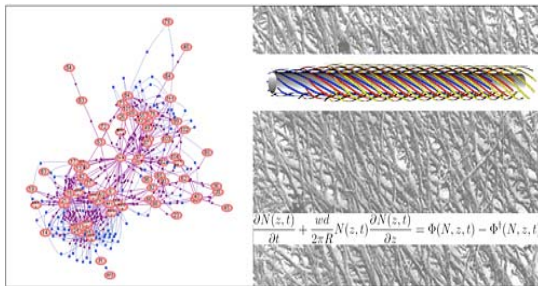


COST E50 CEMARE will organize the final workshop

Systems Biology for Plant Design

in Wageningen, The Netherlands. The workshop will show the possibilities of systems biology as a research tool for better understanding of biological processes and as a tool for the innovative ‘designing’ of plants.

Systems Biology is a scientific approach that helps us to obtain insight in general mechanisms and processes governing life. It uses iterative experimentation and modeling starting at the molecular/cellular level that describe and explain implications for the whole organism, and even for crops in the field. This approach is already broadly applied for the improvement of human health and is now rapidly gaining influence in plant sciences. This COST E50 workshop shows progress, made and ahead, gained by systems biology approaches in plant sciences, with the ‘designing of plants’ as a central theme.



Cell walls

Plant cells and their walls determine plant development as well as the industrial properties of a range of plant products including paper, timber, food, fodder and spun fibers, and products like coatings, renewable polymers and nanocomposites. A systems biology approach is being used in this field to develop the tools to rationally design plant cell wall properties for industrial end-uses.

In this EU-COST E50 workshop, the plant cell wall, its cellulose and lignin composition, is taken as an example of a research field in which a systems biology approach is being used. Other themes of the meeting are aspects of plant development, and biological networks, both relevant fields of knowledge for understanding production of plant cell walls. In addition, examples from other organisms will be discussed, such as yeast and the liver cell.

Academic & industry

The ambition of the COST E50 action is to bring together people from industry and scientific organizations, allowing discussions on basic knowledge and on the application of this knowledge. Scientists active in the field of systems biology in plants or in plant design, from scientific organizations and from industry, are invited to take part in this workshop.

local organizers of the workshop

Members of EU NEST program ‘CASPIC’

Cellulose Architecture Systems biology for Plant Innovation Creation <http://www.caspic.org/>

- Wageningen University, The Netherlands
- FOM Institute AMOLF, Amsterdam, The Netherlands
- SWETREE Technologies, Umea, Sweden
- SLU, Umea, Sweden
- INRA, Versailles, France
- MPIKG, Golm, Germany



Topics and invited Speakers:

Plant Cell wall

- * Chris Somerville, Energy Biosciences Institute, Berkeley
- * Markus Pauly, DOE- Plant Research Lab, Michigan State University
- * Bela Mulder, FOM Institute for Atomic and Molecular Physics, AMOLF,, Amsterdam, and Wageningen University
- * Herman Höfte, INRA, Versailles
- * Vincent Bulone, Royal Institute of Technology (KTH), Stockholm
- * Ingo Burgert, Max-Planck-Institute of Colloids and Interfaces, Golm

Plant Development

- * Ben Scheres, Utrecht University
- * Ton Bisseling, Wageningen University
- * Björn Usadel, Max-Planck-Institute for Molecular Plant Physiology, Golm

Lignification

- * Wout Boerjan, VIB, Gent
- * Roeland Merks, CWI, Amsterdam

Examples from other organisms

- * Jens Timmer, University of Freiburg
- * Phong Tran, University of Pennsylvania, USA, and Marie Curie Institute Paris

Biological networks

- * Pieter Rein ten Wolde, FOM Institute AMOLF, and Free University, Amsterdam
- * Gerco Angenent, Wageningen University and Research Center

The next step: design

- * Peter Fratzl, Max-Planck-Institute of Colloids and Interfaces, Golm
- * Lars Berglund, Royal Institute of Technology (KTH), Stockholm
- * Alf Game, BBSRC, UK