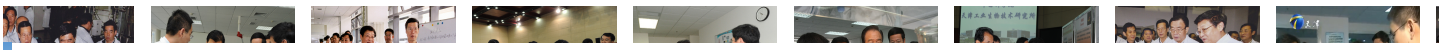



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简历

2007年获北京化工大学生物化工专业博士学位

2007年至2008年，美国威斯康星大学密尔沃基分校，博士后研究

2008年至2012年，美国加州理工学院，博士后研究

2012年至今，中科院天津工业生物技术研究所，研究员，博士生导师

研究方向：

1. 微生物代谢与工业菌种创建：主要利用微生物为细胞工厂，采用分子遗传，合成生物技术，生物传感技术，组学技术，高通量筛选等方法，合成维生素，氨基酸，及高附加值化合物。

2. 蛋白表达系统与蛋白分泌机制：建立蛋白表达平台，包括大肠杆菌，枯草芽孢杆菌，酵母菌表达系统，实现蛋白质胞内表达或分泌表达，为酶制剂和医药蛋白表达提供平台，并开发新型表达系统。基础研究方面主要研究蛋白分泌机制，蛋白分泌新途径，构建新型分泌系统等。

代表论著：

1. Yali Cui, Huina Dong, Yuanyuan Ma*, **Dawei Zhang*.** Strategies for Applying Nonhomologous End Joining-Mediated Genome Editing in Prokaryotes. ACS Synthetic Biology. 2019: September 17

2. Wu J, Liu Y, Zhao S, Sun J, Jin Z*, **Zhang D***. Application of the Dynamic Regulation to Increase L-Phenylalanine Production in Escherichia coli. J Microbiol Biotechnol. 2019 May 27. doi: 10.4014/jmb.1901.01058

3. Jiadi Li#, Xinli Li#, Yuanming Gai, Yumei Sun*, **Dawei Zhang***. Evolution of E. coli Phytase for Increased Thermostability Guided by Rational Parameters. Journal of Microbiology and Biotechnology. 2019 DOI:10.4014/jmb.1811.11017

4. Bai D, Ding D, Li J, Cong L*, **Zhang D***. Pinpointing the L-phenylalanine binding sites of TyrR using biosensors and computer-aided simulation. Biotechnol Lett. 2019 Jan 24.

5. Fu G, Liu J, Li J, Zhu BW, **Zhang D*.** Systematic screening of optimal signal peptides for secretory production of heterologous proteins in Bacillus subtilis. J Agric Food Chem. 2018 Nov 22.

6. Dandan Li#, Gang Fu#, Ran Tu, Zhaoxia Jin* and **Dawei Zhang***. High-efficiency expression and secretion of human FGF21 in *Bacillus subtilis* by intercalation of a mini-cistron cassette and combinatorial optimization of cell regulatory components. Microb Cell Fact (2019) 18:17

7. Huan Fang, Dong Li, Jie Kang, Pingtao Jiang, Jibin Sun, **Dawei Zhang***. Metabolic engineering of Escherichia coli for de novo biosynthesis of vitamin B12. Nature Communications. (2018) volume 9, Article number: 4917 **(Breakthrough)**

8. Cai Y , Xia M, Dong H, Qian Y, Zhang T, Zhu B, Wu J, **Zhang D***. Engineering a vitamin B12 high-throughput screening system by riboswitch sensor in *Sinorhizobium meliloti*.

   BMC Biotechnol. 2018 May 11;18(1):27. doi: 10.1186/s12896-018-0441-2.

9. Yuanming Gai, Jingqi Chen, Shibin Zhang, Beiwei Zhu and **Dawei Zhang***. Property Improvement of α-Amylase from Bacillus stearothermophilus by Deletion of Amino Acid Residues Arginine 179 and Glycine 180. Food Technology & Biotechnology. 2018. January 22, doi: 10.17113/ftb.56.01.18.5448.

10. Yuanye Chen, Yongfei Liu, Dongqin Ding, Lina Cong*, **Dawei Zhang***. Rational design and analysis of an Escherichia coli strain for high? efficiency tryptophan production. Journal of Industrial Microbiology & Biotechnology. 2018. February 4 doi.org/10.1007 /s10295 -018-2020-x.

