

## **SIMI SCIENTIFIC COMMITTEE**

*Section: Sustainable Environmental Technologies*

### **Ph.D. Biolog. Ying Ma**

#### **SHORT PROFESSIONAL INFO**

She is a young researcher, **highly qualified in the research field of environmental biology, biotechnology and bioremediation**. She was Postdoctoral Researcher in Key Laboratory of Soil Environment and Pollution Remediation, Institute of Soil Science, Chinese Academy of Sciences, Nanjing, China from December 2010 till December 2012. From January 2013 till now she is FCT Postdoctoral Researcher in Centre for Functional Ecology, Department of Life Sciences, University of Coimbra, Coimbra, Portugal. She also is Technical Director of Symbiom Company, s.r.o. Lanškroun from Czech Republic starting with October 2015. From January 2016 is Visiting Researcher, in the Institute of Botany, Academy of Sciences of the Czech Republic. She has wide Peer-review activities in more than 20 international scientific papers (IF higher than 2.5), such as: *Chemosphere*, *CLEAN – Soil Air Water, Ecotoxicology and Environmental Safety*, *Environmental and Experimental Botany*, *Environmental Pollution*, *Environmental Science and Pollution Research*, *Journal of Basic Microbiology*, *Journal of Environmental Management*, *Journal of Environmental Quality*, *Journal of Hazardous Materials*, *Science of the Total Environment*. She is Guest Associate Editor at the open-access publisher of peer-reviewed scientific articles in *Frontiers in Plant Science* (impact factor: 4.495).

#### **ACTUAL POSITION**

Postdoctoral Researcher, Centre for Functional Ecology, Department of Life Sciences, University of Coimbra, Portugal

#### **ACADEMIC QUALIFICATION**

**2011: Doctor in Biology**, University of Coimbra, Coimbra, Portugal, Title of thesis: *Enhanced Phytoextraction of Metal Contaminated Soils Using Plant Growth Promoting Bacteria*;

**2006: Master in Environmental Science**, University of the Western Cape, Cape Town, South Africa, Title of thesis: *Monitoring of Heavy Metals in Bottelary River using *Typha capensis* and *Phragmites australis**.

#### **RESEARCH INTEREST**

- Plant and environmental biology
- Plant–microbe–soil interactions
- Bioremediation
- Biotechnology in sustainable agriculture
- Global climate change impacts

#### **SCIENTIFIC PUBLICATIONS (selection)**

1. **Ma Y\***, Rajkumar M, Freitas H. 2009. Inoculation of plant growth promoting bacterium *Achromobacter xylosoxidans* strain Ax10 for the improvement of copper phytoextraction by *Brassica juncea*. ***Journal of Environmental Management*** 90:831–837.
2. **Ma Y\***, Rajkumar M, Freitas H. 2009. Improvement of plant growth and nickel uptake by nickel resistant-plant growth promoting bacteria. ***Journal of Hazardous Material*** 166:1154–1161.
3. **Ma Y\***, Rajkumar M, Freitas H. 2009. Isolation and characterization of Ni mobilizing PGPB from serpentine soils and their potential in promoting plant growth and Ni accumulation by *Brassica* spp. ***Chemosphere*** 75:719–725.
4. Rajkumar M\*, **Ma Y**, Freitas H. 2009. Characterization of metal-resistant plant-growth promoting *Bacillus weihenstephanensis* isolated from serpentine soil in Portugal. ***Journal of Basic Microbiology*** 48:1–9.

