

# Séminaire de Biologie des Plantes

Les séminaires ont lieu sur le Campus Montpellier SupAgro/INRA de La Gaillarde (2, place P. Viala Montpellier)

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**ATTENTION JOUR INHABITUEL**

**Mardi 09 juin 2009  
Amphi 208 (Cœur d'Ecole) à 14h00**

**Malcom J. Bennett**

(The Center for Plant Integrative Biology, University of Nottingham, UK)

## **Lateral root development: *an emerging story...***

Lateral roots originate deep within the parental root from a small number of founder cells at the periphery of the vascular tissues that must emerge through intervening layers of tissues. Despite its importance to the integrity of the root system, little is known about the regulation of lateral root emergence. Our experimental studies have recently revealed that lateral root emergence is a highly regulated process involving the active participation of cells in both new lateral root primordia and the parental root<sup>2</sup>. The hormone auxin originating from the developing lateral root appears to act as a local inductive signal which reprograms adjacent cells. Auxin induces the expression of a previously uncharacterized auxin influx carrier LAX3 in cortical and epidermal cells directly overlaying new primordia. Increased LAX3 activity reinforces the auxin-dependent induction of a selection of cell wall remodelling enzymes, promoting cell separation in advance of developing lateral root primordia. Auxin therefore appears to act as a common signal that synchronizes lateral root primordium initiation, patterning and emergence processes.

I will describe recent efforts to model the auxin response pathway through which lateral root emergence is coordinated with the aim to exemplify how theoretical work informs us about the biological system and aids making testable predictions.

Contact :

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Équipe *Intégration*

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SEMINAIRES A VENIR :

Jeudi 25 juin : Tom Beeckman (VIB, Ghent University) : Root development and hormone signaling  
(contact Gregory Vert, [vertg@supagro.inra.fr](mailto:vertg@supagro.inra.fr))