

MCB PLANT BIOLOGY SEMINAR SERIES W2010

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"Novel pathways and players in cereal inflorescence development"

Monday, March 8, 2010
3:30 p.m.
SCI2315

ABSTRACT: The development of the inflorescences in cereal crops is critical for food and feed supplies, yet until recently this process was poorly understood at a molecular level. We have used the maize genome sequence to accelerate identification of key regulatory factors by positional cloning, and to understand their biology by imaging of genomic fluorescent protein fusions expressed in stably transformed maize lines. Our results indicate that developmental pathways in maize and related cereals cannot be predicted from the model system, *Arabidopsis*, and argues strongly for basic research in crop plants. I will present recent findings of pathways regulating inflorescence branching, bract suppression and seed row number, traits that are important for crop productivity.