

Jiayang (Kevin) Xie

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EDUCATION

- 2016 – present** **University of Illinois at Urbana-Champaign**, Illinois, US
Ph.D. in Crops Sciences, GPA: 3.76 /4.00
- 2012 – 2016** **Shanghai Jiao Tong University (SJTU)**, Shanghai, China
Bachelor of Science in Biological Sciences, GPA: 82 /100

PUBLICATIONS

1. K Głowacka, J Kromdijk, K Kucera, **J Xie**, AP Cavanagh, L Leonelli, ADB Leakey, DR Ort, KK Niyogi, SP Long (2018). PsbS Overexpression Increases the Efficiency of Water Use in a Field-Grown Crop. *Nature Communications* 9:868

PRESENTATIONS

1. J Ferguson, **J Xie**, P Prakash, N Miller, E Spalding, ADB Leakey (2017) High throughput image processing to elucidate genetic loci underlying stomatal density variation in C4 grasses. *Machine Learning: Farm-to-Table Workshop, UIUC*.
2. ADB Leakey, JN Ferguson, ND Miller, **J Xie**, C Pignon, G Erice, TM Wertin, N Choquette, M Feldman, F Ogut, P Prakash, P Schmuker, A Dmitrievna, D Allen, EA Ainsworth, I Baxter, TP Brutnell, ES Buckler, PJ Brown, TE Clemente, SP Long, LM McIntyre, E Spalding (2018) Phenomics of stomata and water use efficiency in model C4 crops. *Phenome 2018, Tucson, AZ*.
3. ADB Leakey, JN Ferguson, ND Miller, **J Xie**, C Pignon, G Erice, TM Wertin, N Choquette, M Feldman, F Ogut, P Prakash, P Schmuker, A Dmitrievna, D Allen, EA Ainsworth, I Baxter, TP Brutnell, ES Buckler, PJ Brown, TE Clemente, SP Long, LM McIntyre, E Spalding (2018) Phenomics of stomata and water use efficiency in model C4 crops. *Department of Energy Genomic Science Program Principal Investigators Meeting, Washington DC*.

PRIZES AND FELLOWSHIPS

- Class Scholarship of SJTU (Only for Top 15%)** SJTU, 2014
- Overseas Research Program Fellow and Scholarship** Zhiyuan College, SJTU, 2016

PROJECT EXPERIENCE

2016 – Present **Genetics and Physiology of Maize Stomatal Density and Development**

Graduate Research

- QTL mapping for stomata density, photosynthesis rate, stomata conductance, water use efficiency in maize recombinant inbred lines.
- Exploring applications of micro-CT scanning to quantify mesophyll cellular structure.
- Microscopy and transcriptomics of maize stomatal development in diverse inbred lines and a stomataless mutant.

2015 – 2016 **Genetics and Physiology of Maize Leaf Epidermal Traits**

Undergraduate Research Thesis

- Combined multiple tools to quantify leaf epidermal traits, including: cuticle water conductance, surface free energy, water adhesion.
- Formulated a new high-throughput method to quantify leaf epidermis roughness and wax components, using epidermal topography images taken under confocal microscope and post-scanning image processing algorithm.
- Designed and built an ultra-high CO₂ environment to grow a stomataless maize mutant.

2014 – 2015 **Molecular Mechanisms in the Development of Rice's Palea**

Undergraduate Research

- Explored the best conditions for expression and purification of two regulating transcription factors (MADS6, REP1) in rice palea development. Evaluated interactions between them and DNA fragments with potential binding sites.
- Involved techs: GST-tagged protein purification, SDS-PAGE, Luciferase reporter assay, EMSA.

LEADERSHIP & ACTIVITIES

2012 – 2016 **Student Coordinator of SJTU Science Class biology concentration**

- Organized regular class meetings, built positive relations within the class, enforced college policies as well as collected and put forward opinions and comments of our college and university from peer classmates.
- Cooperated with other concentration leaders (Math, Physics and Computer Sciences) to organize various off-campus activities (class trips, social practice tours), promoting subject intercommunication.
- Our class was awarded “Advanced Class Collective” by SJTU

2014 – 2015 **Initiator and President of the Cactus and Succulent Association of SJTU**

- Founded the first horticulture club in SJTU. Collected and cultivated various succulent plant species in greenhouse.
- Recruited over 300 members in two years and organized regular activities such as greenhouse opening tours, plant sales and horticulture courses for amateurs. The association was awarded “3-Star Student Club” by SJTU

2014 – 2015 **Vice President of SJTU Cycling Club**

- Acted as guide and leader in long distance group cycling trips.
- Oversight of bike maintenance and repair. The association was awarded “3-Star Student Club” by SJTU

2014 – 2015 **Director of the Organization Department of the College Students' Union**

- Planned and carried out multiple student events such as Newcomers' orienteering, College Halloween Party.