Belgium

http://www.arabidopsis.org/portals/masc/countries/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 VIB, the Flanders Institute for Biotechnology, provides significant support to the Department of Plant Systems Biology (over 5 million Euros 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. Périlleux. Malcolm Bennett (Univ. Nottingham, UK) is an international partner in this project.
- Other current Arabidopsis research topics in Belgium include cell cycle regulation (D. Inzé, L. De Veylder), root and leaf growth and development (T. Beeckman, G. Beemster, M. Van Lijsebettens), auxin (J. Friml), brassinosteroids (J. Russinova), phytohormone interactions (Eva Benkova), oxidative stress and cell death (F. Van Breusegem), genome annotation and evolution (Y. Van de Peer, P. Rouzé), functional genomics (P. Hilson), proteomics (G. De Jaegher), quantitative biology (M. Vuylsteke), tree biotechnology and bioenergy (W. Boerjan), ethylene signaling (D. Van Der Straeten), cell biology (D. Geelen), hormone biology (E. Prinsen), membrane proteins (M. Boutry), salt stress and tolerance to heavy metal (N. Verbruggen), flowering (C. Périlleux) and plant pathogen interaction (B. Cammue).

Notable Arabidopsis publications

- Dhonukshe, P., Tanaka, H., Goh, T., Ebine, K., Mähönen, A.P., Prasad, K., Blilou, I., Geldner, N., Xu, J., Uemura, T., Chory, J., Ueda, T., Nakano, A., Scheres, B., and Friml, J. (2008). Generation of cell polarity in plants links endocytosis, auxin distribution and cell fate decisions. Nature 456, 962-966
- De Smet, I., Vassileva, V., De Rybel, B., Levesque, M.P., Grunewald, W., Van Damme, D., Van Noorden, G., Naudts, M., Van Isterdael, G., De Clercq, R., Wang, J.Y., Meuli, N., Vanneste, S., Friml, J., Hilson, P., Jürgens, G., Ingram, G.C., Inzé, D., Benfey, P.N., Beeckman, T. (2008). Receptor like kinase ACR4 restricts formative cell divisions in the Arabidopsis root. Science 322, 594-597

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)
- Research Foundation – Flanders (FWO; http://www.fwo.be/en/index.aspx)
- 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).
- PSB also coordinates AGRON-OMICS, a functional genomics and systems biology project funded by the 6th European Framework Programme (www.agron-omics.be).