

Department of Molecular and Cellular Biology
Graduate Seminar MCB*6500

Friday, March 26, 2021 @12:45 p.m.

presented by:

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“Investigating the regulation of leaf starch synthesis in maize”

Transitory starch is crucial for proper plant health and maximum crop yield. Despite the vast amount of research into starch synthesis, only a small portion of those studies have looked into the pathways of transitory starch. Much is still unknown concerning the protein-protein interactions and regulatory mechanisms of transitory starch synthesis, which occurs in the chloroplast. Several protein-protein interactions have been described during starch synthesis in the amyloplast, including an association between starch branching enzyme IIb and starch synthase IIa. It is hypothesized that similar interactions could be observed in the chloroplast between the comparable isoforms of these enzymes, starch branching enzyme IIa and starch synthase IIb. As a major cereal crop, maize (*Zea mays*) is a useful plant to investigate the transitory starch synthesis pathway. Maize is both a monocot and a C4 plant, both traits which will affect how starch is synthesized and degraded over a diurnal cycle. New knowledge contributing to our understanding of transitory starch synthesis in maize could be used to engineer plants with higher yield or more biofuel potential.