

# Curriculum Vitae

FANGLING JIANG, ASSOCIATE PROFESSOR

## Address:

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## Work (Research) experience:

Lecturer- (4/2007- 12/2011) - College of Horticulture, Nanjing Agricultural University  
Associate professor(1/2012-present) - College of Horticulture, Nanjing Agricultural University  
Visiting scholar(9/2012-9/2013) - Plant Sciences Department, University of California , Davis  
Visiting scholar(9/2017-12/2017) - University of Wisconsin-Madison

## Education:

09/2003~12/2006

Ph.D. (Agricultural Science), College of Horticulture, Nanjing Agricultural University, Nanjing 210095.

Dissertation: Cloning and Characterization of Cold-Regulated Genes in *Brassica campestris* ssp.*chinensis*

09/2000~07/2003

M.S. (Agricultural Science), College of Horticulture, Hunan Agricultural University, Changsha 410128.

Dissertation: Study on Improvement of Pepper (*Capsicum Annuum* L.) Genetic Transformation System and Introduction of Transcription Factor *JERF-33#* into Pepper

09/1995~07/1999

B.S. (Agricultural Science), College of Horticulture, Hunan Agricultural University, Changsha 410128.

Focus on Cultivation Physiology in Vegetable Crops

## Teaching Experience:

### **Courses:**

The General of Horticulture  
Safety Production of Horticultural Products  
Primary Practice for Horticulture  
Scientific research methods of Horticulture

Field Work

Horticultural Experiment

### **Language:**

Chinese and English (PETS-5 overall band score 68:listening 20, speaking 3)

### **Research field:**

Genetics and breeding: resistance and quality breeding, bioinformatics and Comparative Genomics;

Applied research: environmental friendly, high yield and high efficiency cultivation techniques;

Physiology research: cracking, garlic vitrification in tissue culture, leggy seedlings and long-season cultivation, seed ageing and priming, virus-free and rapid propagation, abiotic stress tolerance.

### **Publication and presentation:**

#### **Refereed publication:**

1. Lingzi Xue, Mintao Sun, Zhen Wu, Lu Yu, Qinghui Yu, Yaping Tang and Fangling Jiang\*. LncRNA regulates tomato fruit cracking by coordinating gene expression via a hormone-redox-cell wall network. BMC Plant Biology, 2020, 20:162. <https://doi.org/10.1186/s12870-020-02373-9>.
2. Fangling Jiang, Alfonso Lopez, Shinjae Jeon, Sergio Tonetto de Freitas, Qinghui Yu, Zhen Wu, John M. Labavitch, Shengke Tian, Ann L. T. Powell\*, Elizabeth Mitcham\*. (2019). Disassembly of the fruit cell wall by the ripening-associated polygalacturonase and expansin influences tomato cracking. Horticulture Research, 6 :17, DOI 10.1038/s41438-018-0105-3
3. Tianmei Zhou, Zhen Wu, Yachen Wang, Xiaojun Su, Chaoxuan Qin, Heqiang Huo, Fangling Jiang\*. (2019). Modelling seedling development using thermal effectiveness and photosynthetically active radiation. Journal of Integrative Agriculture, 18(11): 2521-2533, [https://doi.org/10.1016/S2095-3119\(19\)62671-7](https://doi.org/10.1016/S2095-3119(19)62671-7)
4. Mintao Sun<sup>#</sup>, Fangling Jiang<sup>#</sup>, Rong Zhou, Junqin Wen, Shouyao Cui, Weize Wang, Zhen Wu\*. (2019). Respiratory burst oxidase homologue - dependent H<sub>2</sub>O<sub>2</sub> is essential during heat stress memory in heat sensitive tomato. Scientia Horticulturae, 258, 108777, <https://doi.org/10.1016/j.scienta.2019.108777>
5. Yabing Hou, Fangling Jiang, Xiaolan Zheng, Zhen Wu\*. (2019). Identification and analysis of oxygen responsive microRNAs in the root of wild tomato (*S. habrochaites*). BMC Plant Biology, 19:100, <https://doi.org/10.1186/s12870-019-1698-x>
6. Mintao Sun, Fangling Jiang, Benjian Cen, Heqiang Huo, Zhen Wu\*. (2019). Antioxidant enzymes act as indicators predicting intension of acquired and maintenance of acquired thermotolerance and the relationships between basal, acquired and maintenance of acquired thermotolerance of

