

Qi Sun

Professional Preparation

B.S. Biology, Fudan University, Shanghai, China, 1989
M.S. Microbiology, Shanghai Inst. of Plant Physiology, China, 1992
Ph.D. California Institute of Technology, Pasadena, 1999

Professional Appointments

2002-present Co-Director, Computational Biology Service Unit, Life Sciences Core
Laboratories Center, Institute for Biotechnology and Life Science
Technologies, Cornell University, Ithaca, NY
2000-2002 Senior Project Scientist, Incyte Genomics

Selected Related Publications

1. **Sun Q**, Zybaïlov B, Majeran W, Friso G, Olinares PD, van Wijk KJ. (2009) PPDB, the Plant Proteomics Database at Cornell. *Nucleic Acids Res.* 37:D969-74.
2. Buckler ES, Holland JB, Bradbury PJ, Acharya CB, Brown PJ, Browne C, Ersoz E, Flint-Garcia S, Garcia A, Glaubitz JC, Goodman MM, Harjes C, Guill K, Kroon DE, Larsson S, Lepak NK, Li H, Mitchell SE, Pressoir G, Peiffer JA, Rosas MO, Rocheford TR, Romay MC, Romero S, Salvo S, Sanchez Villeda H, da Silva HS, **Sun Q**, Tian F, Upadyayula N, Ware D, Yates H, Yu J, Zhang Z, Kresovich S, McMullen MD. (2009) The genetic architecture of maize flowering time. *Science.* 325(5941):714-8. PMID: 19661422.
3. Schnable PS, Ware D, Fulton RS, Stein JC, Wei F, Pasternak S, Liang C, Zhang J, Fulton L, Graves TA, Minx P, Reily AD, Courtney L, Kruchowski SS, Tomlinson C, Strong C, Delehaunty K, Fronick C, Courtney B, Rock SM, Belter E, Du F, Kim K, Abbott RM, Cotton M, Levy A, Marchetto P, Ochoa K, Jackson SM, Gillam B, Chen W, Yan L, Higginbotham J, Cardenas M, Waligorski J, Applebaum E, Phelps L, Falcone J, Kanchi K, Thane T, Scimone A, Thane N, Henke J, Wang T, Ruppert J, Shah N, Rotter K, Hodges J, Ingenthron E, Cordes M, Kohlberg S, Sgro J, Delgado B, Mead K, Chinwalla A, Leonard S, Crouse K, Collura K, Kudrna D, Currie J, He R, Angelova A, Rajasekar S, Mueller T, Lomeli R, Scara G, Ko A, Delaney K, Wissotski M, Lopez G, Campos D, Braidotti M, Ashley E, Golser W, Kim H, Lee S, Lin J, Dujmic Z, Kim W, Talag J, Zuccolo A, Fan C, Sebastian A, Kramer M, Spiegel L, Nascimento L, Zutavern T, Miller B, Ambroise C, Muller S, Spooner W, Narechania A, Ren L, Wei S, Kumari S, Faga B, Levy MJ, McMahan L, Van Buren P, Vaughn MW, Ying K, Yeh CT, Emrich SJ, Jia Y, Kalyanaraman A, Hsia AP, Barbazuk WB, Baucom RS, Brutnell TP, Carpita NC, Chaparro C, Chia JM, Deragon JM, Estill JC, Fu Y, Jeddloh JA, Han Y, Lee H, Li P, Lisch DR, Liu S, Liu Z, Nagel DH, McCann MC, SanMiguel P, Myers AM, Nettleton D, Nguyen J, Penning BW, Ponnala L, Schneider KL, Schwartz DC, Sharma A, Soderlund C, Springer NM, **Sun Q**, Wang H, Waterman M, Westerman R, Wolfgruber TK, Yang L, Yu Y, Zhang L, Zhou S, Zhu Q, Bennetzen JL, Dawe RK, Jiang J, Jiang N, Presting GG, Wessler SR, Aluru S, Martienssen RA, Clifton SW, McCombie WR, Wing RA, Wilson RK. (2009), The

