

Cankui Zhang, Ph.D.



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EDUCATION

Doctor of Philosophy August 2005

Horticulture, Auburn University, Auburn, AL

Master of Science July 1997

Botany, Wuhan Institute of Botany, the Chinese Academy of Sciences (CAS), China

Bachelor of Science July 1994

Biology

Henan University, China

RESEARCH EXPERIENCE

Assistant Professor and PhD/MS advisor, Department of Agronomy, Purdue University, 08/2014-present

- Yield improvement; Plant-microbe interactions; Long distance signaling via phloem

Research Associate, Cornell University, 2008-07/2014

- Developed hypothesis and designed experiments to improve micronutrient content in crops
- Conducted biomass accumulation in poplar, rice and maize via the manipulation of carbon transport

Postdoctoral Research Associate, Cornell University, 2005 – 2008

- Cloned the apple Na⁺/H⁺ antiporter to study its functionality during salt stress.
- Conducted physiological and enzymatic experiments to characterize the carbohydrate transport pathway in *V. phoeniceum*/cucurbits.

EDITORIAL SERVICE

- Review Editor for “Frontiers in Plant Science”
- Reviewer of PNAS, Current Opinion in Plant Biology, Plant Journal, Plant Physiology, Plant Cell Environment, Journal of Experimental Botany, Scientific Reports, Plos One, and JASHS.

SELECTED PUBLICATIONS (in total 28 papers)

Xia, C., Zheng, Y., Huang, J., Zhou, X., Li, R., Zha, M., Wang, S., Huang, Z., Lan, H., Turgeon, R., Fei, Z. and **Zhang C.** 2018. Elucidation of the mechanisms of long-distance mRNA movement in a *Nicotiana benthamiana*/tomato heterograft system. *Plant physiology*, 177: 745-758.

Xia C. is a visiting student from Sichuan Agricultural University.

Chen, Q., Payyavula, R. S., Chen, L., Zhang, J., **Zhang, C.**, & Turgeon, R. (2018). FLOWERING LOCUS T mRNA is synthesized in specialized companion cells in Arabidopsis and Maryland Mammoth tobacco leaf veins. *PNAS*, *115*, 2830-2835.

Zhang, C. is co-corresponding author

Zhang, C. & Turgeon, R. 2018. Mechanism of phloem loading. *Current Opinion in Plant Biology* 43: 71-75

Zhou X, Zha M, Huang J, Li L, Imran M, **Zhang C.** 2017. StMYB44 negatively regulates phosphate transport by suppressing expression of PHOSPHATE1 in potato. *Journal of Experimental Botany*. 68: 1265-1281.

Zha, M. is a visiting student from Nanjing Agricultural University.

Sui, X., Shan, N., Hu, L., **Zhang, C.**, Yu, C., Ren, H., Turgeon, R., and Zhang, Z. 2017. The complex character of photosynthesis in cucumber fruit. *Journal of Experimental Botany*. 68: 1625-1637.

Savage, J., Clearwater, M., Haines, D., Klein, T., Mencuccini, M., Turgeon, R., **Zhang, C.** 2016. Allocation, stress tolerance and carbon transport in plants: How does phloem physiology affect plant ecology? *Plant, Cell & Environment* 39: 709-725 (Savage is corresponding author).

Wang L, ...**Zhang C.** (#15 among 28 authors) Brutnell TP. 2014. Comparative analyses of C₄ and C₃ photosynthesis in developing leaves of maize and rice. *Nature Biotechnology* 32: 1158-1165.

Zhang, C., Han, L, Slewinski, T., Sun, J., Zhang J, Wang Z-Y and Turgeon, R. 2014. Symplastic phloem loading in poplar. *Plant Physiology* 166: 306-313.

Zhang, C., Yu, X, Ayre, B and Turgeon, R. 2012. The origin and composition of cucurbit phloem exudate. *Plant Physiology* 158: 1873-1882.

Zhang, C. and Robert Turgeon. 2009. Downregulating the sucrose transporter *VpSUT1* in *Verbascum phoeniceum* L. does not inhibit phloem loading. *Proceedings of the National Academy of Sciences of the USA (PNAS)* 106: 18849-18854.

Slewinski, T., **Zhang, C** and Robert Turgeon. 2013. Structural and functional heterogeneity in phloem loading and transport. *Frontiers in Plant Science* 4: 1-11.

Slewinski, T., Anderson, A, **Zhang, C** and Robert Turgeon. 2012. *Scarecrow* regulates kranz anatomy in maize leaves. *Plant Cell Physiology* 53: 2030-2037.

Majeran, W, Friso, G, Ponnala, L, Connolly, B, Huang, M, Reidel, E, **Zhang, C.**, Asakura, Y, Bhuiyan, N, Sun, Q, Turgeon, R and van Wijk, K. 2010. Structural and metabolic transitions of C₄ leaf development and differentiation defined by microscopy and quantitative proteomics in maize. *Plant Cell* 22: 3509-3542.