



## **SPS Conference 2013**

**Plant signalling in a changing environment**

**July 4-6, 2013  
Evry, France**

The first international conference organized by the Saclay Plant Sciences LabEx took place in the University of Evry (Maupertuis building), from July 4 to July 6, 2013. It gathered 165 scientists from 17 countries (Algeria, Australia, Austria, Belgium, China, Germany, Hungary, India, Kazakhstan, Norway, Saudi Arabia, Spain, Switzerland, The Netherlands, Tunisia, UK, and USA).

The topic of this first conference was "Plant signalling in a changing environment". As sessile organisms, all plants have the capacity to sense and respond to changing conditions in their environment to appropriately modify their development and physiology. During land colonization, different plant species have used diverse strategies to cope with largely variable environmental conditions. Although a great amount of knowledge has been accumulated in many areas of plant biology, the molecular mechanisms underlying signaling and adaptation to the environment are still largely unclear. The aim of this 2.5-day conference was to discuss the latest discoveries on how plants respond to changes in their abiotic and biotic environmental conditions.

After an introduction on the SPS LabEx, 40 oral presentations have been carried out during 7 sessions on

- 1) Biotic interactions
- 2) Abiotic interactions
- 3) Biodiversity and natural variation
- 4) Translational biology
- 5) Organization and functioning of complex crop genomes and traits
- 6) Epigenetics
- 7) Hormones.

Two plenary lectures have been presented by Paul Schulze-Lefert and Ian Small: "Structure, functions, and evolution of the bacterial root microbiota" and "Controlling gene expression in energy organelles", respectively.

The talks were given in the amphitheater of the Maupertuis building of the university and the two poster sessions (56 posters) took place in the lobby of the same building.

### Key Figures

>>> 165 participants:

- 88 SPS members
- 77 non-SPS participants

>>> 43 foreign people

>>> 17 countries (Algeria, Australia, Austria, Belgium, China, Germany, Hungary, India, Kazakhstan, Norway, Saudi Arabia, Spain, Switzerland, The Netherlands, Tunisia, UK, and USA)

>>> 40 talks:

- 2 plenary lectures (45 min)
- 12 long talks (35 min)
- 26 short talks (20 min)

>>> 56 posters

## Organizers



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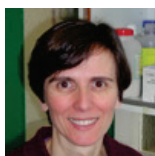
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# Program

**Thursday July 4, 2013**

**2:00 PM**      **Loïc Lepiniec**      **Opening talk - Presentation of the Saclay Plant Sciences Laboratory of Excellence**

## **Plenary lecture**

**2:15 PM**      **Paul Schulze-Lefert**      *Structure, functions, and evolution of the bacterial root microbiota*

## **Session 1: Biotic Interactions**

**3:00 PM**      **Thomas Boller**      *Peptide signals and their receptors in plant innate immunity*

**3:35 PM**      **Heribert Hirt**      *Role of MAP kinase signaling in plant-microbe interactions*

**4:10 PM**      **Coffee break**

**4:40 PM**      **Sylvain Raffaele**      *Host and pathogen determinants in Arabidopsis Quantitative Disease Resistance against the necrotrophic fungus Sclerotinia*

**5:00 PM**      **Susana Rivas**      *Regulate and be regulated: tight control of plant defense responses by the Arabidopsis transcription factor MYB30*

**5:20 PM**      **Valérie Cotelle**      *CPK3, a Ca<sup>2+</sup>-dependent protein kinase regulated by 14-3-3 proteins, is required for sphingolipid-induced cell death in Arabidopsis*

**5:40 PM**      **Malik Mbengue**      *A conserved pathway mediates endocytosis of pattern recognition receptor*

**6:00 PM**      **Ana Victoria Garcia**      *The protein kinase OXI1 regulates salicylic acid-dependent plant immunity and cell death programs in Arabidopsis*

## **Poster session**

**06:20 – 09:30 PM**      **Poster session and Welcome cocktail**

## Friday July 5, 2013

### Session 2: Abiotic Interactions

9:00 AM	<u>Phil Wigge</u>	<i>Ambient temperature sensing in plant development</i>
9:35 AM	<u>Anne Krapp</u>	<i>NIN-like proteins: key regulators of plant responses to nitrogen availability</i>
10:10 AM	<b>Johanna Molenaar</b>	<i>Unravelling drought responses in <i>Arabidopsis thaliana</i> using a world-wide natural population</i>
10:30 AM	<b>Bénédicte Wenden</b>	<i>Sweet cherry phenology in the context of climate change: a systems biology approach</i>
10:50 AM	<b>Benjamin Peret</b>	<i>Dissecting root architecture adaptation to phosphate starvation.</i>
11:10 AM	<b>Afif Hassairi</b>	<i>The extremophile grass <i>Aeluropus litoralis</i>: a source of candidate genes for improving salt and drought stresses in cereals</i>
11:30 AM	<b>Marieke Dubois</b>	<i>How drought affects leaf growth: ERF5/6 and DELLAs act together to regulate growth inhibition under stress</i>

