|  |  |  |  |
| --- | --- | --- | --- |
|  | Peng Zhang Ph.D. |  | 1983.10 |
|  | +001-801-6350228 |
|  | U6024660@utah.edu;zhangpeng\_cnu@163.com |
| **Areas of Study:*** Biological significance of fungal secondary metabolites
* Regulation of fungal secondary metabolites
* Using yeast and *Aspergillus* as host for heterologous expression of fungal cryptic secondary metabolites biosynthetic pathway
 |  | Current work address: College of pharmacy, University of Utah, Salt Lake City, UT, USA**Google Scholar Link:**https://scholar.google.com/citations?hl=zh-CN&user=rsBccl8AAAAJ&view\_op=list\_works&sortby=pubdate |



|  |  |
| --- | --- |
| **EDUCATION** |  |
| 2011.07-2012.022008.09-2014.062002.09-2006.06 | University of South Carolina Biological Sciences Ph.D. Cooperative ProjectCapital Normal University Botany (plant molecular biology) Ph.D.Tianjin Normal University Biology Science Bachelor |
| **RESEARCH EXPERIENCE** |  |
| 2019.06-now 2016.10-2019-052014.09-2016.10 | College of pharmacy, University of Utah Postdoctoral fellowshipInstitute of Microbiology, CAS Assistant research professorInstitute of Microbiology, CAS Postdoctoral fellowship |
| **TECHNICAL EXPERIENCE**  |  |
|  | * **Molecular Genetics:** Quick-Change, Double-joint and Fusion PCR, Assembling large DNA segments in yeast (50kb)
* **Transformation of Filamentous Fungi:** for genetic manipulation
* **The Research Strategy on Fungal Metabolites Biosynthesis**: including gene cluster prediction, genetic manipulation and product isolation
* **Heterologous Expression** (yeast and *Aspergillus nidulans* as host system)
* **Protein Expression and Biochemical Technology** (eukaryotic protein expression in yeast , western blot, etc.)
* **Plant Cell Culture:** Tobacco BY-2 cell; Rice suspension cell
* **Plant Transgenic Technique:** Genetic transformation of plants (Rice and *Arabidopsis*) using Agrobacterium-mediated transformation of wild-type Rice Callus, Tobacco leaf disc and Arabidopsis floral dip method
* **Cell Transformed and Microscopy Technique:** transformation of protoplast, yeast and bacteria; Confocal Microscopy; BiFC
 |
| **PUBLICATIONS** |  |
|  | 【List of Publications: †Contribute equally; \* Corresponding author】1. Peng Zhang**†**, Guangwei Wu**†**, Stephanie Claire Heard, Changshan Niu, Yonghui Zhang, and Jaclyn M Winter\*. Genome mining of the chimeric terpene synthases from the marine fungi *Aspergillus flavipes* to discover a novel diterpene scaffold forming the 5-8-6 ring.In preparation
2. Jinyu Zhang**†**, Peng Zhang**†**, Guohong Zeng, Guangwei Wu, Landa Qi, Guocan Chen, Weiguo Fang and Wen-Bing Yin\*. Transcriptional Differences Guided Discovery and Genetic Identification of Coprogen and Dimerumic Acid Siderophores in *Metarhizium robertsii.* *Frontiers in Microbiology* 11/2021;12:783609.
3. Peng Zhang, Shuang Zhou, Gang Wang, Zhiqiang An, Xingzhong Liu, Kuan Li, and Wen-Bing Yin\*: Two transcription factors cooperatively regulate DHN melanin biosynthesis and development in *Pestalotiopsis fici. Molecular Microbiology* 2019; doi:10.1111/mmi.14281.
4. Peng Zhang, Xiuna Wang, Aili Fan, Yanjing Zheng, Xingzhong Liu, Shihua Wang, Huixi Zou, Berl R Oakley, Nancy P Keller, Wen-Bing Yin\*: A cryptic pigment biosynthetic pathway uncovered by heterologous expression is essential for conidial development in *Pestalotiopsis fici*. *Molecular Microbiology* 05/2017; 105(3).
5. Guohong Zeng**†**, Peng Zhang**†**, Qiangqiang Zhang**†**, Hong Zhao, Zixin Li, Xing Zhang, Chengshu Wang, Wen-Bing Yin, Weiguo Fang\*: Duplication of a Pks gene cluster and subsequent functional diversification facilitate environmental adaptation in *Metarhizium* species. *PLoS Genetics* 06/2018; 14(6).
6. Shuang Zhou**†**, Peng Zhang**†**, Haichuan Zhou, Xingzhong Liu, Shu-Ming Li, Liangdong Guo, Kuan Li, Wen-Bing Yin\*: A new regulator RsdA mediating fungal secondary metabolism has a detrimental impact on asexual development in *Pestalotiopsis fici*. *Environmental Microbiology* 11/2018.
7. Jin Feng**†**, Peng Zhang**†**, Yinglu Cui, Kai Li, Xue Qiao, Ying-Tao Zhang, Shu-Ming Li, Russell J. Cox, Bian Wu, Min Ye, Wen-Bing Yin\*: Regio- and Stereospecific O-Glycosylation of Phenolic Compounds Catalyzed by a Fungal Glycosyltransferase from *Mucor hiemalis*. *Advanced Synthesis & Catalysis* 02/2017; 359(6).
