

Fang Jinggui



Areas of Research

Grape genetics and breeding; Grape developmental biology; Development and extension of practical grape cultivation techniques.

Contact Information

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Research Interests

My research is mainly focused on innovative use of grapevine germplasm resources, formation and regulation mechanism of grape berry quality traits, the epigenetic events happening during grapevine development, and innovation & extension both of field and molecular farming technologies for grapevine breeding and vineyard practical management. The brief details of the worked performed and on-going: (1) Doing systematic collection, conservation, evaluation, and utilization of grapevine germplasm; (2) Analyzed sugar metabolism and sucrose synthase function in grape berry development; (3) Did much on the physiological and molecular mechanism of grape berry coloring, based on which put forward grape molecular-designed breeding strategy; (4) Uncovering the role of brassinolide and abscisic acid in regulating grape berry development and quality formation; (5) Developed the technologies of miR-RACE and PPM-RACE, respectively, for verification of precise microRNA sequences and of microRNA's splicing site on its target gene; (6) Invented some new grapevine cultivation trellis and practical management techniques for better grape production, and innovated some molecular farming technologies based on molecular information for more precise cultivation.

All the researches above are of my presided over 40 international, national, provincial scientific research projects, such as the national key research and development project, including "the National Natural Science Foundation", and the "Twelfth Five-Year" Ministry of Science and Technology Fundamental Work Special Project etc., and brought over 350 published papers,

including more than 120 SCI papers on Plant Biotechnology Journal, Journal of Experimental Botany, Horticulture Research, etc.;

Education Background

Bachelor: Laiyang Agriculture College of China

Master: Zhejiang Agriculture University

Doctor: Nanjing Agriculture University

Work experience

Professor, College of Horticulture, Nanjing Agriculture University, 2007,11-

Research scientist, Department of Biochemistry and Cell Biology, Rice University, 2006, 01-2007, 11

Post-doctor, Department of Plant Science, University of California at Riverside, 2004,01 -2006, 12

Post-doctor, Volcani Agricultural Research Center, Israel, 2001, 09-2003, 12

Lecturer/associate professor, College of Horticulture, Nanjing Agricultural University,1992, 08-2003, 12

Honors and Awards

Winner of Education Ministry's New Century Excellent Talents Supporting Plan

Jinagsu Young Academic Leaders of "Blue project"

Outstanding Young Academic Leaders in the "133 Key Talent Project" of Nanjing Agricultural University

Excellent teachers of Nanjing Agricultural University

Zhongshan scholars project

Second Prize for Science & Technology Development of the Ministry of Education (Grape biological characteristics study and innovation and application of key technologies with high quality and efficiency)

Third Prize of Jiangsu Science and Technology Award (Collection and utilization of grape variety resources and cultivation of new early maturing grape varieties)

Second Prize of the 28th East China Science and Technology Press Excellent Science and Technology Books (Grape Genetics, Breeding, and Genomics)

Selected Publication

Books

- Fang Jinggui**. "Chinese Self-bred Grape Varieties" (China Forestry Press)
- Fang Jinggui**, Xu Weidong. "Molecular Farming in Grape Industry" (China Forestry Press)
- Fang Jinggui**, Liu Conghuai. "Grape Molecular Biology" (Science Press)
- Fang Jinggui**, Liu Conghuai. "Grape Genetics, Breeding, and Genomics" (Jiangsu Science and Technology Press)
- Fang Jinggui**, Wang Jun. "300 Q&A in Grape Science and Industry Practice" (Chemical Industry Press)

