Belgium

http://www.arabidopsis.org/portals/masc/countries/Belgium.jsp
Contact: Pierre Hilson
Department of Plant Systems Biology, VIB, Ghent University
Email: pierre.hilson@psb.ugent.be

Belgian *Arabidopsis* projects are funded via university-, regional- or federal-level grants, but not within calls specifically targeting this model plant species or plants. In addition VIB, the Flanders Institute for Biotechnology, provides significant support to the Department of Plant Systems Biology (about 5 million Euro per year) in which about half the research activities are dedicated to *Arabidopsis* studies.

Current Research Projects

- A Belgian national research project (IAP), coordinated by D. Inzé, focuses on the study of the molecular mechanisms regulating the development of plant roots and the interaction of roots with their environment. This program also involves T. Beeckman, G. Beemster, L. De Veylder, D. Van Der Straeten, J.-P. Verbelen, M. Boutry, X. Draye, N. Verbruggen and C. Perlieux. Malcolm Bennett (Univ. Nottingham, UK) is an international partner in this project.
- Other current *Arabidopsis* research topics in Belgium include the cell cycle (D. Inzé, L. De Veylder), root and leaf growth and development (T. Beeckman, G. Beemster, M. Van Lijsebettens), brassinosteroids (J. Russinova), abiotic stress (F. Van Breusegem), genome annotation and evolution (Y. Van de Peer, P. Rouzé), computational biology (M. Kuiper), modelling (R. Merckx), functional genomics (P. Hilson), proteomics (G. De Jaegher), quantitative biology (M. Vuylsteke), lignin biosynthesis (W. Boerjan), ethylene signaling (D. Van Der Straeten), hormone biology (Harry Van Onckelen), membrane proteins (M. Boutry), salt stress and tolerance to heavy metal (N. Verbruggen), and plant pathogen interaction (B. Cammue).

Major funding sources for Arabidopsis functional genomics

- Flanders Institute for Biotechnology (VIB; www.vib.be)
- European Union Framework Programmes (www.cordis.lu/)
- Belgian Federal Science Policy Office (www.belspo.be)
- Institute for the Promotion of Innovation by Science and Technology in Flanders (IWT; www.iwt.be)
- European ERA-Plant Genomics initiative (www.erapg.org)

Arabidopsis genomics tools and resources

- The Department of Plant Systems Biology (PSB) continuously develops and disseminates an exhaustive collection of destination vectors, designed for the functional analysis of genes in plant cells and compatible with the recombinational cloning Gateway technology (www.psb.ugent.be/gateway).
- Large generic ongoing programs include:
    1. CATMA, a database (www.catma.org; hosted at PSB) with a repertoire of >30,000 gene-specific sequence tags for transcription profiling and RNAi, available from NASC;
    2. AGRIKOLA, a database (www.agrikola.org; hosted at PSB) presenting genome-scale resources for targeted hairpin RNA gene silencing, available from NASC; in collaboration with the Belgian Coordinated Collections of Microorganisms (BCCM/LMBP), PSB set up a service for the sequence validation and

dissemination of AGRIKOLA resources; visit http://bccm.belspo.be/db/lmbp_gst_clones/ to order purified and sequence validated clones; visit http://www.psb.ugent.be/reva/index.php?o=/reva/main to request the validation of specific clones;

3. SAP (www.psb.ugent.be/SAP) creating and exploiting a genome-scale promoter amplicon collection for the analysis of transcriptional networks;
4. AGRON-OMICS, a functional genomics and systems biology project funded by the 6th European Framework Programme (see page XX).