8. Peng Zhang, Song Tan, James O Berry, Peng Li, Na Ren, Shuang Li, Guang Yang, Wei-Bing Wang, Xiao-Ting Qi, Li-Ping Yin\*: An Uncleaved Signal Peptide Directs the *Malus xiaojinensis* Iron Transporter Protein MxIRT1 into the ER for the PM Secretory Pathway. *International Journal of Molecular Sciences* 11/2014; 15(11).
9. Song Tan**†**, Peng Zhang**†**, Wei Xiao, Bing Feng, Lan‐You Chen, Shuang Li, Peng Li, Wei‐Zhong Zhao, Xiao‐Ting Qi, Li‐Ping Yin\*: TMD1 domain and CRAC motif determine the association and disassociation of MxIRT1 with detergent‐resistant membranes. *Traffic* 11/2017; 19(2).
10. Ruixin Li, ZiXin Li, Ke Ma, Gang Wang, Wei Li, Hong-Wei Liu, Wen-Bing Yin\*, Peng Zhang\* & Xing-zhong Liu\*: Strategy for efficient cloning of biosynthetic gene cluster from fungi. *SCIENCE CHINA Life Sciences* 06/2019; doi: 10.1007/s11427-018-9511-7.
11. Ke Ma, Peng Zhang, Qiaoqiao Tao, Nancy P Keller, Yanlong Yang, Wen-Bing Yin\* and Hong-Wei Liu\*. Characterization and Biosynthesis of a Rare Fungal Hopane-Type Triterpenoid Glycoside Involved in the Anti-stress Property of *Aspergillus fumigatus. Organic Letters* 05/2019; 21(9).
12. H Liu, J Fan, P Zhang, Y Hu, X Liu, SM Li, WB Yin\*. New insights into the disulfide bond formation enzymes in epidithiodiketopiperazine alkaloids. *Chemical Science*. 02/2021; 12 (11), 4132-4138
13. Zhiguo Liu, Wei Li, Peng Zhang, Jie Fan, Fangbo Zhang, Caixia Wang, Shuming Li, Yi Sun\*, Shilin Chen\*, Wenbing Yin\*. Tricarbocyclic core formation of tyrosine-decahydrofluorenes implies a three-enzyme cascade with XenF-mediated sigmatropic rearrangement as a prerequisite. *Acta Pharmaceutica Sinica B.* 03/2021.
14. Xinran Xu, Jin Feng, Peng Zhang, Jie Fan, and Wen-Bing Yin\*. A CRISPR/Cas9 Cleavage System for Capturing Fungal Secondary Metabolite Gene Clusters. *Journal of Microbiology and Biotechnology* 01/2021. 31(0): 1–8
15. Zihui Ma, Wei Li, Peng Zhang, Haining Lyu, Youcai Hu, Wen-Bing Yin\*: Rational design for heterologous production of aurovertin-type compounds in *Aspergillus nidulans*. *Applied Microbiology and Biotechnology* 11/2017; 102.
16. Wei Li, Aili Fan, Long wang, Peng Zhang, Zhi-Guo Liu, Zhiqiang An, Wenbing Yin\*: Asperphenamate biosynthesis reveals a novel two-module NRPS system to synthesize amino acid esters in fungi. *Chemical Science* 01/2018; 9(9).
17. Aili Fan, Wubin Mi, Zhiguo Liu, Guohong Zeng, Peng Zhang, Youcai Hu, Weiguo Fang, Wen-Bing Yin\*: Deletion of a Histone Acetyltransferase Leads to the Pleiotropic Activation of Natural Products in *Metarhizium robertsii*. *Organic Letters* 03/2017; 19(7).
18. Guangwei Wu, Haichuan Zhou, Peng Zhang, Xiuna Wang, Wei Li, Weiwei Zhang, Xingzhong Liu, Hong-Wei Liu, Nancy P Keller, Zhiqiang An, Wen-Bing Yin\*: Polyketide Production of Pestaloficiols and Macrodiolide Ficiolides Revealed by Manipulations of Epigenetic Regulators in an Endophytic Fungus. *Organic Letters* 03/2016; 18(8).
19. Shuang Li, Xi Zhang, Xiu-Yue Zhang, Wei Xiao, James O Berry, Peng Li, Si Jin, Song Tan, Peng Zhang, Wei-Zhong Zhao, Li-Ping Yin: Expression of Malus xiaojinensis IRT1 (MxIRT1) protein in transgenic yeast cells leads to degradation through autophagy in the presence of excessive iron. *Yeast* 04/2015; 32(7).
20. Song Tan, Rui Han, Peng Li, Guang Yang, Shuang Li, Peng Zhang, Wei-Bing Wang, Wei-Zhong Zhao, Li-Ping Yin: Over-expression of the MxIRT1 gene increases iron and zinc content in rice seeds. Transgenic Research 08/2014; 24(1).
21. Naren, Peng Zhang, Dengke Ma, Yi Wang, Shuang Li, Liping Yin: Overexpression of OsDPR, a novel rice gene highly expressed under iron deficiency, suppresses plant growth.  *SCIENCE CHINA Life Sciences* 12/2012; 55(12):1082-91.
 |
| **FUNDING** |  |
|  | * National Natural Science Foundation of China (Grant 31700070). Project name: The function of new regulatory factor RsdA in fungi secondary metabolism and development. 01/2018-12/2022.
 |

