

## Shuang Zhao

### Associate Professor

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### Areas of Research

- (1) Chrysanthemum cultivation
- (2) Nutrient absorption and regulation mechanism of Chrysanthemum
- (3) Pathogenic Mechanism and bio-control of continuous cropping obstacle in Chrysanthemum

### Education Background

Postdoc. 2013/11-2016/11

Nanjing Agricultural University, College of Horticulture

Ph.D. 2011/09-2012/07

Nanjing Agricultural University, College of Resources and Environmental Science

Ph.D. 2009/09-2011/09 (Joint PhD student)

Rutgers University (USA), Department of Plant Biology and Pathology

M.S. 2006/09-2009/07

Nanjing Agricultural University, College of Resources and Environmental Science

B.S. 2002/09-2006/07

Inner Mongolia Agricultural University, College of Resources and Environmental Science

### Academic Positions

2012/08-2015/12, Nanjing Agricultural University, University Lecturer

2016/01 - Present, Nanjing Agricultural University, Associate Professor

## Teaching (courses taught)

Basic Art of flower arrangement, Bonsai and flower arrangement, Experiments in Horticultural plant cultivation, Advances in horticulture

## Selected Grants

- ◆ National Natural Science Foundation of China (Grant No. 32072603), Molecular mechanisms underlying the response of CmWRKY6 of *Chrysanthemum morifolium* to *Fusarium oxporum* infection, 2021/01-2024/12
- ◆ Key R & D Program of Jiangsu Province-modern agriculture (Grant No. BE2019384), key technology of reducing nitrogen application and increasing efficiency of tea chrysanthemum ‘Subaijv’, 2019/07-2022/06
- ◆ National Key R & D Program of China (Grant No. SQ2019YFD100016), The Key projects for scientific and technological innovation of main Cash crop good-quality and high-yield (Sub-project), 2019/5-2022/12
- ◆ Fundamental Research Funds for the Central Universities between Nanjing Agricultural University-Xinjiang Agricultural University (Grant No. KYYJ201905), The interaction mechanism of antagonistic bacteria and pathogenic *Fusarium Spp.* in the rhizosphere soil of chrysanthemum, 2019/09-2021/09
- ◆ China Postdoctoral Science Foundation (Grant No. 2014M551613), Metagenomic study on ammonia-oxidizing microorganisms in the rhizosphere of chrysanthemum under different nitrogen application conditions by 454 Pyrosequencing, 2014/05-2016/05
- ◆ Youth Program of National Natural Science Foundation of China (Grant No. 31301809), The research on the soil microbial diversity and pathogenic mechanism in the chrysanthemum mono-cropping field, 2014/01-2016/12
- ◆ Youth Program of Science and Technology Innovation Foundation of Nanjing Agricultural University (Grant No. KJ2013016), The controlling mechanism of bio-organic fertilizer on the continuous cropping obstacle of tea chrysanthemum ‘Chujv’, 2013/06-2015/06

## Selected Publication

- ◆ Chen Huijie<sup>#</sup>, **Zhao Shuang**<sup>#</sup>, Zhao Jiamia, Zhang Kaikai, Jiang Jing, Guan Zhiyong, Chen Sumei, Chen Fadi, Fang Weimin\*. 2020, Deep tillage combined with bio-fertilizer following soil fumigation improved chrysanthemum growth by regulating the soil microbiome. *Microbiology Open*, 00:e1045. (<sup>#</sup> Co-first author, IF: 3.14)
- ◆ Chen Huijie, Zhao Jiamiao, Jiang Jing, Chen Sumei, Guan Zhiyong, Chen Fadi, Fang Weimin, **Zhao Shuang**\*. 2019, Assessing the influence of fumigation and *Bacillus Subtilis* based biofungicide on the microbiome of chrysanthemum rhizosphere. *Agriculture*, 9, 255. (\* Corresponding author, IF: 2.07)
- ◆ Chen Huijie, **Zhao Shuang**, Zhang Kaikai, Zhao Jiamia, Jiang Jing, Chen Fadi, Fang Weimin\*. 2018, Evaluation of soil applied chemical fungicide and biofungicide for control of the Fusarium wilt of chrysanthemum and their effects on rhizosphere soil microbiota. *Agriculture*, 8, 184. (IF: 2.07)
- ◆ **Zhao Shuang**<sup>#</sup>, Chen Xi<sup>#</sup>, Deng Shiping, Dong Xuna, Song Aiping, Yao Jianjun, Fang Weimin, Chen Fadi\*. 2016, The effects of fungicide, soil fumigant, bio-organic fertilizer and their combined application on chrysanthemum *Fusarium* Wilt controlling, soil enzyme activities and microbial properties. *Molecules*, 21(4), 526. (<sup>#</sup> Co-first author, IF: 3.26)
- ◆ **Zhao Shuang**, Liu Dong Yang, Ling Ning, Chen Fadi, Shen Qirong\*. 2014, Bio-organic fertilizer application significantly reduces the *Fusarium oxysporum* population and alters the composition of fungi communities of watermelon *Fusarium* wilt rhizosphere soil. *Biology Fertility Soils*, 50(5):765-774. (IF: 5.52)
- ◆ **Zhao Shuang**, Clarke Bruce B, Shen Qirong, Zhang Lisa, Zhang Ning\*. 2012, Development and application of a TaqMan real-time PCR assay for rapid detection of *Magnaporthe poae*. *Mycologia*, 104:1250-1259. (IF: 2.14)
- ◆ Zhang Ning\*, **Zhao Shuang**, Shen Qirong. 2011, A six-gene phylogeny reveals the evolution of mode of infection in the rice blast fungus and allied species. *Mycologia*, 103:1267-1276. (IF: 2.14)

- ◆ Song Aiping, **Zhao Shuang**, Chen Sisi, Jiang Jiafu, Chen Shumei, Li Huiyun, Chen Yu, Fang Weimin, Chen Fadi\*. 2013. The abundance and diversity of soil fungi in continuously monocropped chrysanthemum. *The Scientific World Journal*, 1:632920 (IF: 1.70)
- ◆ Liu DongYang, Li Juan, **Zhao Shuang**, Zhang Ruifu, Wang Mengmeng, Miao Youzhi, Shen Yifei, Shen Qirong\*. 2013, Secretome diversity and quantitative analysis of cellulolytic *Aspergillus fumigatus* Z5 in the presence of different carbon sources. *Biotechnology Biofuels*, 6(1):1-6. (IF: 4.81)
- ◆ Molnar Thomas James, Capik John, **Zhao Shuang**, Zhang Ning\*. 2010. First report of Eastern Filbert Blight on *Corylus avellana* ‘Gasaway’ and ‘VR20-11’ caused by *Anisogramma anomala* in New Jersey. *Plant Disease*, 94:1265-1269. (IF: 3.58)