APLIM

APLIM - Advanced Plant Life Imaging and Metrology

ABSTRACT

Advanced Plant Life Imaging and Metrology. The aim of the project is to federate the scientific community of the plant world in Montpellier and Avignon around new NMR and MRI imaging technologies, currently mainly used in the world of health. APLIM is a structuring project based on State-Regional funding and multidisciplinary, bringing together the communities of physicists, plant biologists and chemists.
Ultimately, the prospects of the project are to boost and standardize methods for using NMR and MRI imaging for the benefit of the scientific community in plant science and to make the University of Montpellier’s platform a reference in its field at the national and european levels.

Year : 2015
Project number : 1504-005
Type of funding : PE
Project type : PC
Research units in the network : BPMP DIADE ECO&SOLS SENS HORTSYS IPME-PHIM LEPSE PSH PVBMT
Start date : 2016-05-01
End date : 2020-10-31
Flagship project : no

Project leader : Jean-Luc Verdeil
Project leader's institution : CIRAD
Project leader's RU : AGAP

Budget allocated : 300000 €
Total budget allocated (including co-financing) : 600000 €
Funding : Labex

GOAL

The aim of the project is to federate the scientific community of the plant world in Montpellier and Avignon around new NMR and MRI imaging technologies, currently mainly used in the world of health. APLIM is a structuring project based on State-Regional funding and multidisciplinary, bringing together the communities of physicists, plant biologists and chemists.
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ACTION

The project is divided into 4 "work packages" (WP), WP1 and WP2 being the two scientific pillars of the project, WP3 and WP4 having training and dissemination objectives.
WP1 focuses on the development of innovative tools and methods, while WP2 constitutes a set of applications, based on the co-financing of 4 theses, studying the internal flows of different plants in response to biotic and abiotic constraints. Each thesis uses tools developed in WP1.

RESULTS

The project has built an interdisciplinary community on the basis of mutual training in biology and

physics to communicate between different disciplines. Similarly, the launch of "calls for manips", generating some thirty responses, has strengthened collaboration between communities.
The tools developed and adapted to plants have obtained 2 patents, one of which is being matured at SATT AxLR for transfer to one of the partner companies: RS2D. The tools are still in the prototype phase, but these advances give Montpellier a unique position in plant imaging at the national or even European level.

PERSPECTIVES

Dissemination of these tools and associated methodologies is a major challenge. The applications of NMR and MRI plant imaging are broad. Demand from biologists is strong. The methods are well applied. The final stages of the project will focus on training and dissemination of the results, with the development of a service offer.