

Fang-Jie Zhao

Professor of Environmental Science

Address: Science Building A618

Phone Number: 025 84396509

Email: Fangjie.Zhao@njau.edu.cn

Education:

- B.Sc; Fujian Agricultural College, China; 1983
- M.Sc, Nanjing Agricultural University, China; 1986
- Ph.D; University of Newcastle upon Tyne, U.K.; 1992

Research interests and expertise:

- Heavy metal uptake, translocation and detoxification in plants
- Microbial transformation of heavy metals in soil
- Remediation of contaminated soil
- Micronutrients and biofortification

Current projects:

- NSFC key international collaborative project (with Prof David Salt, Nottingham University, U.K.), “Elucidation of the mechanisms controlling heavy metal accumulation in rice based on ionomics and genomics approaches”, 2016 – 2020.
- NSFC-Swiss NFC joint project (with Prof Ruben Kretzschmar, ETH Zurich, Switzerland), “Reducing Cd and As uptake by rice in contaminated paddy soils: From biogeochemical processes to improved paddy management”, 2017-2020.
- NSFC key project, “Biological transformation of arsenic species in paddy soils”, 2014-2018.
- NSFC normal project, “The role of NIP aquaporins in arsenic translocation to rice grain”, 2014-2017.
- Ministry of Agriculture, China, “Reducing heavy metal accumulation in crops through genetic improvement”, 2014-2018.
- Ministry of Education, China, Innovative research group in plant nutrition biology, 2013-2015; 2018-2020.
- Jiangsu Province, China, Innovative research group in plant nutrition, 2013-2015.

Current teaching:

- Advanced Environmental Science and Research Methodology (for M.Sc. students)

Selected publications:

- Wang P.T., Chen X., Xu X., Lu C., Zhang W., **Zhao F.J.*** 2018. Arabidopsis ARSENATE INDUCED CHLOROSIS 1/TRANSLOCON AT THE OUTER ENVELOPE MEMBRANE OF CHLOROPLASTS 132 protects chloroplasts from arsenic toxicity. *Plant Physiology* DOI:10.1104/pp.18.01042.
- Sun S.K., Chen Y., Che J., Konishi N., Tang Z., Miller A.J., Ma J.F. and **Zhao F.J.*** 2018. Decreasing arsenic accumulation in rice by overexpressing OsNIP1;1 and OsNIP3;3 through disrupting arsenite radial transport in roots. *New Phytologist* 219: 641–653.
- Shi S.L., Wang T., Chen Z., Tang Z., Wu Z.C., Salt D.E., Chao D.Y.* and **Zhao F.J.*** 2016. OsHAC1;1 and OsHAC1;2 function as arsenate reductases and regulate arsenic accumulation. *Plant Physiology* 172: 1708–1719.
- Huang K., Chen C., Zhang J., Tang Z., Shen Q.R., Rosen B.P. and **Zhao F.J.*** 2016. Efficient arsenic methylation and volatilization mediated by a novel bacterium from an arsenic-contaminated paddy soil. *Environmental Science and Technology*. 50: 6389–6396.
- Yan J.L., Wang P.T., Wang P., Yang M., Lian X.M., Tang Z., Huang C.F., Salt D.E. and **Zhao F.J.*** 2016. A loss-of-function allele of OsHMA3 associated with high cadmium accumulation in shoots and grain of Japonica rice cultivars. *Plant, Cell and Environment*. 39: 1941–1954.

Prizes, awards, honors:

- Highly Cited Researcher, Clarivate Analytics, 2017, 2018.
- National “1000-Plan” Scholar