5. **Ma Y\***, Rajkumar M, Vicente J, Freitas H. 2011. Inoculation of Ni-resistant plant growth promoting bacterium *Psychrobacter* sp. strain SRS8 for the improvement of nickel phytoextraction by energy crops. *International Journal of Phytoremediation* 13:126–139.
6. **Ma Y**, Prasad MNV, Rajkumar M, Freitas H\*. 2011. Plant growth promoting rhizobacteria and endophytes accelerate phytoremediation of metalliferous soils. *Biotechnology Advances* 29:248–258.
7. **Ma Y\***, Rajkumar M, Luo YM, Freitas H. 2011. Inoculation of endophytic bacteria on host and non-host plants – Effects on plant growth and Ni uptake. *Journal of Hazardous Materials* 195:230–237.
8. Rajkumar M, **Ma Y\***, Freitas H. 2013. Improvement of Ni phytostabilization by inoculation of Ni resistant *Bacillus megaterium* SR28C. *Journal of Environmental Management* 128:973–980.
9. **Ma Y\***, Rajkumar M, Luo YM, Freitas H. 2013. Phytoextraction of heavy metal polluted soils using *Sedum plumbizincicola* inoculated with metal mobilizing *Phyllobacterium myrsinacearum* RC6b. *Chemosphere* 93:1386–1392.
10. **Ma Y\***, Rajkumar M, Rocha I, Oliveira RS, Freitas H. 2015. Serpentine bacteria influence metal translocation and bioconcentration of *Brassica juncea* and *Ricinus communis* grown in multi-metal polluted soils. *Frontiers in Plant Science* 5:757.
11. **Ma Y\***, Oliveira RS, Nai FJ, Rajkumar M, Luo YM, Rocha I, Freitas H. 2015. The hyperaccumulator *Sedum plumbizincicola* harbors metal-resistant endophytic bacteria that improve its phytoextraction capacity in multi-metal contaminated soil. *Journal of Environmental Management* 156:62–69.
12. **Ma Y\***, Oliveira RS, Wu LH, Luo YM, Rajkumar M, Rocha I, Freitas H. 2015. Inoculation with metal mobilizing plant growth promoting rhizobacterium *Bacillus* sp. SC2b and its role in rhizoremediation. *Journal of Toxicology and Environmental Health, Part A* 78(13–14):931–944.
13. **Ma Y\***, Zhang C, Oliveira RS, Freitas H, Luo Y. 2016. Bioaugmentation with endophytic bacterium E6S homologous to *Achromobacter piechaudii* enhances metal rhizoaccumulation in host *Sedum plumbizincicola*. *Frontiers in Plant Science* 7:75.
14. **Ma Y\***, Rajkumar M, Zhang C, Freitas H. 2016. Beneficial role of bacterial endophytes in heavy metal phytoremediation. *Journal of Environmental Management* 174:14–25.
15. Oliveira RS\*, **Ma Y**, Rocha I, Carvalho MF, Vosátka M, Freitas H. 2016. Arbuscular mycorrhizal fungi are an alternative to the application of chemical fertilizer in the production of the medicinal and aromatic plant *Coriandrum sativum* L. *Journal of Toxicology and Environmental Health, Part A* 79(7):320–328.
16. Oliveira RS\*, Rocha I, **Ma Y**, Vosátka M, Freitas H. 2016. Seed coating with arbuscular mycorrhizal fungi as an ecotechnological approach for sustainable agricultural production of common wheat (*Triticum aestivum* L.). *Journal of Toxicology and Environmental Health, Part A* 79(7):329–337.
17. **Ma Y\***, Oliveira RS, Freitas H, Zhang C. 2016. Biochemical and molecular mechanisms of plant-microbe-metal interactions: relevance for phytoremediation. *Frontiers in Plant Science* 7:918.
18. **Ma Y\***, Rajkumar M, Zhang C, Freitas H. 2016. Inoculation of *Brassica oxyrrhina* with plant growth promoting bacteria for the improvement of heavy metal phytoremediation under drought conditions. *Journal of Hazardous Materials* 320:36–44.

## AWARDS

- An excellence award (2010) in the 5th “Chunhui Cup” Chinese students studying innovation and entrepreneurship contest: “Microbe-assisted phytoremediation of soil contaminated with heavy metals and organic pollutants” (201000287).
- Post-doctoral Research Award (2012) Funded from K. C. Wong Education Foundation of Chinese Academy of Sciences ([2012] No. 49).
- G2C2 Young Researcher Award Highly Commended Finalist (2015) in the 3rd International Symposium on Green Chemistry, La Rochelle, France.
- The paper published in *Acta Pedologica Sinica* 50(1):195–202 (Ma et al. 2013) won the “Forerunners 5000 (F5000) — Top Articles in Outstanding S&T Journals of China” nomination among the 5,000 research papers representing China’s highest academic level chosen by the Institute of Scientific and Technical Information of China (ISTIC) from all papers published in Quality Scientific Journals of China during 2011–2015.
- Young Researcher Award (2016) in the 19th International Symposium “Environment and Industry”, Bucharest, Romania.