

Jun Wu



Areas of Research

Fruit germplasm collection and evaluation, genomics and molecular breeding

Contact Information

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Research Interests

1. Germplasm collection and evaluation of fruit tree
2. Genomics of fruit tree
3. Molecular and genetic mechanism of fruit quality
4. Marker assisted breeding of fruit tree

My research focus on fruit science, the research fields include deciphering genome structure and function, exploring excellent genetic resources, developing molecular breeding technology to realize genetic improve of fruit quality in pear. The main achievements were focusing on three aspects: 1) Revealing the whole genome sequence and profile of genetic variation of pear, constructing the international sharing platform of genomics data; 2) Exploring the functional genes controlling fruit quality, clarifying the metabolism and genetic basis for red-color, sugar, stone cell of pear fruit; 3) Constructing the highest density genetic map by SNP and SSR markers, localizing the QTLs and developing markers for fruit quality. In recent years, more than 50 research papers were published in Genome Biology, Genome Research, Plant Journal, Plant Physiology, Plant Biotechnology Journal etc., as the first or corresponding author(including co-first or co-corresponding author), the seventeen invention patents and two software copyright were authorized by

government of China.

Education Background

Bachelor: Anhui Agricultural University

Master: Anhui Agricultural University

Doctor: Shandong Agricultural University

Work experience

Lecturer/Associate/Full/Distinguished Professor, Nanjing Agriculture University,
1993.7-

Visiting Scholar in University of Illinois at Urban and Champaign, USA, 2010.2-
2011.3

Senior Visiting Scholar in Plant and Food Research of New Zealand, 2018,2-2018.5

Honors and Awards

Award as “Youth Science and Technology Award” of China

Award as “Distinguished young scholars” by NSFC of China

Award as “National High-level personnel of special support program” of China

Award as “Science & Technology Nova Program” by Ministry of Science and
Technology of China

Award as “New Century Excellent Talents” by the Ministry of Education, China

Award as " Distinguished Young Scientists" in Jiangsu Province

Award as " Distinguished Professor" in Jiangsu Province

Award as “Young academic leader of QingLan Project” in Jiangsu province

The Second Prize for Science and Technology Progress award by government of
China (2011,2018)

The First Prize for Natural Science award by Ministry of Education in China (2015)

The First Prize for Agricultural Science and Technology Award, Ministry of
Agriculture (2017)

The First Prize for Agricultural Technology Extension award by the government of
Jiangsu Province (2014)

The First Prize for Technological Invention award by Ministry of Education in China(2013)

The Second Prize for Science and Technology Progress award by the government of Jiangsu Province(2011)

The Second Prize for Science and Technology Progress award by Ministry of Education in China (2010)

Selected Publication

(# first author; * corresponding author)

(1) **Jun Wu**#, Yingtao Wang#, Jiabao Xu#, Schuyler S. Korban#, Zhangjun Fei#, Shutian Tao#, Ray Ming, Shuaishuai Tai, Awais M. Khan, Joseph D. Postman, Chao Gu,.....Shaoling Zhang*. Diversification and independent domestication of Asian and European pears. *Genome Biology*. 2018, 19, 16.

(2) **Jun Wu**#, Zhiwen Wang#, Zebin Shi#, ShuZhang#, RayMing#, ShilinZhu#, M. Awais Khan, Shutian Tao, Schuyler S. Korban, Hao Wang,Shaoling Zhang*. The genome of the pear (*Pyrus bretschneideri* Rehd.). *Genome Res*. 2013, 23, 396-408.

(3) Dongqing Shi#, **Jun Wu**#, Haibao Tang#, Hao Yin#, Hongtao Wang, Ran Wang, Runze Wang, Ming Qian, Juyou Wu, Kaijie Qi, Zhihua Xie, Zhiwen Wang, Xiang Zhao, and Shaoling Zhang*. Single-pollen-cell sequencing for gamete-based phased diploid genome assembly in plants. *Genome Res*, 2019, 29, 1-11.

(4) **Jun Wu**, Chao Gu, M. Awais Khan, Juyou Wu, Yongbing Gao, Chunlei Wang, Schuyler S. Korban, Shaoling Zhang*. Molecular Determinants and Mechanisms of Gametophytic Self-Incompatibility in Fruit Trees of Rosaceae. *Critical Reviews in Plant Sciences*. 2013, 32, 53–68.

(5) Xiaolong Li#, Lun Liu#, Meiling Ming, Hongju Hu, Mingyue Zhang, Jing Fan, Bobo Song, Shaoling Zhang, **Jun Wu***. Comparative transcriptomic analysis provides insights into the domestication and improvement of pear (*P. pyrifolia*) fruit. *Plant Physiology*, 180, 435-452

(6) Gaifang Yao#, Meiling Ming#, Andrew C. Allan, Chao Gu, Leiting Li, Xiao Wu, Runze Wang, Yaojun Chang, Kaijie Qi, Shaoling Zhang, **Jun Wu***. Map-based cloning of the pear gene MYB114 identifies an interaction with other transcription factors to coordinately regulate fruit anthocyanin biosynthesis. *Plant Journal*. 2017, 92, 437–451.

(7) Xiaolong Li, Jugpreet Singh, Mengfan Qin, Siwei Li, Xun Zhang, Mingyue Zhang, Awais Khan, Shaoling Zhang*, **Jun Wu***. Development of an integrated 200K SNP genotyping array and application for genetic mapping, genome assembly improvement and GWAS in pear (*Pyrus*). *Plant Biotechnology Journal*, 2019 (<https://doi.org/10.1111/pbi.13085>).

(8) Cheng Xue, Jia-Long Yao, Meng-Fan Qin, Ming-Yue Zhang, Andrew C.Allan, De-Fu Wang, **Jun Wu***. PbrmiR397a regulates lignification during stone cell development in pear fruit. *Plant Biotechnology Journal*. 2018, 1–15.

(9) Cheng Xue#, Jia-Long Yao#, Yong-Song Xue, Guan-Qing Su, Liang Wang, Li-Kun Lin, Andrew C.Allan, Shao-Ling Zhang, **Jun Wu***. PbrMYB169 positively regulates lignification of stone cells in pear fruit. *Journal of Experimental Botany*, 2018.

doi:10.1093/jxb/erz039

(10) **Jun Wu**#, Lei-Ting Li#, Meng Li, M. Awais Khan, Xiu-Gen Li, Hui Chen, Hao Yin, Shao-Ling Zhang*. High-density genetic linkage map construction and identification of fruit-related QTLs in pear using SNP and SSR markers. *Journal of Experimental Botany*, 2014, 65, 5771–5781.

(11) Hainan Liu#, Jun Su#, Yangfan Zhu, Gaifang Yao, Andrew C. Allan , Charles Ampomah-Dwamena, Qun Shu, Kui Lin-Wang, Shaoling Zhang and **Jun Wu***. The involvement of PybZIPa in light-induced anthocyanin accumulation via the activation of PyUFGT through binding to tandem G-boxes in its promoter, *Horticultural Research*. 2019, 6:134

(12) Leiting Li, Cecilia H. Deng, Mareike Knabel, David Chagne, Satish Kumar, Jiangmei Sun, Shaoling Zhang, **Jun Wu***. Integrated high-density consensus genetic map of *Pyrus* and anchoring of the ‘Bartlett’ v1.0 (*Pyrus communis*) genome. *DNA Research*. 2017, 24(3), 289-301.