Papers

- Jiu, Songtao; Guan, Le; Leng, Xiangpeng; Zhang, Kekun; Haider, Muhammad Salman; Yu, Xiang ; Zhu, Xudong; Zheng, Ting; Ge, Mengqing; Wang, Chen ; Jia, Haifeng; Shangguan, Lingfei; zhang, Caixi ; Tang, Xiaoping; Abdullah, Muhammad; Javed, Hafiz Umer ; Han, Jian; Dong, Zhigang; **Fang, Jinggui***. 2020. The role of VvMYBA2r and VvMYBA2w alleles of the MYBA2 locus in the regulation of anthocyanin biosynthesis for molecular breeding of grape (*Vitis* spp.) skin coloration **Plant Biotechnology Journal** (Accepted)
- Zhu Xudong, Jiu Songtao, Zheng Ting, Zhang Kekun, Jia Haifeng, **Fang Jinggui ***. 2020. Isoform of Grape Sucrose Synthase Affects Carbon Partitioning to Increase Cellulose Production and Altered Cell Wall Ultrastructure. **Plant and Cell Physiology** 52: 162-186
- Zhang Peian, Jia Haifeng, Gong Peijie, Ehsan Sadeghnezhad, Pang Qianqian, Dong Tianyu, Li Teng, Jin Huanchun, **Fang Jinggui***. 2020. Chitosan induces jasmonic acid production leading to resistance of ripened fruit against *Botrytis cinerea* infection. **Food Chemistry** 337: 127772
- Zibo Zhang, Pengcheng Zhao, Peian Zhang, Lingyun Su, Haoran Jia, Xinke Wei, **Jinggui Fang***, Haifeng Jia. 2020. Integrative transcriptomics and metabolomics data exploring the effect of chitosan on postharvest grape resistance to *Botrytis cinerea*. **Postharvest Biology and Technology** 167:111248
- Jia Haoran, Zibo Zhang, Saihang Zhang, Weihong Fu, Lingyun Su, **Jinggui Fang***, and Haifeng Jia. 2020. Effect of the Methylation Level on the Grape Fruit Development Process. **Journal of Agricultural and Food Chemistry**. 68 (7): 2099-115.
- Wei Hongru, Peipei Wang, Jianqing Chen, Changjun Li, Yongzhang Wang, Yongbing Yuan, **Jinggui Fang***, Xiangpeng Leng. 2020. Genome-wide identification and analysis of B-BOX gene family in grapevine reveal its potential functions in berry development. **BMC Plant Biology**. 20 (1).
- Haider Muhammad Salman, Sudisha Jogaiah, Tariq Pervaiz, Yanxue Zhao, Nadeem Khan, and **Jinggui Fang***. 2019. Physiological and transcriptional variations inducing complex adaptive mechanisms in grapevine by salt stress. **Environmental and Experimental Botany**. 162:455-67.
- Wang, Chen, Sudisha Jogaiah, WenYing Zhang, Mostafa Abdelrahman, and **Fang Jinggui**. 2018. Spatio-temporal expression of miRNA159 family members and their GAMYB target gene during the modulation of gibberellin-induced grapevine parthenocarpy. **Journal of Experimental Botany**. 69 (15): 3639-3650.
- Zhang Kekun, Zhongjie Liu, Le Guan, Ting Zheng, Songtao Jiu, Xudong Zhu, Haifeng Jia, and **Jinggui Fang***. 2018. Changes of Anthocyanin Component Biosynthesis in 'Summer Black' Grape Berries after the Red Flesh Mutation Occurred. **Journal of Agricultural and Food Chemistry**. 66 (35): 9209-18.

- Fang, Jinggui***, Sudisha Jogaiah, Le Guan, Xin Sun, and Mostafa Abdelrahman. 2018. Coloring biology in grape skin: a prospective strategy for molecular farming. **Physiologia Plantarum**. 164 (4): 429-41.
- Zhu, Xudong, Chaobo Zhang, Weimin Wu, Xiaopeng Li, Chuan Zhang, and **Jinggui Fang***. 2017. Enzyme activities and gene expression of starch metabolism provide insights into grape berry development. **Horticulture Research**. 4
- Jia Haifeng, Jiu Songtao, Zhang Cheng, Wang Chen, Tariq Pervaiz, Liu Zhongjie, Wang Baoju, Cui Liwen, **Fang Jinggui***. 2016. Abscisic acid and sucrose regulate tomato and strawberry fruit ripening through the abscisic acid-stressripening transcription factor. **Plant Biotechnology Journal**. 14(10): 2045.
- Zhu Xudong, Leng Xiangpeng, Sun Xin, Mu Qian, Wang Baoju, Li Xiaopeng, Wang Chen*, **Fang Jinggui***. 2015. Discovery of conservation and diversification of miR171 genes by phylogenetic analysis based on global genomes. **The Plant Genome**, 8(2).
- Wang Chen, Leng Xiangpeng, Zhang Yanyi, Kayesh Emrul, Zhang Yanping, Sun Xin, Fang Jinggui*. 2014. Transcriptome-wide analysis of dynamic variations in regulation modes of grapevine microRNAs on their target genes during grapevine development. **Plant Molecular Biology**, 84: 269-285.
- Korir Nicholas Kibet, Han Jian, Shangguan Lingfei, Wang Chen, Kayesh Emrul, Zhang Yanyi, **Fang Jinggui***. 2013. Plant variety and cultivar identification: Advances and prospects. **Critical Reviews in Biotechnology**, 33(2): 111-125.
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