Wei Xuan

Professor of Plant Nutrition

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Education:

- Ph.D., Biotechnology and Biochemistry, Ghent University, Belgium, 2015
- M.S., Life Sciences, Nanjing Agricultural University, 2009
- B.S., Life Sciences, Nanjing Agricultural University, 2006

Research interests and expertise:

My research focus on the molecular regulatory network underlying plant lateral root development, as well as the root responses for sensing Nitrogen availability, acquisition and utilization. In our previous work, we have revealed the molecular mechanism of root clock on pre-patterning the lateral roots along the primary root axis. With this background, we plan to further extend our research beyond lateral root development to the molecular interaction between root development and nutrient use efficiency. The goal of our research is to get insights into the gene regulatory networks that coordinates root foraging responses to available N, and identify key genes determining this process through forward and reverse genetic approaches.

Selected publications:

- Chen Y., Xie Y., Song C., Zheng L., Rong X., Jia L., Luo L., Zhang C., Qu X., Xuan W.* (2018) A comparison of lateral root patterning among dicot and monocot plants. Plant Science, 274, doi: 10.1016/j.plantsci.2018.05.018
- Xuan, W., Beeckman T., Xu G.* (2017) Plant nitrogen nutrition: sensing and signaling. Current opinion in plant biology, 39, 57-65.
- Moller, B.K., Xuan, W., and Beeckman, T.* (2017) Dynamic control of lateral root positioning. Current opinion in plant biology 35, 1-7.
- Xuan, W., Band, L., Kumpf, R., Van Damme, D., Parizot, B., et al. (2016) Cyclic

programmed cell death stimulates hormone signaling and root development in Arabidopsis. SCIENCE, 351, 384-387.

- Xuan, W., Audenaert, D., Parizot, B., Moller, B.K., Njo, M.F., De Rybel, B., De Rop, G., et al. (2015). Root Cap-Derived Auxin Pre-patterns the Longitudinal Axis of the Arabidopsis Root. Current Biology 25, 1381-1388.