

Italy

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Most of the Italian groups actively engaged in *Arabidopsis* research are involved in national and international plant functional genomic network projects. In the last few years, development of a common technological platform has allowed for creation of a network among groups of the highest qualification active in Italian universities, public research institutes and the most relevant plant biotechnology companies. This national network, funded by the Italian Ministry of Research (MIUR), represents a first step towards the establishment of a National Plant Biotechnology Center. Post-genomic technologies and other existing technologies will be made available to all partners of the network. The network has developed technologies for (1) gene functional analysis (i.e., RNA interference, negative and positive dominant transformants, Tilling), (2) the analysis of interactions between genes (i.e., *Arabidopsis* macro- and micro-arrays, real-time PCR) and (3) the identification of protein partners and targets (i.e., TAP-TAG analysis, two hybrid analysis in yeast and plants, and stable antibodies phage display libraries).

Current Research Projects

- Italy will participate in the ERA-NET program, a novel feature of the European Union's 6th Framework Program that provides support for transnational networking and coordination of national research programs.
- Two projects on *Arabidopsis* have been selected by the ERA-NET Plant Genomics program involving several Italian groups, and will be funded by the Italian Ministry of University and Scientific Research from this year. The projects are the following: "Multiple stress responses and adaptations," Italian coordinator Paolo Costantino, Italian participants Costantino and Ruberti; and "Conservation and diversity in transcriptional regulation of developmental processes in crop and model plant species," Italian coordinator G. Morelli, Italian participants Morelli, Colombo, Tonelli.
- A new collaborative project between the University of Verona (R. Bassi) and ENEA (G. Giuliano), involves *Arabidopsis* mutants lacking specific xanthophylls or xanthophyll groups.
- Another Italian group (B. Mattei), is one of the partners involved in the project "Functional Genomics for Biogenesis of the Plant Cell Wall" which is funded by the UE Marie Curie Training Network. This project will be developed using *Arabidopsis* as a model system.
- Italy (L. Colombo) is also participating in the EU FP6 Marie Curie Training Project "TRANSISTOR" (Trans-cis element regulating key switches in plant development). Moreover, several Italian groups have been funded by MIUR, through national scientific programs that are proposed as part of national scientific collaborations.

Major funding sources for Arabidopsis functional genomics

- MIUR (www.miur.it) will support the First Call for Proposal of the ERA-NET Plant Genomics as part of its institutional activities. National Call Coordination: Dr. M. Massulli, mauro.massulli@miur.it. The Ministry has also funded many national projects (PRIN 2005-2007).
- The UE Marie Curie Training Network is funding the projects: "Functional Genomics for Biogenesis of the Plant Cell Wall" (2005-2009), and "Transistor" (Trans-cis Regulatory Element regulating key switches in plant development).
- The Italian Space Agency (www.asi.it)
- The European space Agency (www.esa.int/esaCP/index.html)
- The Institut Pasteur (www.pasteur.fr/pasteur/international/Dai_en/lines.html)