

# Weiwei Wen

**W**eiwei Wen is a Professor in the College of Horticulture and Forestry at Huazhong Agricultural University, China. Her research mainly focuses on plant genetics, systems biology, and crop improvement. Weiwei is an Editor for *Journal of Experimental Botany*.



and my interest in scientific research was strengthened. After completing my PhD, I decided to see more of the world and was accepted for a position at the International Maize and Wheat Improvement Center (CIMMYT). Working as a consultant in the Genetic Resource Center of CIMMYT, I had the chance to work with international researchers and staff with different professional backgrounds, which gave me a more complete vision of worldwide agriculture. My research interests became more focused on genetics during this time. After two years working in CIMMYT, I moved back to Huazhong Agricultural University and joined the group of Professor Jianbing Yan: a passionate and productive maize geneticist. Before I established my own research group at Huazhong Agricultural University, I performed post-doctoral research in Prof. Yan's

group for two years and in the Max Planck Institute of Molecular Plant Physiology for three years, working with Prof. Lothar Willmitzer, Prof. Alisdair Fernie and Dr. Yariv Brotman, who gave very insightful suggestions for my future career plan and development.

*What is your lab working on currently? What are you hoping to work on in the future?*

My lab is working on plant secondary metabolism. We use genomic, genetic, and biochemical tools and methodologies to dissect plant secondary metabolic pathways in order to understand their formation, regulation and evolution. In the past three years, the research group has focused on tea, an important horticultural crop. We have completed the first ancient tea plant

*Tell us about your background. How did you first become interested in plant science?*

When I was a child, my school opened a course to cultivate children's closeness to nature, where we collected different kinds of leaves, observed their shapes, colours and smells, and used the leaves to create collages of various animals. At the same time, my parents taught me to cultivate strawberries and tomatoes on our balcony, allowing me to truly experience their growth, fruiting and death, which stimulated my initial interest in plant science. I later began my undergraduate studies in the Department of Plant Science at Huazhong Agricultural University, which allowed me to pursue my interests in a beautiful campus close to my hometown. I spent a happy time in my alma mater and chose to stay on for my PhD studies. My supervisor Prof. Lijun Luo, a senior rice breeder, gave me a lot of guidance,



Above Weiwei working in the tea garden.

genome assembly, revealed the breeding history of Chinese tea plants, and conducted the first single-cell sequencing in tea (Zhang *et. al.* 2020b). The research group has additionally revealed the genetic and biochemical basis of natural variation of metabolite pathways using a multidisciplinary strategy.

In the future, I hope to dig deep into my research field, and to pass on what we have accumulated to younger researchers and society.

*What does a typical day look like for you?*

As a scientific researcher, my main daily tasks are to focus on my own research and pay attention to the latest academic achievements in my field, and to participate in seminars and various academic activities. I also give lectures to undergraduate and graduate students and supervise students in my lab.

*What do you most enjoy about your work?*

Uncovering unknown scientific puzzles and witnessing students' progression.

*What do you find most challenging?*

Translating research results to meet the requirements of industry and to benefit the world.

*What advice would you give to aspiring scientists in this area?*

I often tell my students to cherish each opportunity of collaboration. Research projects are usually a team effort and I have personally learnt a lot from working with my colleagues, collaborators, and students.

*Below: Weiwei and team.*



Above: Team members working in the tea garden.

“I hope to dig deep into my research field, and to pass on what we have accumulated to younger researchers and society”

*Who are your scientific heroes?*

Current scientific research is based on previous work contributed by generations of scientists, which has provided us with a foundation and the opportunities to further explore the unknown. I feel lucky to have been inspired by many people in terms of scientific thinking and view. I would say each dedicated scientific researcher is respectable and can be considered a hero.

#### Selected Publications from SEB Journals

de Abreu e Lima F, Li K, Wen W, Yan J, Nikoloski Z, Willmitzer L, Brotman Y. 2018. [Unraveling lipid metabolism in maize with time-resolved multi-omics data.](#) *The Plant Journal* 93, 1102-1115.

Deng M, Zhang X, Luo J, Liu H, Wen W, Luo H, Yan J, Xiao Y. 2020. [Metabolomics analysis reveals differences in evolution between maize and rice.](#) *The Plant Journal* 103, 1710-1722.

Jiang X, Zhang W, Fernie AR, Wen W. 2022. [Combining novel technologies with interdisciplinary basic research to enhance horticultural crops.](#) *The Plant Journal* 109, 35-46.

Wen W, Jin M, Li K, Liu H, Xiao Y, Zhao M, Alseekh S, Li W, de Abreu e Lima F, Brotman Y, Willmitzer L, Fernie AR, Yan J. 2018. [An integrated multi-layered analysis of the metabolic networks of different tissues uncovers key genetic components of primary metabolism in maize.](#) *The Plant Journal* 93, 1116-1128.

Zhang W, Alseekh S, Zhu X, Zhang Q, Fernie AR, Kuang H, Wen W. 2020a. [Dissection of the domestication-shaped genetic architecture of lettuce primary metabolism.](#) *The Plant Journal* 104, 613-630.

Zhang W, Luo C, Scossa F, Zhang Q, Usadel B, Fernie AR, Mei H, Wen W. 2020b. [A phased genome based on single sperm sequencing reveals crossover pattern and complex relatedness in tea plants.](#) *The Plant Journal* 105, 197-208.

Zhu F, Luo T, Liu C, Wang Y, Zheng L, Xiao X, Zhang M, Yang H, Yang W, Xu R, Zeng Y, Ye J, Xu J, Xu J, Larkin RM, Wang P, Wen W, Deng X, Fernie AR, Cheng Y. 2020. [A NAC transcription factor and its interaction protein hinder abscisic acid biosynthesis by synergistically repressing \*NCED5\* in \*Citrus reticulata\*.](#) *Journal of Experimental Botany* 71, 3613-3625.