- B73 maize genome: complexity, diversity, and dynamics. *Science*. 326(5956):1112-5. PMID: 19965430.
4. Gore MA, Chia JM, Elshire RJ, **Sun Q**, Ersoz ES, Hurwitz BL, Peiffer JA, McMullen MD, Grills GS, Ross-Ibarra J, Ware DH, Buckler ES. (2009), A first-generation haplotype map of maize. *Science*. 326:1115-1117. PMID: 19965431.
 5. Li P, Ponnala L, Gandotra N, Wang L, Si Y, Tausta SL, Kebrom TH, Provart N, Patel R, Myers CR, Reidel EJ, Turgeon R, Liu P, **Sun Q**, Nelson T, Brutnell TP (2010), The developmental dynamics of the maize leaf transcriptome. *Nat Genet*. 2010 Oct 31. 42(12):1060-7.
 6. Tian F, Bradbury PJ, Brown PJ, Hung H, **Sun Q**, Flint-Garcia S, Rocheford TR, McMullen MD, Holland JB, Buckler ES (2011). Genome-wide association study of leaf architecture in the maize nested association mapping population. *Nat Genet*. 43(2):159-62.
 7. Wakefield L, Gadoury DM, Seem RC, Milgroom MG, **Sun Q**, Cadle-Davidson L. (2011) Differential gene expression during conidiation in the grape powdery mildew pathogen, *Erysiphe necator*. *Phytopathology*. 101(7):839-46.
 8. Poliakov A, Russell CW, Ponnala L, Hoops HJ, **Sun Q**, Douglas AE, van Wijk KJ. (2011) Large-scale label-free quantitative proteomics of the pea aphid-Buchnera symbiosis. *Mol Cell Proteomics*. Epub 2011 Mar 18.
 9. Elshire RJ, Glaubitz JC, **Sun Q**, Poland JA, Kawamoto K, Buckler ES, Mitchell SE. (2011) A robust, simple genotyping-by-sequencing (GBS) approach for high diversity species. *PLoS One*. 6(5):e19379.
 10. Kukekova AV, Johnson JL, Teiling C, Li L, Oskina IN, Kharlamova AV, Gulevich RG, Padte R, Dubreuil MM, Vladimirova AV, Shepeleva DV, Shikhevich SG, **Sun Q**, Ponnala L, Temnykh SV, Trut LN, Acland GM (2011). Sequence comparison of prefrontal cortical brain transcriptome from a tame and an aggressive silver fox (*Vulpes vulpes*). *BMC Genomics*. 12:482
 11. Lundquist PK, Poliakov A, Bhuiyan NH, Zybailov B, **Sun Q**, van Wijk KJ. (2012) The functional network of the Arabidopsis plastoglobule proteome based on quantitative proteomics and genome-wide coexpression analysis. *Plant Physiol*. 158(3):1172-92
 12. Zhu Y, Mang HG, **Sun Q**, Qian J, Hipps A, Hua J. (2012) Gene Discovery Using Mutagen-induced Polymorphisms and Deep Sequencing: Application to Plant Disease Resistance. *Genetics* [Epub ahead of print]
 13. Takacs EM, Li J, Du C, Ponnala L, Janick-Buckner D, Yu J, Muehlbauer GJ, Schnable PS, Timmermans MC, **Sun Q**, Nettleton D, Scanlon MJ (2012) Ontogeny of the Maize Shoot Apical Meristem. *Plant Cell* [Epub ahead of print]
 14. Chia JM et al. (2012) Maize HapMap2 identifies extant variation from a genome in flux. *Nat Genet*. 44(7):803-7
 15. Huang M, Friso G, Nishimura K, Qu X, Olinares PD, Majeran W, **Sun Q**, van Wijk KJ. (2013) Construction of plastid reference proteomes for maize and

- Arabidopsis and evaluation of their orthologous relationships; the concept of orthoproteomics. *J Proteome Res* 12(1):491-504. PMID: 23198870.
16. Vangay P, Fugett EB, **Sun Q**, Wiedmann M (2013) Food microbe tracker: a web-based tool for storage and comparison of food-associated microbes. *J Food Prot.* 76(2):283-94. PMID: 23433376
 17. Lin C, den Bakker HC, Suzuki H, Lefébure T, Ponnala L, **Sun Q**, Stanhope MJ, Wiedmann M, Duhamel GE (2013) Complete Genome Sequence of the Porcine Strain *Brachyspira pilosicoli* P43/6/78(T.). *Genome Announc.* 1(1). pii: e00215-12 PMID: 23469345
 18. Lundquist PK, Poliakov A, Giacomelli L, Friso G, Appel M, McQuinn RP, Krasnoff SB, Rowland E, Ponnala L, **Sun Q**, van Wijk KJ. (2014) *Plant Cell.* 25(5):1818-39. PMID: 23673981
 19. Ponnala L, Wang Y, **Sun Q**, van Wijk KJ.(2014) Correlation of mRNA and protein abundance in the developing maize leaf. *Plant J* [Epub ahead of print] PMID: 24547885
 20. Glaubitz JC, Casstevens TM, Lu F, Harriman J, Elshire RJ, **Sun Q**, Buckler ES. (2014) TASSEL-GBS: A High Capacity Genotyping by Sequencing Analysis Pipeline. *PLoS One* 9(2):e90346 PMID: 24587335
 21. Tausta SL, Li P, Si Y, Gandotra N, Liu P, **Sun Q**, Brutnell TP, Nelson T.(2014) Developmental dynamics of Kranz cell transcriptional specificity in maize leaf reveals early onset of C4-related processes. *J Exp Bot.* 65(13):3543-55.
 22. Wang L, Czedik-Eysenberg A, Mertz RA, Si Y, Tohge T, Nunes-Nesi A, Arrivault S, Dedow LK, Bryant DW, Zhou W, Xu J, Weissmann S, Studer A, Li P, Zhang C, LaRue T, Shao Y, Ding Z, **Sun Q**, Patel RV, Turgeon R, Zhu X, Provart NJ, Mockler TC, Fernie AR, Stitt M, Liu P, Brutnell TP. (2014) Comparative analyses of C4 and C3 photosynthesis in developing leaves of maize and rice. *Nat Biotechnol.* 32(11):1158-65.
 23. Lemmon ZH, Bukowski R, **Sun Q**, Doebley JF. (2014) The Role of cis Regulatory Evolution in Maize Domestication. *PLoS Genet.* 10(11):e1004745

Collaborators (external to Cornell)

Lance Cadle-Davidson (USDA); Yulong Chen (Binghamton Univ.); John Doebley (University of Wisconsin Madison); Sherry Flint-Garcia (USDA); Jim Holland (USDA); Peng Liu (Iowa State University); Michael McMullen (University of Missouri); Timothy Nelson (Yale University); Jeffrey Ross-Ibarra (UC Davis); Jason Stajich (UC Riverside); Susan Wessler (UC Riverside)

Graduate and Post Doctoral Advisors

Graduate advisor: Kai Zinn, Division of Biology, Caltech, Pasadena, CA
Postdoctoral Advisor: James Gusella, Massachusetts General Hospital East

Synergistic Activities

1. Develop and teach Bioinformatics Workshop Series at Cornell University.

