

Looking back: Ten years of FSPM

Risto Sievänen

Finnish Forest Research Institute, PB 18, 01301 Vantaa, Finland

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Functional Structural Plant Models (FSPMs) can be defined as models that combine descriptions of metabolic (physiological) processes with a presentation of the 3D structure of a plant. The architectural structure of the model plant is usually presented on the basis of a small number of elementary units. The structural dynamics of the plant is based on the production, death and growth of the elementary units, and is affected by the metabolic processes. Under this definition four workshops have been arranged since 1996. The workshops have covered many aspects of plant modeling from measurement and representation of plant architecture, models of resource use and internal processes to mathematical and computer science methods. It seems that the focus of the meetings, interaction of function and structure in plants, has turned out to be fruitful, being open to scientists from any scientific discipline to contribute to the topic to better understand the complex biological processes that are involved in plant development.

This presentation will give an overview of functional structural plant modeling. First, a historical look is made on development of FSPMs and the basis on which they have been built. A short examination of different approaches to FSPMs will be made. Finally, the major challenges and avenues of development for FSPMs are discussed.