

# Séminaire de Biologie des Plantes

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

Contact UMR B&PMP :

Sabine Zimmermann (zimmerma@supagro.inra.fr)

Marc Lepetit (lepetit@supagro.inra.fr.inra.fr)

Corinne Dasen (dasen@supagro.inra.fr)

Chantal Baracco (baracco@supagro.inra.fr)

**Jeudi 05 mars 2009  
Salle 106 (Cœur d'Ecole) à 14h00**

**Robert Blanvillain**  
(PGEC Berkeley)

## **Stress-induced reproduction**

A functional screen in fission yeast identified plant cDNAs imparting higher tolerance to heavy metals and oxidative stress. Among these genes, OXIDATIVE STRESS 3 (OXS3) defines a novel family of proteins located in discrete regions of the chromatin, whereas OXS2 is a nucleo-cytoplasmic shuttling transcription factor involved in stress-induced reproduction. OXS2 maintains vegetative growth, activates stress tolerance, or triggers stress-induced reproduction. In the absence of stress, OXS2 is cytoplasmic and is needed for vegetative growth; in its absence, the plant flowers early. Upon stress, OXS2 is nuclear and is needed for stress tolerance; in its absence, the plant is stress sensitive. OXS2 activates its own promoter and those of floral integrator genes, with direct binding to the promoter of SOC1. Stress-induced SOC1 expression and stress-induced flowering are impaired in mutants with defects in OXS2 and OXS2-like paralogs. The ability of OXS2 to autoactivate its own promoter may be an additional commensurate response to the stress intensity, which could lead from a strategy based on tolerating the effects of stress to one of escaping the stress via reproduction.

CONTACT :

Grégory Vert  
Équipe Homéostasie du fer  
Institut de Biologie Intégrative des Plantes

Laboratoire de Biochimie et Physiologie Moléculaire des Plantes  
INRA/CNRS UMR 5004/Montpellier SupAgro/UM2  
2, Place Viala  
F-34 060 Montpellier Cedex 1  
FRANCE  
Phone: + 33 (0)4 99 61 31 77  
Fax : + 33 (0)4 67 52 57 37  
Courriel: [vertg@supagro.inra.fr](mailto:vertg@supagro.inra.fr)

SEMINAIRES A VENIR :

Lundi 16 mars : Sam Zemzan,ETH Zurich (contact Bertrand Muller [muller@supagro.inra.fr](mailto:muller@supagro.inra.fr))

Jeudi 19 mars : Hatem Rouached, Lausanne (contact : Pierre Berthomieu,  
[berthom@supagro.inra.fr](mailto:berthom@supagro.inra.fr))

Jeudi 2 avril : Marjolaine Baldot, GATC Biotech: Nouvelles technologies de séquençage (454, Solexa), (contact : Benoît Lacombe, [lacombeb@supagro.inra.fr](mailto:lacombeb@supagro.inra.fr))