

# Caibin Zhang

Center for Molecular Agrobiolology,  
Institute of Genetics and Developmental Biology, Chinese Academy of Sciences, Beijing,  
People's Republic of China

cbzhang@genetics.ac.cn | +86 17844599600  
Birthday: 1998/04/01



## EDUCATION

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**Institute of Genetics and Developmental Biology, Chinese Academy of Sciences – China**

**Sep. 2024 - now**

*Ph.D. candidate of Bioinformatics*

### Core Curriculum

• Genetics and Development, Scientific Writing, Biological Information Acquisition Technology, Advances in Biochemistry and Molecular Biology, Advances in Genetics Research, Bioinformatics.

**Lanzhou University - China**

**Sep. 2021 - Jun. 2024**

*Master of Grassland Science*

• GPA: 4.29

### Core Curriculum

• Herbaceous Plant Breeding, Plant Adversity Physiology and Molecular Science, Mycology, Experimental Design and Statistical Analysis, Ecology.

**Xi'an Jiaotong University - China**

**Mar. 2022 - Jun. 2024**

*Bachelor of Computer Science and Technology (Second degree, part-time study)*

### Core Curriculum

• JAVA, C, Principles of Computer Composition, Principles of Database Systems, Digital Logic Circuits, Data Structures, Principles of Computer Networks, Principles of Operating Systems.

**Sichuan Agricultural University - China**

**Sep. 2017 - Jun. 2021**

*Bachelor of Grassland Science*

• GPA: 3.72

### Core Curriculum

• Plant Physiology, Molecular Biology, Biochemistry, Bioinformatics, Seed Science, UAV and Remote Sensing Detection Technology.

## RESEARCH AREA

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**Identification and modification of the biosynthetic metabolic compartment of paclitaxel in plants** *Doctor Stage*

**Molecular and physiological mechanisms of salt tolerance in *Melilotus albus*** *Master Stage*

**Monitoring alpine grassland rodent infestation by drone photography** *Undergraduate Stage*

## HOST AND PARTICIPATED IN RESEARCH PROJECTS

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### Doctor Stage

• The National Natural Science Foundation of China (NSFC): The paclitaxel biosynthetic metabolon identification and engineering (Project No. 32470416, 2025.01-2028.12). Participated.

### Master Stage

- Research Training Project for Undergraduates of Lanzhou University. Instructor, Sep 2022 to May 2024.
- Research Training Project for College Students of Sichuan Agricultural University. Participated, 2/4. Sep 2017 to May 2021.
- The National Natural Science Foundation of China (NSFC): Analysis of the molecular mechanism of UGT79 regulating root accumulation of scopolamine in response to drought tolerance in *Melilotus albus* (Project No. 32271752, 2023.01-2026.12). Participated.
- National Natural Science Foundation of China - International (Regional) Cooperation and Exchange Program (NSFC-CGIAR), Identification of Key Genes for Coumarin Biosynthesis in *Melilotus albus* and Germplasm Innovation of Half-sibling Families (Project No. 32061143035, 2021.1-2025.12). Participated.
- Gansu Province Science and Technology Major Special Project, Innovation and Breeding of High-Quality Forage Grass Germplasm (Project No. 19ZD2NA002-2, 2019.12-2022.12). Participated.

### Undergraduate Stage

- Research on the formation mechanism and restoration mode of alpine rat wasteland in the grassland of northwest Sichuan, International Cooperation Program of Sichuan Provincial Science and Technology Department (2020YFH0115), 2020.01-2022.12. Participated.
- Research on spatial and temporal distribution of population density of major pest rats in Ruoergai grassland and hazard grading, Key Project of Sichuan Provincial Department of Education (17ZA0320), 2018.01-2020.12. Participated.

## PERSONAL RESEARCH RESULT

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### • Paper

1. **Caibin Zhang**, Fan Wu, Qi Yan, Zhen Duan, Shengsheng Wang, Bao Ao, Yangyang Han, Jiyou Zhang\* (2023) Genome-wide analysis of the *Rab* gene family in *Melilotus albus* reveals their role in salt tolerance[J]. *International Journal of Molecular Sciences*. 2023, 24(1): 126. <https://doi.org/10.3390/ijms24010126> (IF<sub>2021</sub>=6.208)
2. Zhen Duan, Shengsheng Wang, Zhengshe Zhang, Qi Yan, **Caibin Zhang**, Pei Zhou, Fan Wu \*, Jiyou Zhang\* The MabHLH11 transcription factor interacting with MaMYB4 acts additively in increasing plant scopolin biosynthesis[J]. *The Crop Journal*. 2023, 11(6): 1675-1685. <https://doi.org/10.1016/j.cj.2023.06.011> (IF<sub>2022</sub>=6.6)
3. 冯俊人,许泽俊,石福孙,孙飞达,陈晓霞,**张蔡斌**,曹金凤.川西北典型牧业县牧户受教育程度与放牧强度空间差异成因分析[J].草学, 2020, 15(02): 80-86.  
Feng Junren, Xu Zejun, Shi Fusun, Sun Feida, Chen Xiaoxia, **Zhang Caibin**, Cao Jinfeng. Analysis of the causes of spatial differences in education level and grazing intensity among herding households in typical grazing counties in northwest Sichuan[J]. *Grass Science*, 2020, 15(02): 80-86. <https://doi.org/10.3969/j.issn.2096-3971.2020.02.015>.
4. 陈晓霞,孙飞达,石福孙,刘琳,许泽俊,**张蔡斌**,李飞,廖礼彬,高娟婷.川西北4个典型牧业县畜群结构优化管理及其影响因素分析[J].草业科学, 2019, 36(09): 2404-2412.