- tomato. *Scientia Horticulturae*, 247: 130 - 137, <https://doi.org/10.1016/j.scienta.2018.12.015>
7. Junqin Wen, Fangling Jiang, Yiqun Weng, Mintao Sun, Xiaopu Shi, Yanzhao Zhou, Lu Yu, Zhen Wu\*. (2019). Identification of heat-tolerance QTLs and high-temperature stress-responsive genes through conventional QTL mapping, QTL-seq and RNA-seq in tomato. *BMC Plant Biology*, 19:398, <https://doi.org/10.1186/s12870-019-2008-3>
  8. Xiaopu Shi, Fangling Jiang, Junqing Wen, Shouyao Cui, Yanzhao Zhou, Zhen Wu\*. (2019). MicroRNA319 family members play an important role in *Solanum habrochaites* and *S. lycopersicum* responses to chilling and heat stresses. *Biologia Plantarum*, 63: 200-209, DOI 10.32615/bp.2019.023
  9. Xiaopu Shi, Fangling Jiang, Junqin Wen, Zhen Wu\*. (2019). Overexpression of *Solanum habrochaites* microRNA319d (sha-miR319d) confers chilling and heat stress tolerance in tomato (*S. lycopersicum*). *BMC Plant Biology*, 19:214, <https://doi.org/10.1186/s12870-019-1823-x>
  10. Yanzhao Zhou, Fangling Jiang, Liu Shuai, Zhen Wu\*. Genetic Diversity and Genetic Structure Analysis of Cultivated Tomato Based on Molecular Markers. *Molecular Plant Breeding*, 2020, 18(12):3952-3960. (In Chinese)
  11. Mintao Sun, Fangling Jiang, Benjian Cen, Junqin Wen, Yanzhao Zhou, Zhen Wu\*. (2018). Respiratory burst oxidase homologue - dependent H<sub>2</sub>O<sub>2</sub> and chloroplast H<sub>2</sub>O<sub>2</sub> are essential for the maintenance of acquired thermotolerance during recovery after acclimation. *Plant Cell Environ.*, 41:2373-2389, DOI: 10.1111/pce.13351
  12. Fang Ling Jiang, Li Ping Bo, Jin Jin Xu, Zhen Wu\*. (2018). Changes in respiration and structure of non-heading Chinese cabbage seeds during gradual artificial aging. *Scientia Horticulturae*, 238: 14-22
  13. Hanhua Wu, Fangling Jiang, Cao Xue, Zhen Wu\*. Vigor indexes change and correlation of non-heading Chinese cabbage seeds in different aging degrees, *Acta Botanica Boreali-Occidentalia Sinica*, 2018, 32(8):1606-1614. (In Chinese)
  14. Min Liu, Fangling Jiang, Xiangyu Kong, Jie Tian, Zhen Wu\*. (2017). Effects of multiple factors on hyperhydricity of *Allium sativum* L. *Scientia horticulturae*. 217:285-296.
  15. Yuwen Zang, Fangling Jiang, Min Liu, Yaqi Cheng, Xiangyu Kong, Zhen Wu\*. (2017). Screening on vitrification conservation conditions for shoot tip of *Colocasia esculenta* 'Hongxiangyu'. *Journal of Plant Resources and Environment*, 26(01):116-118. (In Chinese)
  16. Rong Zhou, Qian Wang, Fangling Jiang, XueCao, Mintao Sun, Min Liu, Zhen Wu\*. (2016). Identification of miRNAs and their targets in wild tomato at moderately and acutely elevated temperatures by high-throughput sequencing and degradome analysis. *Scientific Reports*, 6:33777.
  17. Yuwen Zang, Fangling Jiang, Yaqi Cheng, Xiangyu Kong, Zhen Wu\*. (2016). Study on the dynamic

