

France

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Contact: David Bouchez
Institut Jean-Pierre Bourgin, SGAP-INRA Centre de Versailles,
Versailles
Email: bouchez@versailles.inra.fr

National Research Agency (ANR) - newly funded Arabidopsis research projects (2008)

Plant Genomics Programme:

The plant genomics research theme is expected to provide new knowledge concerning the diversity of genes that are important targets related to a) various productivity challenges and opportunities - (plants for food and feed, plants for agro-fuels), b) environmental concerns and c) improved and safer food ingredients and products. Most of the newly-funded projects are devoted to crop plants. This year, those devoted to Arabidopsis deal mainly with pathogens.

- MOVIE: Molecular basis of virus resistance mediated by host factors required for the infectious cycle. PI : Carole CARANTA, Avignon
- NEMATARGETS: Identification of new genes as targets for development of specific strategies aimed against plant-parasitic nematodes. PI : Pierre ABAD, Sofia-Antipolis
- PhosphoStim: Phosphorylation responses of the Arabidopsis root to biotic, abiotic and nutritional stimuli. PI : Christophe MAUREL, Montpellier
- SCRIPS: Signaling Peptides and Cytoskeleton Regulators Involved in Plant Disease Susceptibility. PI : Bruno FAVERY, Sofia-Antipolis
- ViroMouv: Identification of host factors involved in plant virus long distance movement. PI : Frédéric REVERS, Bordeaux

Non-thematic programme ('Blanc'):

The Blanc programme is a bottom-up, blue-sky call for proposal in all research fields. Its aim is to give significant impetus to ambitious projects, internationally competitive, focusing on pioneer objectives, and in breach of traditional research paths.

- AGO hook: The Argonaute hook motif: its function in RNA silencing in Arabidopsis and viral/bacterial mechanisms of evasion in plants. PI : Thierry LAGRANGE, Perpignan
- AMUCCAS: ABP1 Modulation of Ubiquitin mediated protein degradation in Cell Cycle and Auxin Signalling. Catherine PERROT-RECHENMANN, Gif
- AMUSE: Natural Variation in Arabidopsis Mucilage from Seeds: Structure, Composition and Role. PI : Helen

NORTH, Versailles

- CENTROPLANT: Centrosomal components in acerosomal plant cells. PI : David BOUCHEZ, Versailles
- GLUTAPHOTO: Roles of glutathionylation and glutaredoxins in photosynthetic organisms. PI : Stéphane LEMAIRE, Orsay
- LTR-STRESS: Retroviral-type LTRs as intermediate of the stress response in plants. PI : Marie-Angèle GRANDBASTIEN, Versailles
- NITRAPOOL: Components controlling the status of nitrate pools in a plant cell. PI : Françoise VEDELE, Versailles.
- POLYCOMBARA: Mechanism of gene silencing mediated by a variant of Polycomb Repressive Complex 1 in Arabidopsis thaliana. PI : Valérie GAUDIN, Versailles
- PUMPKin: Energizing the plant plasma membrane: Towards a molecular framework on the integrated roles of proton pumps, Shaker K⁺ in channels and associated protein networks. PI : Jeffrey LEUNG, Gif
- RETROMER: Role of the retromer complex in Arabidopsis development. PI : Thierry GAUDE, Lyon
- RNA Transport: RNA Transport in Plants. PI : Manfred HEINLEIN, Strasbourg
- RNAPATHS: Integrating RNA quality control and RNA silencing pathways. PI : Allison MALLORY, Versailles
- WALL INTEGRITY: Integrity surveillance of the plant cell wall. PI : Herman HÖFTE, Versailles

Noteworthy breakthroughs published by French researchers:

- Gomez-Roldan et al. (2008). Strigolactone inhibition of shoot branching. Nature 455, 189-194
- Blein et al. (2008) A conserved molecular framework for compound leaf development. Science 322, 1835-1839
- Hamant et al. (2008). Developmental patterning by mechanical signals in Arabidopsis. Science 322, 1650-1655.
- Navarro et al. (2008). Suppression of the microRNA pathway by bacterial effector proteins. Science 321, 964-967.
- Brodersen et al. (2008). Widespread translational inhibition by plant miRNAs and siRNAs. Science 320, 1185-1190.
- Bikard et al. (2009). Divergent Evolution of Duplicate Genes Leads to Genetic Incompatibilities within A. thaliana. Science 323, 623-626.
- Teixeira et al. (2009). A Role for RNAi in the Selective Correction of DNA Methylation Defects. Science, in press.