Chen Xiaoxia, Sun Feida, Shi Fusun, Liu Lin, Xu Zejun, **Zhang Caibin**, Li Fei, Liao Libin, Gao Juanling. Analysis of herd structure optimization management and its influencing factors in four typical grazing counties in northwest Sichuan[J]. *Grassland Science*, 2019, 36(09): 2404-2412. <https://doi.org/10.11829/j.issn.1001-0629.2018-0643>.

### • Patent

5. 孙飞达,**张蔡斌**,陈文业,陈德伟,刘琳,周冀琼,刘伟,周俗,高娟婷.基于无人机航拍影像的草原鼠害动态监测方法[P].四川省: CN113378700B, 2022-11-08.

Sun Fei-Da, **Zhang Cai-Bin**, Chen Wen-Ye, Chen De-Wei, Liu Lin, Zhou Ji-Qiong, Liu Wei, Zhou Xun, Gao Juan-Ting. Dynamic monitoring method of grassland rodent infestation based on aerial images of UAV [P]. Sichuan Province: CN113378700B, 2022-11-08.

## LANGUAGE & SKILLS

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- Proficiency in reading and writing in English.
- CET-6: 469 (2022/6)
- Proficiency in literature searches and the ability to scan literature.
- Skilled in using PCR instrument, qPCR instrument, gel imaging system, enzyme marker, chlorophyll fluorescence system, photosynthetic assay instruments.

- Fluency in using Office series office software, drawing and gene sequence analysis software such as Origin, Graphpad prism, SPSS, TBtools, Snapgene, Squencher, DNAMAN, Photoshop and Illustrator and learning about python, R and Java code programming.

## HONOURS

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| • <i>Outstanding Master's Thesis</i> , Lanzhou University  | 2023-2024 |
| • <i>Outstanding Master's Thesis</i> , Gansu Province, PRC   | 2023-2024 |
| • <i>Scholarship</i> of Lanzhou University for three consecutive years                                 | 2021-2024 |
| • <i>First Prize</i> of the Fifth National <i>Silk Road</i> Grassland Science and Practice Competition | 2019-2020 |
| • <i>Advanced Individual in School Admissions Promotion</i> of Sichuan Agricultural University         | 2019-2020 |
| • <i>Outstanding Student</i> of Sichuan Agricultural University  | 2018-2019 |
| • <i>Outstanding Youth League Officer</i> of Sichuan Agricultural University                           | 2018-2019 |
| • <i>Scholarship</i> of Sichuan Agricultural University for three consecutive years                    | 2018-2021 |

## SELF-EVALUATION

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- Good teamwork, communication, and learning ability.
- I work conscientiously, responsibly, and patiently and have a rigorous attitude towards scientific research.

## SUPERVISOR'S BIOGRAPHY

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Biography of my PhD supervisor

[http://genetics.cas.cn/sourcedb/zw/zjrc/202311/t20231114\\_6945614.html](http://genetics.cas.cn/sourcedb/zw/zjrc/202311/t20231114_6945614.html).(Chinese)

[http://english.genetics.cas.cn/en\\_sourcedb\\_genetics/people/peop/faculty/202401/t20240112\\_655153.html](http://english.genetics.cas.cn/en_sourcedb_genetics/people/peop/faculty/202401/t20240112_655153.html).(English)

Biography of my postgraduate supervisor

<http://caoye.lzu.edu.cn/lzupage/2009/12/13/N20091213103203.html>.(Chinese)

[http://caoyeen.lzu.edu.cn/col\\_office/201807/BE2E9A6B01D40E4D42F1118C75E3170D.htm](http://caoyeen.lzu.edu.cn/col_office/201807/BE2E9A6B01D40E4D42F1118C75E3170D.htm).(English)

Biography of my undergraduate supervisor

<https://cgst.sicau.edu.cn/info/1063/1134.htm>.(Chinese)