guo, Y., Liu, J., **Limwachiranon, J.**, Xu, F., Xu, L., Xiong, Z., Zhang, N., Ding, G. & Scharf, DH. (2024) Reconstitution of the Early Stage of Chetomin Biosynthesis in *Aspergillus fumigatus* Leads to the Production of Epipolythiodioxopiperazines. *Organic Letters*, 26(21).
4. Yurasakpong, L., Suwannakhan, A., Kirisattayakul, W., Samrid, R., Iamsaard, S., **Limwachiranon, J.**, Khanthiyong, B., Tubbs, R.S., Iwanaga, J., & Chaiyamoorn, A. (2023). Topographical study of scapular foramina and scapular nutrient foramina in dried skeletons. *Surgical and Radiologic Anatomy*, 45, 563 - 570.
5. Xiong, Z., Zhang, N., Xu, L., Deng, Z., **Limwachiranon, J.**, Guo, Y., Han, Y., Yang, W. & Scharf, D.H. (2023). Urease of *Aspergillus fumigatus* Is Required for Survival in Macrophages and Virulence. *Microbiology Spectrum*, 11.



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6. Senarai, T., Pratipanawat, T., Yurasakpong, L., Kruepunga, N., **Limwachiranon, J.**, Phanthong, P., Meemon, K., Yammine, K., & Suwannakhan, A. (2022). Cross-Sectional Area of the Tibial Nerve in Diabetic Peripheral Neuropathy Patients: A Systematic Review and Meta-Analysis of Ultrasonography Studies. *Medicina*, 58.
7. **Limwachiranon, J.**, Huang, H., Shi, Z., Li, L., & Luo, Z. (2018). Lotus flavonoids and phenolic acids: Health promotion and safe consumption dosages. *Comprehensive Reviews in Food Science and Food Safety*, 17(2), 458–471.
8. **Limwachiranon, J.**, Jiang, L., Huang, H., Sun, J., & Luo, Z. (2019). Improvement of phenolic compounds extraction from high-starch lotus (*Nelumbo nucifera* G.) seed kernels using glycerol: New insights to amylose/amylopectin – Phenolic relationships. *Food Chemistry*, 274, 933-941.
9. **Limwachiranon, J.**, Huang, H., Li, L., Duan, Z., & Luo, Z. (2019). Recovery of lotus (*Nelumbo nucifera* Gaertn.) seedpod flavonoids using polar macroporous resins: the updated understanding on adsorption/desorption mechanisms and the involved intermolecular attractions and bonding. *Food Chemistry*, 125108.
10. **Limwachiranon, J.**, Huang, H., Li, L., Lin, X., Zou, L., Liu, J., Zou, Y., Aalim, H., Duan, Z., & Luo, Z. (2019). Enhancing stability and bioaccessibility of chlorogenic acid using complexation with amylopectin: A comprehensive evaluation of complex formation, properties, and characteristics. *Food Chemistry*, 125879.
11. Li, D.†, **Limwachiranon, J.†**, Li, L., Xu, Y., Fu, M., & Luo, Z. (2019). Hydrogen peroxide accelerated the lignification process of bamboo shoots by activating the phenylpropanoid pathway and programmed cell death in postharvest storage. *Postharvest biology and technology*, 153, 79-86. *Co-first author*
12. Huang, H., Belwal, T., Lin, X., **Limwachiranon, J.**, Zou, L., & Luo, Z. (2021). Novel bind-then-release model based on fluorescence spectroscopy analysis with molecular docking simulation: New insights to zero-order release of arbutin and coumaric acid. *Food Hydrocolloids*, 112, 106356.
13. Feng, S., Belwal, T., Li, L., **Limwachiranon, J.**, Liu, X., & Luo, Z. (2020). Phytosterols and their derivatives: Potential health-promoting uses against lipid metabolism and associated diseases, mechanism, and safety issues. *Comprehensive reviews in food science and food safety*, 19 4, 1243-1267.



