

# Belgium

[http://www.Arabidopsis.org/info/2010\\_projects/Belgium.jsp](http://www.Arabidopsis.org/info/2010_projects/Belgium.jsp)

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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, the Flanders Interuniversity Institute for Biotechnology provides significant support to Department of Plant Systems Biology (about 5 million Euro per year) in which the Functional Genomics Division (P. Hilson) mainly carries out Arabidopsis research. Finally, the Flanders government participates to the European ERA-Plant Genomics initiative and has earmarked funding specifically supporting research in that framework.

Furthermore, 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](http://www.psb.ugent.be/gateway)). Finally, PSB participates to efforts to confederate database systems and aims at providing information about clone resources and phenotypes via integrated webservices.

## Current Research Projects

- A Belgian national research project (IAP) focuses on the study of the molecular mechanisms regulating the development of plant roots and the interaction of roots with their environment.
- 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), abiotic stress (F. Van Breusegem), genome annotation and evolution (Y. Van de Peer, P. Rouzé), computational biology (M. Kuiper), proteomics (G. De Jaeger), transcriptional networks and heterosis (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 Interuniversity Institute for Biotechnology (VIB; [www.vib.be](http://www.vib.be))
- European Union Framework Programmes ([www.cordis.lu/](http://www.cordis.lu/))
- Belgian Federal Science Policy Office ([www.belspo.be](http://www.belspo.be))
- Institute for the Promotion of Innovation by Science and Technology in Flanders (IWT; [www.iwt.be](http://www.iwt.be))
- European ERA-Plant Genomics initiative ([www.erapg.org](http://www.erapg.org))

## Arabidopsis genomics tools and resources:

- Gateway-compatible destination vectors ([www.psb.ugent.be/gateway](http://www.psb.ugent.be/gateway))
- Large generic ongoing programs include:
  1. CATMA ([www.catma.org](http://www.catma.org); database hosted at PSB) maintaining a repertoire of >30,000 gene-specific sequence tags for transcription profiling and RNAi, available from NASC;
  2. AGRIKOLA ([www.agrikola.org](http://www.agrikola.org); database hosted at PSB) creating and exploiting genome-scale resources for targeted hairpin RNA gene silencing, available from NASC; in collaboration with the Belgian Coordinated Collections of Microorganisms (BCCM/LMBP), PSB is also setting up a service for the sequence validation and dissemination of AGRIKOLA resources (<http://www.belspo.be/belspo/fedra/proj.asp?l=en&COD=C3/020>)
  3. SAP ([www.psb.ugent.be/SAP](http://www.psb.ugent.be/SAP)) creating and exploiting a genome-scale promoter amplicon collection for the analysis of transcriptional networks.