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EDUCATION

Doctor of Philosophy, Plant System Biology, University of Nebraska-Lincoln, 2014

Bachelor of Engineering, Biological Engineering, China Agricultural University, 2009

RESEARCH EXPERIENCE

Postdoctoral Research Associate, Oak Ridge National Laboratory, March 2015-current

- Identify transcription factors that regulate second cell wall biosynthesis in the bioenergy crop *Populus*.
- Investigate the molecular mechanism of biomass recalcitrance in *Populus* and *Arabidopsis*.

Graduate Student Research, University of Nebraska-Lincoln, August 2009-June 2014

- Inspect novel genes involved in *Arabidopsis* siRNA biogenesis and RNA-directed DNA methylation (RdDM).
- Investigate novel genes involved in pri-miRNA transcription and process.
- Explore the mechanism of uridylation-triggered degradation of miRNAs without 3' methylation.

PUBLICATIONS

Zheng K, Wang X, Weighill DA, Guo HB, **Xie M**, Yang Y, Yang J, Wang S, Jacobson DA, Guo H, Muchero W. Characterization of DWARF14 Genes in *Populus*. *Scientific Reports*. 2016;6.

Xie M, Yu B. siRNA-directed DNA Methylation in Plants. *Current genomics*. 2015 Feb;16(1):23-31.

Xie M*, Zhang S*, Yu B. microRNA biogenesis, degradation and activity in plants. *Cellular and Molecular Life Sciences*. 2015 Jan 1;72(1):87-99. (* Equal Contribution)

Ren G*, **Xie M***, Zhang S, Vinovskis C, Chen X, Yu B. Methylation protects microRNAs from an AGO1-associated activity that uridylylates 5' RNA fragments generated by AGO1 cleavage. *Proceedings of the National Academy of Sciences (PNAS)*. 2014 Apr 29;111(17):6365-70. (* Equal Contribution)

Zhang S, **Xie M**, Ren G, Yu B. CDC5, a DNA binding protein, positively regulates posttranscriptional processing and/or transcription of primary microRNA transcripts. *Proceedings of the National Academy of Sciences (PNAS)*. 2013 Oct 22;110(43):17588-93.

Zhai J, Zhao Y, Simon SA, Huang S, Petsch K, Arikiti S, Pillay M, Ji L, **Xie M**, Cao X, Yu B. Plant microRNAs display differential 3' truncation and tailing modifications that are ARGONAUTE1 dependent and conserved across species. *The Plant Cell*. 2013 Jul 1;25(7):2417-28.

Xie M, Ren G, Costa-Nunes P, Pontes O, Yu B. A subgroup of SGS3-like proteins act redundantly in RNA-directed DNA methylation. *Nucleic acids research*. 2012 May 1;40(10):4422-31.

Xie M*, Ren G*, Zhang C, Yu B. The DNA- and RNA- binding protein FACTOR of DNA METHYLATION 1 requires XH domain-mediated complex formation for its function in RNA-directed DNA methylation. *The Plant Journal*. 2012 Nov 1;72(3):491-500. (* Equal Contribution)

Ren G, **Xie M**, Dou Y, Zhang S, Zhang C, Yu B. Regulation of miRNA abundance by RNA binding protein TOUGH in Arabidopsis. *Proceedings of the National Academy of Sciences (PNAS)*. 2012 Jul 31;109(31):12817-21.