### 11:50 AM Lunch

### Session 3: Biodiversity and natural variation

1:20 PM	<u>Johanna Schmitt</u>	<i>Natural variation in life history responses to climate in <i>Arabidopsis thaliana</i></i>
1:55 PM	<u>Patrick Laufs</u>	<i>Genetic control of leaf shape</i>
2:30 PM	<b>Helen North</b>	<i>Exploiting natural variation in seed mucilage characteristics to identify novel genes involved in its production and function</i>
2:50 PM	<b>Manon Richard</b>	<i>The subtelomeric Khipu satellite repeat from <i>Phaseolus vulgaris</i>: lessons learned from the genome analysis of the Andean genotype G19833</i>
3:10 PM	<b>Sylvain Merlot</b>	<i>De novo transcriptome sequencing of the nickel hyperaccumulator <i>Psychotria gabriellae</i> and identification of PglIREG1 as a candidate nickel transporter involved in accumulation.</i>
3:30 PM	<b>Georgi Bonchev</b>	<i>Abundance of transposable elements affected by mating system in <i>Arabidopsis lyrata</i></i>
3:50 PM	<b>Laurent Gentsbittel</b>	<i>Natural diversity in the model legume <i>Medicago truncatula</i> and the fungal pathogen <i>Verticillium</i> sp. allows identifying distinct genetic mechanisms for resistance to <i>Verticillium</i> wilt</i>

### 4:10 PM Coffee break

### Session 4: Translational biology

4:30 PM	<u>Rob Dirks</u>	<i>The making and use of chromosome substitution lines in plant breeding: comparison of isogenic hybrids and their respective methylation landscape</i>
5:05 PM	<u>Abdelhafid Bendahmane</u>	<i>Translational research, URGV experience</i>
5:40 PM	<b>Kent Bradford</b>	<i>Temperature-sensitive expression of <i>LsNCED4</i> encoding an <i>aba</i> biosynthetic enzyme is required for thermoinhibition of lettuce seeds</i>
6:00 PM	<b>Andrew Lloyd</b>	<i>Meiotic gene evolution: can you teach a (duplicated) old dog new tricks?</i>
6:20 PM	<b>Raphaël Mercier</b>	<i>What limits meiotic crossovers?</i>
6:40 PM	<b>Hiro Nonogaki</b>	<i>Engineering abscisic acid metabolism and signaling in plants</i>

### Poster session

07:00 – 8:30 PM **Poster session (Food and drinks provided)**

## Saturday July 6, 2013

### Session 5: Organization and functioning of complex crop genomes and traits

9:30 AM **Jeff Bennetzen** *Gene, centromere and transposon evolution in maize and its panicoid relatives*

10:05 AM **Boulos Chalhoub** *Polyploidy generates trait novelty and functional diversity in wheat*

### Session 6: Epigenetics

10:50 AM **Martin Crespi** *Dynamic regulation of the epigenetic landscape by non-coding RNA*

11:10 AM **Mathilde Orsel** *The sense and anti-sense transcriptome of apple reveals the potential widespread regulatory control of gene expression through cis-acting si-RNA*

11:30 AM **Pilar Bustos-Sanmamed** *MicroRNAs involved in root biomass and symbiotic interactions in the model legume *Medicago truncatula**

11:50 AM **Teddy Jegu** *The SWI/SNF chromatin remodelling protein AtBAF60 directly controls the formation of a gene loop at the FLC locus in *Arabidopsis**

**12:10 PM Lunch**

### Session 7: Hormones

1:30 PM **Dolf Weijers** *Hormonal control of growth and patterning in the plant embryo*

2:05 PM **Catherine Rameau** *Strigolactones and other long range signals regulating shoot branching in pea*

2:40 PM **Anouck Diet** *Gibberellins control root growth and nodulation in *Medicago truncatula**

3:00 PM **Myckel Habets** *Plant development requires dynamic microtubule localization of the PINOID kinase through a BT-KINESIN complex*

3:20 PM **Annie Marion-Poll** *Cell wall remodelling in hormonal control of seed dormancy and germination*

**3:40 PM Coffee break**

### Plenary lecture

4:15 PM **Ian Small** *Controlling gene expression in energy organelles*

**05:00 – 05:10 PM Heribert Hirt Closing Talk**

### Conference dinner in the Castle of Vaux-le-Vicomte

Departure: around 5:30 pm.

Return: around midnight.

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