

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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Jeudi 29 janvier 2009
Amphi 206 (Cœur d'Ecole) à 14h00

Tom Beeckman

(Department of Plant Systems Biology – VIB - University Ghent-Belgium)

Lateral root initiation: auxin acting on the cell cycle

By their indeterminate growth, plants in contrast to animals can form new organs during their entire life span. This permanent organogenetic capacity requires the preservation of stem cells in the adult plant body. In the root, *de novo* organogenesis or formation of lateral roots is known to occur outside the meristem in a distinct monolayer of cells, the pericycle. Up to now, there is a striking lack of information how or whether the concept of stem cells applies to pericycle cells.

The Root Development group of the Department of Plant Systems Biology is interested in unraveling the very early events by which root pericycle cells are activated to undergo the first formative asymmetric divisions. Our previous studies demonstrated that auxin promotes lateral root initiation, at least partly, by the stimulation of the cell cycle at the G1-to S-phase transition and that solely activating the cell cycle is, however, not sufficient to initiate lateral root formation. Being in search of the missing factors involved in the establishment of a fully functional new organ, we identified several candidate genes that were recently evaluated for their role in lateral root initiation. Some of them were also found to be involved in the stem cell maintenance process in the primary root tip, suggesting that at least part of the stem cell maintenance mechanism is common for both root types.

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SEMINAIRES A VENIR :

Jeudi 26 février : J.P. Rechheld (contact Lionel Verdoucq : verdoucq@supagro.inra.fr)

Jeudi 05 mars : Robert Blanvillain (contact Grégory Vert : vertg@supagro.inra.fr)