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14. Jiang, L., Belwal, T., Huang, H., Ge, Z., **Limwachiranon, J.**, Zhao, Y., Li, L., Ren, G., & Luo, Z. (2019). Extraction and Characterization of Phenolic Compounds from Bamboo Shoot Shell Under Optimized Ultrasonic-Assisted Conditions: a Potential Source of Nutraceutical Compounds. *Food and Bioprocess Technology*, 12, 1741 - 1755.
15. Li, D., **Limwachiranon, J.**, Li, L., Xu, Y., Fu, M., & Luo, Z. (2019). Hydrogen peroxide accelerated the lignification process of bamboo shoots by activating the phenylpropanoid pathway and programmed cell death in postharvest storage. *Postharvest biology and technology*, 153, 79-86.
16. Li, D., **Limwachiranon, J.**, Li, L., Du, R., & Luo, Z. (2016). Involvement of energy metabolism to chilling tolerance induced by hydrogen sulfide in cold-stored banana fruit. *Food Chemistry*, 208, 272–278.
17. Feng, S., **Limwachiranon, J.**, Luo, Z., Shi, X., & Ru, Q. (2016). Preparation and purification of angiotensin-converting enzyme inhibitory peptides from hydrolysate of shrimp (*Litopenaeus vannamei*) shell waste. *International Journal of Food Science & Technology*, 51(7), 1610–1617.
18. Xu, Y., **Limwachiranon, J.**, Li, L., Ru, Q., & Luo, Z. (2016). Characterisation of volatile compounds of farmed soft-shelled turtle (*Pelodiscus sinensis*) by solid-phase microextraction and the influence of matrix pH on the release of volatiles. *International Journal of Food Science & Technology*, 52(1), 275–281.
19. Li, L., Ban, Z., **Limwachiranon, J.**, & Luo, Z. (2017). Proteomic studies on fruit ripening and senescence. *Critical Reviews in Plant Sciences*, 36(2), 116–127.
20. Lu, H., Li, L., **Limwachiranon, J.**, Xie, J., & Luo, Z. (2016). Effect of UV-C on ripening of tomato fruits in response to wound. *Scientia Horticulturae*, 213, 104–109.
21. Zeng, F., Ge, Z., **Limwachiranon, J.**, Li, L., Feng, S., Wang, Y., & Luo, Z. (2017). Antioxidant and tyrosinase inhibitory activity of *Rosa roxburghii* fruit and identification of main bioactive phytochemicals by UPLC-Triple-TOF/MS. *International Journal of Food Science & Technology*, 52(4), 897–905.
22. Huang, H., Ge, Z., **Limwachiranon, J.**, Li, L., Li, W., & Luo, Z. (2017). UV-C treatment affects browning and starch metabolism of minimally processed lily bulb. *Postharvest Biology and Technology*, 128, 105–111.
23. Huang, H., Wang, Z., Aalim, H., **Limwachiranon, J.**, Li, L., Duan, Z., Luo, Z. (2018). Green recovery of phenolic compounds from rice byproduct (rice bran) using glycerol based on viscosity, conductivity and density. *International Journal of Food Science & Technology*. doi:10.1111/ijfs.14026



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24. Lu, H., Wu, W., **Limwachiranon, J.**, Yang, D., Xiao, G., Luo, Z., & Li, L. (2018). Effect of micro-perforated film packing on fatty acid-derived volatile metabolism of “red globe” table grapes. *Food and Bioprocess Technology*, 11(10), 1807–1817.
25. Li, D., Li, L., Ge, Z., **Limwachiranon, J.**, Ban, Z., Yang, D., & Luo, Z. (2017). Effects of hydrogen sulfide on yellowing and energy metabolism in broccoli. *Postharvest Biology and Technology*, 129, 136–142.
26. Li, D., Li, L., Xiao, G., **Limwachiranon, J.**, Xu, Y., Lu, H., Yang, D., & Luo, Z. (2018). Effects of elevated CO<sub>2</sub> on energy metabolism and  $\gamma$ -aminobutyric acid shunt pathway in postharvest strawberry fruit. *Food Chemistry*, 265, 281–289.
27. Wang, D., Li, L., Xu, Y., **Limwachiranon, J.**, Li, D., Ban, Z., & Luo, Z. (2017). Effect of exogenous nitro oxide on chilling tolerance, polyamine, proline, and  $\gamma$ -aminobutyric acid in bamboo shoots (*Phyllostachys praecox* f. *prevernalis*). *Journal of Agricultural and Food Chemistry*, 65(28), 5607–5613.
28. Li, D., Mou, W., Luo, Z., Li, L., **Limwachiranon, J.**, Mao, L., & Ying, T. (2016). Developmental and stress regulation on expression of a novel miRNA, Fan-miR73 and its target ABI5 in strawberry. *Scientific Reports*, 6(1).
29. Huang, H., Belwal, T., Jiang, L., Hu, J., **Limwachiranon, J.**, Li, L., Ren, G., Zhang, X., Luo, Z. (2019). Valorization of lotus byproduct (*Receptaculum Nelumbinis*) under green extraction condition. *Food and Bioproducts Processing*. doi:10.1016/j.fbp.2019.03.006
30. Li, L., Wu, Q., Wang, Y., Aghdam, M. S., Ban, Z., Zhang, X., Lu, H., Li, D., Yan, J., **Limwachiranon, J.**, & Luo, Z. (2019). Systematically quantitative proteomics and metabolite profiles offer insight into fruit ripening behavior in *Fragaria x ananassa*. *RSC Advances*, 9(25), 14093–14108.