



DR. KELLY DAWE

De novo assembly and interpretation of the maize pangenome

Maize is an ancient tetraploid and one of the most genetically diverse crops in the world. Gene content varies by as much as 5% across lines and the majority of the genome is composed of transposable elements and tandem repeat arrays. We have recently completed de novo assemblies and annotation for 27 inbreds by a combined PacBio/Bionano approach. For one inbred containing Abnormal chromosome 10, we combined PacBio, Nanopore and Bionano data to achieve a contig N50 of 162 Mb and gapless assemblies of two maize chromosomes. I will discuss our methodologies and interpretations of the data, including pangenome content, fractionation across inbreds, the internal structure of centromeres and heterochromatic knobs, and the prevalence and impact of structural variation.

Spring 2020 PSLA

LECTURE

SERIES

February 20, 2020

**SEMINAR AT 4:00 PM
IN 1140 PLS BUILDING**

**Lunch with Students at
12PM (Graduate and
Undergraduates
welcome)**

Kelly Dawe is a Distinguished Research Professor of Plant Biology and Genetics at the University of Georgia. He earned his PhD in Genetics at U.C. Berkeley. Dr. Dawe's research focuses on genome structure and cell division in maize, with primary focus on centromere biology. He is currently a rotating program officer at NSF.

