

Publications

Yu X, [Leiboff S](#), Li X, Guo T, Ronning N, Zhang X, Muehlbauer GJ, Timmermans MCP, Schable PS, Scanlon MJ, Yu J. **Genomic Prediction of Maize Micro-Phenotypes Prives Insights for Optimizing Selection and Mining Diversity**. Submitted, Plant Biotechnology Journal.

[Leiboff S](#), Hake S. **Reconstructing the transcriptional ontogeny of maize and sorghum supports an inverse hourglass model of inflorescence development**. Current Biology, 2019. doi.org/10.1016/j.cub.2019.08.044

Knauer S, Javelle M, Li L, Li X, Ma X, Wimalanathan K, Kumari S, Johnston R, [Leiboff S](#), Meeley R, Schnable PS, Ware D, Lawrence-Dill C, Yu J, Muehlbauer GJ, Scanlon MJ, Timmermans MCP. **A high-resolution gene expression atlas links dedicated meristem genes to key architectural traits**. Submitted, Nature Genetics.

Anderson A*, St Aubin B*, Juarez JA, Shen Z, [Leiboff S](#), Brunkard JO, Briggs S, Hake S. **The Second Site Modifier, Sympathy for the Ligule, Encodes a Homolog of Arabidopsis ENHANCED DISEASE RESISTANCE4 and Rescues the Liguleless Narrow Maize Mutant**. Plant Cell. June, 2019. (* equal contribution)

Lunde C, Kimberlin A, [Leiboff S](#), Koo A, Hake S. **Tasselseed5 overexpresses a wound-inducible enzyme, ZmCYP94B1 that affects jasmonate catabolism, sex-determination, and plant architecture in maize**. Communications Biology, 2019. 2(1):114

Bucksch A, Atta-Boateng A, Azihou AF, Battogtokh D, Baumgartner A, Binder BM, Braybrook SA, Chang C, Coneva V, DeWitt TJ, Fletcher AG, Gehan MA, Diaz-Martinez DH, Hong L, Iyer-Pascuzzi AS, Klein LL, [Leiboff S](#), Li M, Lynch JP, Maizel A, Maloof JN, Markelz RJC, Martinez CC, Miller LA, Mio W, Palubicki W, Poorter H, Pradal C, Price CA, Puttonen E, Reese JB, Rellán-Álvarez R, Spalding EP, Sparks EE, Topp CN, Williams JH, Chitwood DH. **Morphological Plant Modeling: Unleashing Geometric and Topological Potential within the Plant Sciences**. Frontiers in Plant Science. June, 2017.

[Leiboff S](#), DeAllie C**, Scanlon MJ. **Modeling the morphometric evolution of the maize shoot apical meristem**. Frontiers in Plant Science. November, 2016. (** undergraduate author)

[Leiboff S](#), Scanlon MJ. "Plant Stem Cells" in **Molecular Cell Biology of the Growth and Differentiation of Plant Cells**. CRC Press, Boca Raton, FL. June 14, 2016.

[Leiboff S](#), Li X, Hu HC, Todt N, Yang J, Li X, Yu X, Muehlbauer G, Timmermans MCP, Yu J, Schnable PS, Scanlon MJ. **Genetic control of morphometric diversity in the maize shoot apical meristem**. Nature Communications, 2015. 6: 8974.

Johnston R, [Leiboff S](#), Scanlon MJ. **Ontogeny of the sheathing leaf base in maize (Zea mays)**. New Phytologist, 2015. 205(1):306-15

Alandete-Saez M, Ron M, [Leiboff S](#), McCormick S. **Arabidopsis thaliana GEX1 has dual functions in gametophyte development and early embryogenesis**. Plant Journal, 2011. 68(4):620-32

Publications in preparation

[Leiboff S](#), Qiao P, Slatterlee JW, Guo T, Knauer S, Owens TG, Muehlbauer GJ, Schnable PS, Timmermans MCP, Yu J, Scanlon MJ. **Genetic and environmental contributions to shoot apical meristem shape natural variation regulate early flowering**. In preparation.

Strable J*, [Leiboff S](#)*, Johnston R, Federici S, Hake S, Sylvester A, Scanlon MJ. **Leaf primordia microdissections reveal new roles of cytokinin signaling and zinc-finger homeodomain (ZHD) proteins in patterning the maize blade-sheath boundary**. In preparation. (* equal contribution)

Web tools and Applications

COGS-RNAseq expression browser: <https://leiboffdoesresearch.shinyapps.io/COGS/>

Grants

2019 NSF-IOS-Developmental Systems: IOS - 1922543

Understanding the evolution of maize sex determination through combined changes in transcriptional dynamics, hormone levels and genetic networks

PI – Hake S, Collaborator – Leiboff S

\$370,048 over 3 years

2017 IGI: Not invited for full proposal

Maize enhancer trap lines for advanced breeding by targeting Mutator transposon sequences with CRISPR/Cas9

PI – Hake S, Co-PI – Leiboff S

Fellowships

2016 NSF-NPGI-Postdoctoral Fellowship: IOS - 1612268

Exploring gene networks in maize tassel and sorghum panicle development during drought

PI – Leiboff S, Supervisor – Hake S

\$216,000 over 3 years

Presentations

2018 Maize Genetics Conference (Saint Malo, France):

“The RNAseq Time Machine: Species-specific shifts in developmental timing and trajectory underlie morphological differences in maize tassel and sorghum panicle architecture”

2017 Round Table at Carnegie Science (Palo Alto, CA):

“Natural variation in Sorghum Inflorescence Morphology”

2015 Maize Genetics Conference (St. Charles, IL):

“Genes controlling morphometric diversity in the maize shoot apical meristem”

2014 Plant and Animal Genome (San Diego, CA):

“Creating a SAM Morphometric Space”

Awards

2016 Barbra McClintock Award, Cornell CALS

2015 Poster Prize Winner, Cornell CALS, SIPS Fall 2015 Retreat

2015 Poster Prize Winner, FASEB Mechanisms in Plant Biology

2013 Cornell CALS Outstanding TA Award, Department of Plant Biology

Teaching experience

Fall 2019: CSHL Cereal Genomics

Short Course, “Hands-on command line RNAseq pipeline from sequence to inference”

Fall 2018: UC Berkeley PLANTBI 200A

Graduate Course, “Domestication genes,” Prof. Sarah Hake

Fall 2017: UC Berkeley PLANTBI 200A

Graduate Course, “Meristem size and stem cell maintenance,” Prof. Sarah Hake

Spring 2017: UC Berkeley PLANTBI 290

Graduate Seminar, "Command line RNAseq and differential expression," Profs. Michael Freeling and Devin Coleman-Derr

Spring 2013: Cornell Plant Biology TA / Course Coordinator

Issues in Social Biology, Prof. Peter Davies

Fall 2012: Cornell Plant Biology TA

Intro to Plant Evolution and Biodiversity, Prof. Karl Niklas

Community participation

Summer 2017 – Current: Mentor, American Chemistry Society Project SEED

Fall 2017 – Current: Organizer, PGEC Postdoc Job Club

Fall 2012 – Spring 2014: President, Cornell University Plant Biology Graduate Student Association

Reviewer: PLOS Genetics, Genome, G3: Genes | Genomes | Genetics, Heredity, Physiologia Plantarum

Education

2017 PhD: Cornell University

Morphological diversity and quantitative genetics of the maize shoot apical meristem

Division of Plant Biology, School of Integrative Plant Science

Advisor: Michael J Scanlon

2010 BSc: University of California, Berkeley

Environmental Sciences, emphasis Biological Sciences

Minor Forestry and Natural Resources