- changes of the major carbohydrate content and the related enzyme activities during the microcorm development of colocasia esculenta. *Acta Botanica Boreali-Occidentalia Sinica*, 36(04):700-705.
18. Jie Tian, Fangling Jiang, Zhen Wu\*. 2015. The apoplastic oxidative burst as a key factor of hyperhydricity in garlic plantlet in vitro. *Plant Cell, Tissue, and Organ Culture*, 120, 571-584.
  19. Min Liu, Zhen Wu\*, Fangling Jiang. 2015. Selection and validation of garlic, reference genes for quantitative real-time PCR normalization *Plant Cell Tissue, and Organ Culture*, 122:435-444.
  20. Xue Cao, Fangling Jiang, Fangling Jiang, Rong Zhou, Zeen Yang. 2015. Comprehensive evaluation and screening for chilling-tolerance in tomato lines at the seedling stage. *Euphytica*, 205(2):569-584.
  21. Bosheng Fan, Fangling Jiang, Xu Wang, Genjin Hu, Dong Wang, Zhen Wu. 2013. Effects of source-sink regulation on plant growth, leaf antioxidative characteristics, yield and quality of muskmelon. *Acta Botanica Boreali-Occidentalia Sinica*, 33(04):741-746.
  22. Hongmin Hu<sup>#</sup>, Fangling Jiang<sup>#</sup>, Xue Cao, Zhen Wu\*. Guang long Wang. 2012. Cloning and expression analysis of ent-kaurene oxidase gene CKO in cucumber. *Acta Horticulturae Sinica*. 39 (6) :1131-1140.
  23. Cunhao Ming, Fangling Jiang, Guanglong Wang, Hongmin Hu, Xuechao Zhou, Zhen Wu\*. 2012. Simulation model of cucumber healthy indexes based on radiation and thermal effectiveness. *Transactions of the Chinese Society of Agricultural Engineering*, 28, 109-113
  24. Fangling Jiang, Feng Wang, Zhen Wu, Ying Li, Gongjun Shi, Jingding Hu, Xilin Hou\*. 2011. Components of the Arabidopsis CBF cold-response pathway are conserved in non-heading Chinese cabbage. *Plant Mol Biol Rep*, 29(3):525-532.
  25. Lin Zhang, Fangling Jiang, Chaochao Xiong, Pingping Sun, Huiqing Jin, Jie Tian, Zhen Wu\*. 2011. Changes of reactive oxygen metabolism of garlic plantlet in vitro under exogenous H<sub>2</sub>O<sub>2</sub> stress and the responses to AsA. *Acta Horticulturae Sinica*, 38(9):1707- 1716.
  26. Lingping Bo, Zhen Wu\*, Fangling Jiang, Jinjin Xu, Hanhua Wu. 2011. Seed vigor and antioxidant characteristics of non-heading Chinese cabbage seeds during artificial aging. *Acta Botanica Boreali-Occidentalia Sinica*, 31(4): 0724- 0730. (in Chinese)
  27. Fangling Jiang, Xilin Hou\*, Gongjun Shi, Xioumin Cui. 2007. Cloning and characterization of full length cDNA of BrCBF gene from *Brassica campestris* ssp. *Chinensis*. *Journal of Nanjing Agricultural University*, 30 (2): 18 - 22. (in Chinese)
  28. Fangling Jiang, Xilin Hou\*, Gongjun Shi, Xioumin Cui. 2007. Cloning and characterization of full length cDNA of BrCOR14 gene from *Brassica campestris* ssp. *chinensis*. *Jiangsu Journal of Agricultural Sciences*, 23 (1): 34 - 38. (in Chinese)
  29. Fangling Jiang, Xilin Hou\*, Gongjun Shi, Xioumin Cui. 2007. Cloning and characterization of

full length cDNA of BrLOS2 gene from *Brassica campestris* ssp. *chinensis*. Journal of Nanjing Agriculture University, 30(3): 27 - 32. (in Chinese)

30. Guoshun Yang, Bingyan Xie\*, Fangling Jiang, Xiaowu Wang, Xiangyang Lu, Zhimin Liu. 2003. Effects of polyamine and ABA on regeneration from cotyledon of pepper. *Acta Horticulturae Sinica*, 30 (5): 603 - 605. (in Chinese)

### **Professional Presentations:**

1. 2010, 28<sup>th</sup> International Horticultural Congress, Lisbon. *Oral Presentation*: The occurrence of hyperhydricity and production and location of endogenous reactive oxygen species in the garlic plantlet in vitro under exogenous H<sub>2</sub>O<sub>2</sub> stress.
2. 2009, Academic conference of virus-free and rapid propagation and industrialization, Ningxia. *Oral Presentation*: Affects of different factors on bulblet in vitro formation of Yi xing lily. (In Chinese)
3. 2007, 12<sup>th</sup> China Horticultural Congress, Nanjing. *Oral Presentation*: Cloning and characterization of cold-regulated genes in *Brassica campestris* ssp. *chinensis*. (In Chinese)

### **Published abstract:**

1. Fangling Jiang, Juye Guo, Zhen Wu. 2010. The dynamic changes of inner hormones during floral differentiation in bolting garlic cultivar. 28<sup>th</sup> International Horticultural Congress.
2. Zhen Wu, Xuechao Zhou, Fangling Jiang. 2010. Observation on morphology and leaf microstructure and cell ultrastructure of cucumber leggy seedlings. 28<sup>th</sup> International Horticultural Congress.
3. Zhen Wu, Huiqing Jin, Fangling Jiang, Jie Tian. 2010. The occurrence of hyperhydricity and production and location of endogenous reactive oxygen species in the garlic plantlet in vitro under exogenous H<sub>2</sub>O<sub>2</sub> stress. 28<sup>th</sup> International Horticultural Congress.
4. Fangling Jiang, Xilin Hou. 2006. Molecular cloning of cold tolerance gene from *Brassica campestris* ssp. *chinensis*. 27<sup>th</sup> International Horticultural Congress.