11. Liu Y? , Xu Y? , Ding D, Wen J, Zhu B, **Zhang D***. Genetic engineering of Escherichia coli to improve L-phenylalanine production. BMC Biotechnol. 2018 Jan 30;18(1):5. doi: 10.1186/ s12896-018-0418-1.

12. Yiran Xu? , Yongfei Liu,? , Feiran Li, Guoqiang Cao, Ping Zheng, Jibin Sun, Jianping Wen and **Dawei Zhang***. Identification of a new gene yecC involved in threonine export in Escherichia coli. FEMS Microbiology Letters. 2017 Sep 15;364(17). doi: 10.1093/femsle/fnx174

13. Jie Yue, Gang Fu, **Dawei Zhang***, Jianping Wen. A new maltose-inducible high-performance heterologous expression system in Bacillus Subtilis. Biotechnol Lett. 2017 Aug;39(8): 1237-1244. doi: 10.1007/s10529-017-2357-7.

14. Song, Yafeng; Fu, Gang; Dong, Huina; Li, Jianjun*; Du, Yuguang ; **Zhang, Dawei***. High-efficiency secretion of β-mannanase in Bacillus subtilis through protein synthesis and secretion optimization. Journal of Agricultural and Food Chemistry 2017 Mar 29;65(12): 2540-2548, DOI: 10.1021/acs.jafc.6b05528.

15. Liu, Yongfei; Zhuang, Yinyin; Ding, Dongqin; Xu, Yiran; Sun, Jibin; **Zhang, Dawei***. Biosensor-based evolution and elucidation of a biosynthetic pathway in *Escherichia coli*. ACS Synthetic Biology. 2017 May 19;6(5):837-848. doi: 10.1021/acssynbio.6b00328.

16. Jingqi Chen; Zhaoxia Jin; Yuanming Gai; Jibin Sun; **Dawei Zhang***. A food-grade expression system for D-psicose 3-epimerase production in Bacillus subtilis using an alanine racemase- encoding selection marker. Bioresources and Bioprocessing. 2017;4(1):9. DOI: 10.1186/s40643-017-0139-7.

17. Zhao L[#], Chen J[#], Sun J, **Zhang D***, Multimer recognition and secretion by the non-classical secretion pathway in Bacillus subtilis. Scientific Reports. 2017 Mar 9; 7:44023. doi: 10.1038/srep44023.

18. Huan Fang; Jie Kang; **Dawei Zhang***. Microbial production of vitamin B12: A review and future perspectives. Microbial Cell Factories. 2017 Jan 30;16(1):15. doi: 10.1186/ s12934- 017-0631-y. **(Highly accessed)**

19. Ding D, Liu Y, Xu Y, Zheng P, Li H, **Zhang D***, Sun J. Improving the Production of L-Phenylalanine by Identifying Key Enzymes Through Multi-Enzyme Reaction System in Vitro. Scientific Reports. 2016 Aug 25;6:32208. doi: 10.1038/srep32208

20. Chen J, Zhu Y, Fu G, Song Y, Jin Z, Sun Y*, **Zhang D***. High-level intra- and extra-cellular production of D-psicose 3-epimerase via a modified xylose-inducible expression system in Bacillus subtilis. J Ind Microbiol Biotechnol. 2016 Nov;43(11):1577-1591

21. Song Y? , Nikoloff JM? , Fu G, Chen J, Li Q, Xie N, Zheng P, Sun J, **Zhang D***. Promoter Screening from Bacillus subtilis in Various Conditions Hunting for Synthetic Biology and Industrial Applications. PLoS One. 2016 Jul 5;11(7):e0158447. doi: 10.1371/journal. pone.0158447

22. Jingqi Chen[#], Liuqun Zhao[#], Gang Fu, Wenjuan Zhou, Yuanxia Sun, Ping Zheng, Jibin Sun and **Dawei Zhang***. A novel strategy for protein production using non-classical secretion pathway in Bacillus subtilis. Microbial Cell Factories. 2016 Apr 28;15:69. DOI: 10.1186/s12934-016 -0469-8.

