



Postdoctoral positions in plant developmental biology, cell-cell signaling and genomics- Jackson lab, CSHL.

The first position is to follow up on recent work using CRISPR editing of regulatory elements to explore mechanisms of gene regulation in yield related genes, and fine tune agronomic traits. Recent work from our collaborators has started to identify deeply conserved cis-regulatory sequences in diverse plant families, and these will be targeted by genome editing to test effects on maize development and yield traits.

The second position aims to characterize the role of plasmodesmata in plant development, focusing on cell to cell trafficking of the KNOTTED1/ STM class of homeodomain proteins and associated mRNAs.

Our lab uses state of the art developmental biology, imaging and genomic techniques to understand signaling in meristem development, using arabidopsis and maize as model systems. CSHL provides a highly interactive research environment, with outstanding facilities and in easy reach of New York City. If interested, please contact me jacksond@cshl.edu, and see our website, <http://jacksonlab.cshl.edu/index.html>.

Some relevant recent publications from our lab:

- Kitagawa, M., Wu, P., Balkunde, R., Cunniff, P., Jackson, D. (2022). An RNA exosome subunit mediates cell-to-cell trafficking of a homeobox mRNA via plasmodesmata. *Science*, 14;375(6577):177-182.
- Liu, L., Gallagher, J., Arevalo, E.D., Chen, R., Skopelitis, T., Wu, Q., Bartlett, M., Jackson, D. (2021). Enhancing grain-yield-related traits by CRISPR-Cas9 promoter editing of maize CLE genes. *Nature Plants*, 7 (3). pp. 287-294.
- Xu, X., Crow, M., Rice, B.R., Li, F., Harris, B., Liu, L., Demesa-Arevalo, E., Lu, Z., Wang, L., Fox, N., Drenkow, J., Luo, A., Char, S.N., Yang, B., Sylvester, A.W., Gingeras, T.R., Schmitz, R., Ware, D., Lipka, A.E., Gillis, J., Jackson, D. (2021). Single-Cell RNA Sequencing of Developing Ears Facilitates Functional Analysis and Trait Candidate Gene Discovery in Maize. *Developmental Cell*, 56:557-568.
- Bommert, P., Je, B., Goldshmidt, A., and Jackson, D. (2013). The maize G α gene COMPACT PLANT2 functions in CLAVATA signaling to control shoot meristem size. *Nature*, 2013 Sept 11.
- Bommert, P., Nagasawa, N.S., Jackson, D. Quantitative variation in maize kernel row number is controlled by the FASCIATED EAR2 locus. *Nature Genetics*, 2013 Mar; 45(3):334-7.
- Xu, M.X., Wang, J., Xuan, Z., Goldshmidt, A., Borrill, P.G.M., Harihanan, N., Kim, J.Y. and Jackson, D. Chaperonins facilitate KNOTTED1 cell-to-cell trafficking and stem cell function. *Science*, 333: 1141-1144.