Development of a toolbox for modelling and simulating feedback between plant growth and biomechanics

PERSPECTIVES

The project PlantBioM continues in the form of a MASTER internship in Computer Sciences, which would achieved the integration of the library in the software XPLO.

The prospects in the short and medium term are:

▶ Implementing Thomas Guillon's results in a new PlantBioM solver. An algorithm has already been developed in Java and tested for solving equations of biomechanics ;

▶ provide a tool for training and expertise for the management of urban trees, based on the software XPLO-PlantBioM. This tool will allow testing the impact of different types of intervention (pruning, bracing, etc ...) on the tree mechanical factor of safety .

▶ the above point should also be developped with the METLA (Finland) and the University of Goettingen (Germany). A thesis proposal is being drafted and should be submitted in 2011 as part of a ITN European project supported by INRA on Virtual Plants.

▶ the PlantBioM toolbox would be used as part of research partnerships with LIAMA, China, if the cPlant project (EU INCO-LAB) submitted in early 2011 is accepted. This research includes modeling the architectural plasticity of plants and in particular dynamic feedbacks between bending of stems and development of branching.

Responsable :

Date de démarrage : 01/10/2008
Date de clôture : 31/12/2010
Montant :