23. Huina Dong, Sha Li, Huan Fang, Miaomiao Xia, Ping Zheng*, **Dawei Zhang***, Jibin Sun. A Newly Isolated and Identifie d Vitamin B12 Producing Strain—Sinorhizobium meliloti 320. Bioprocess and Biosystems Engineering. 2016 Oct;39(1 0):1527-37. DOI：10.1007/s00449-016-1628-3.

24. Huan Fang, Huina Dong, Tao Cai, Ping Zheng, Haixing Li, **Dawei Zhang*** and Jibin Sun. In vitro optimization of enzym es involved in precorrin-2 synthesis using response surface methodology. PloS One. 2016 DOI：10.1371/journal.pon e.0151149.

25. Jingqi Chen, Gang Fu, Yuanming Gai, Ping Zheng, **Dawei Zhang*** and Jianping Wen. Combinatorial Sec pathway ana lysis for improved heterologous protein secretion in Bacillus subtilis: identification of bottlenecks by systematic gene o verexpression. Microbial Cell Factories. 2015, 14:92. **(Highly accessed)**

26. Ya'nan Liu, Qinggang Li, Ping Zheng*, Zhidan Zhang, Yongfei Liu, Cunmin Sun, Guoqiang Cao, Wenjuan Zhou, Xiaow ei Wang, **Dawei Zhang**, Tongcun Zhang, Jibin Sun* and Yanhe Ma. Developing a high-throughput screening method f or threonine overproduction based on an artificial promoter Microbial Cell Factories. 2015, (2015) 14:121

27. Yanfei Zhang, Qinglong Meng, Hongwu Ma*, Yongfei Liu, Guoqiang Cao, Xiaoran Zhang, Ping_Zheng, Jibin Sun, **Daw ei Zhang**, Wenxia Jiang, Yanhe Ma. Determination of key enzymes for threonine synthesis through in vitro metabolic p athway analysis, Microbial Cell Factories. 2015. 14:92 .

28. Jingqi Chen, Yuanming Gai, Gang Fu, Wenjuan Zhou, **Dawei Zhang***, Jianping Wen. Enhanced extracellular productio n of α-amylase in Bacillus subtilis by optimization of regulatory elements and over-expression of PrsA lipoprotein. Biot echnol Lett. 2015 Apr;37(4):899-906. doi: 10.1007/s10529-014-1755-3

29. Yafeng Song, Jonas M. Nikoloff, **Dawei Zhang***. Improving Protein Production on the Level of Regulation both of Expr ession and Secretion Pathways in Bacillus subtilis. J. Microbiol. Biotechnol. 2015. 25(7): 963~977.

30. Huina Dong, Yongfei Liu, Xin Zu, Ning Li, Feiran Li, **Dawei Zhang***.An enzymatic assay for high-throughput screening of cytidine-producing microbial strains. PLOS One. 2015 Mar 27;10(3):e0121612. doi: 10.1371/journal.pone.0121612

31. Huina Dong, Xin Zu, Ping Zheng, **Dawei Zhang***. A rapid enzymatic assay for high-throughput screening of adenosine -producing strains. Microbial Biotechnology. 2015 Mar;8(2):230-8. doi: 10.1111/1751-7915.12189.

32. Yongfei Liu, Feiran Li, Xiaoran Zhang, Guoqiang Cao, Wenxia Jiang, Yuxiu Sun, Ping Zheng, **Dawei Zhang***. A fast an d sensitive coupled enzyme assay for the measurement of L-threonine and application to high-throughput screening of threonine-overproducing strains. Enzyme and Microbial Technology. 2014 Dec;67:1-7. doi: 10.1016/j.enzmictec.2014. 08.008.

33. Haifeng Zhang[#], Gang Fu[#], **Dawei Zhang***. Cloning, characterization and production of a novel lysozyme by different expression hosts. J. Microbiol. Biotechnol.2014; 24(10): 1405~1412.

34. Huina Dong, and **Dawei Zhang***. Current development in genetic engineering strategies of Bacillus species, Microb C ell Fact, 2014, 13: 63. **(Highly accessed)**

承担科研项目情况：

1. 国家重点研发计划：高版本模式微生物底盘细胞
2. 自然基金面上项目：利用SRP抑制子挖掘蛋白转运新途径
3. 中科院科技网络服务STS项目：维生素生物制造
4. 企业重大横向：维生素菌种改造技术

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