### **Published book:**

1. Zhen Wu, Mangling Weng, Fangling Jiang. 2010. Ready to answer any questions about new techniques of vegetable seedling. China Agriculture Press, Beijing, China. (In Chinese)
2. Zhen Wu, Fangling Jiang. 2011. The vitrification in plantlets in tissue culture, in: 10000 Selected problems in sciences. Agriculture science. Science Press, Beijing, China, pp. 392-396

### **Projects:**

1. The mechanism of ethylene-responsive factor (ERF) regulating irregular cracking in tomato, National Natural Science Foundation of China, (32072581), 2021.01-2024.12, ¥580, 000
2. Key technologies for facility horticulture crop production, National Key R&D Program of China

- (SQ2019YFD100128) , 2019.07–2022.12, ¥380,000
3. Integrated research and demonstration of reduced application of chemical fertilizer and pesticide technology for open field vegetable, the National Key Research and Development Program of China (No. 2018YFD0201203), 2018.7–2020.12, ¥565,200
  4. Discovery of key genes for tomato fruit cracking construction of ceRNA network, National Natural Science Foundation of China (31701924) , 2018.01–2020.12, ¥260,000
  5. Molecular regulatory network construction and key gene function analysis of garlic somatic embryogenesis, National Natural Science Foundation of China (31872125) , 2019.01–2022.12, ¥600,000
  6. Conservation and research on tomato resources, the Fundamental Research Funds for the Central Universities(KYZZ201809, KYZZ201909), 2018.01–2020.12, ¥350,000
  7. Study on the techniques of Purification and Rejuvenation of ‘Majianghongsuan’ and its propagation, the Fundamental Research Funds for the Central Universities(KJFP201702), ¥300,000
  8. Discovery of key genes for tomato fruit cracking construction of ceRNA network, the Fundamental Research Funds for the Central Universities (KJQN201814) , 2018.01–2020.12, ¥100,000
  9. Use linkage mapping to explain the genetic mechanism of tomato cuticle cracking, the Fundamental Research Funds for the Central Universities(KYZ201609), 2016.01–2018.12, ¥100,000
  10. Technological innovation and integrated application of leafy vegetables (non-heading Chinese cabbage, cabbage) industry chain, Independent Innovation Fund of Agricultural Science and Technology of Jiangsu Province, (CX(15)1015) , 2015.01–2017.12, ¥850,000
  11. Probing into the cell wall loosening genes that regulate tomato fruit cracking using VIGS technology, Natural Science Foundation of Jiangsu Province(BK20140712), 2014.06–2018.06, ¥200,000
  12. Analysis of the mechanism of hyperhydricity and cell membrane abnormality induced by endogenous active oxygen of garlic plantlets in vitro, National Natural Science Foundation of China(31372056), 2014.01–2017.12, ¥800,000
  13. Innovation and demonstration of new model of facility vegetable in southern Jiangsu, Independent Innovation Fund of Agricultural Science and Technology of Jiangsu Province, (CX(12)4044), 2012.7–2013.6, ¥150,000
  14. Subproject of research on the technical system of high-quality and high-efficiency vegetable industrial breeding Industrial development, Science and Technology Program of Suqian, 2011.10–2012.10, ¥40,000
  15. Techniques of organic mulching in cultivation of vegetables, Three Kinds of Agricultural Projects in Jiangsu (sx (2011) zs17), 2011–2012, ¥40,000

16. Innovation and demonstration of low-carbon and high-efficiency recycling production model of vegetables in solar greenhouse, Science and Technology Support Program of Jiangsu (BE2011435), 2011-2013, ¥90,000
17. Research on innovation and integration of high-quality, high-efficiency, cost-saving and simplified cultivation techniques for main facility vegetables, Science and Technology Support Program of Jiangsu (BE2011461), 2011-2012, ¥60,000

### **Other extension activities:**

Project of one hundred experts enter one hundred enterprises, 2010.10-2011.10.

Include: Introduction of vegetables cultivation techniques in Greenhouse, as well as new species to Nanjing Yufa agricultural science and technology enterprise with five to seven days each month working for this enterprise.

### **Awards:**

1. 2008 present. Creation of onion male infertility breeds line and selection of molecular mark. Scientific and technological progress award of Lianyungang city, The second prize, 2008
2. 2015 present. Molecular mechanism of cold-tolerant late bolting of non-heading Chinese cabbage and selection of new varieties. Award of Ministry of Education of the People's Republic of China, The second prize, 2015