

SEMINAR

Monday, 22. March 2010, **14:00**

Biophore, 2107

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“Patterning the maize leaf ”

We are using the maize leaf as an experimental system to ask how polarity is established in a growing organ. A mature maize leaf has three regions, the distal blade that functions in photosynthesis, the proximal sheath that wraps the stem, and the ligule, marking a sharp boundary between blade and sheath. Each region has unique tissue organization and distinct cell types. The polarity of a leaf is established as it emerges from the shoot meristem, a group of self-organizing totipotent cells. We are using *KNOTTED1*, a homeobox transcription factor that is expressed in the meristem, to determine how proximal distal patterning is established and to understand the link to auxin transport. A new mutant, *Liguleless narrow (Lgn)*, provides insight into how leaf width and proximal distal patterning are connected.