Program

14:00 - 18:00	Reception

November 10th. Venue: the auditorium of Jinma Hotel (the third floor)

08:00 - 09:00 Reception

09:00 - 10:00	***Opening Ceremony.*** *Chair: **Baoguo Li & Marc Jaeger***
10:00 - 10:30	***Invited talk.*** *Chair: **Marc Jaeger*** **Risto Sievänen**, **Jari Perttunen, Eero Nikinmaa and Juan Posada.** Functional structural plant models - case LIGNUM

Coffee Break

10:45 - 12:05	*Oral contributions. Chair: **Gerhard Buck-Sorlin***
	Véronique Letort, Patrick Heuret, Paul-Camilo Zalamea, Eric Nicolini, Philippe de Reffye. Analysis of *Cecropia sciadophylla* morphogenesis based on a sink-source dynamic model
	Adrien Bonneu, Thierry Fourcaud, Arnaud Ducrot, Michel Langlais. Proposition of a conceptual density based model to describe fine root networks in tree root systems
	Feng Wang, Mengzhen Kang, Hui Han, Qi Lu, Veronique Letort, Yan Guo, Philippe de Reffye, Baoguo Li. Calibration of topological development in the procedure of parametric identification: application of the stochastic GreenLab model for *Pinus sylvestris* var. *Mongolica*
	Véronique Letort, Paul-Henry Cournède, Philippe de Reffye. Impact of topology on plant functioning: a theoretical analysis based on the GreenLab model equations

Lunch (the 23rd floor of Jinma Hotel)

13:30 - 14:00	***Invited Talk.*** *Chair: **Baogang Hu*** **Long Quan.** Image-based modeling of plants and trees
14:00 - 15:40	*Oral contributions. Chair: **Baogang Hu***
	Chao Zhu, **Xiaopeng Zhang, Marc Jaeger.** Cluster-based construction of tree crown from scanned data
	Xiaojuan Ning, **Xiaopeng Zhang, Yinghui Wang.** Tree segmentation from scanned scene data

	<u>Maojin Xie</u>**, Weiqun Cao, Gang Yang, Xinyuan Huang.** Tree axis structure simplification correspondent to botanical properties
	<u>Hongjun Li</u>**, Xiaopeng Zhang, Wujun Che, Marc Jaeger.** Smooth transition between different plant leaves models
	<u>Haiwen Wu</u>**, Marc Jaeger, Mao Wang, Baoguo Li, Baogui Zhang.** Three-dimensional reconstruction and visualization of xylem vessels of wheat nodal root

Coffee Break

15:55 - 17:15	*Oral contributions. Chair:* ***Ep Heuvelink***
	<u>Didier Combes</u>**, Abraham J. Escobar-Gutiérrez.** Morphogenetically active radiation within tree canopies: estimations from PAR and solar broadband irradiance measurements
	Gerhard Buck-Sorlin, Reinhard Hemmerling, Jan Vos, Pieter H.B. de Visser. Modelling of spatial light distribution in the greenhouse: description of the model
	Rui Qi, Paul-Henry Cournède, René Lecoustre, Philippe de Reffye. Tri-trophic ecosystem oil palm-pests-auxiliaries: I. modeling and simulation
	<u>Benoît Pallas</u>**, Cédric Loi, Angélique Christophe, Paul-Henry Cournède, Jérémie Lecoeur.** A stochastic growth model of grapevine with full interaction between environment, trophic competition and plant development

17:15 - 18:00	Software demonstrations

November 11th. Venue: the auditorium of Jinma Hotel (the third floor)

08:40 - 09:10	*Invited talk. Chair: Abraham Escobar-Gutierrez* **Jonathan P. Lynch.** Structural-functional model *SimRoot* and its applications
09:10 - 10:30	*Oral contributions. Chair: Abraham Escobar-Gutierrez*
	Jessica Bertheloot, Bruno Andrieu, Pierre Martre, Christian Fournier. Modelling nitrogen distribution in virtual plants, as exemplified by wheat culm during grain filling
	Liqi Han, Peter M. Gresshoff, Jim Hanan. Modelling root development with signalling control: a case study based on legume autoregulation of nodulation
	Lionel Dupuy, Matthieu Vignes. Simplified root architectural models using continuous deformable domains
	Jessica Bertheloot, Paul-Henry Cournède, Bruno Andrieu. Nitrogen acquisition and utilization by crops: review of different approaches and proposition of a mechanistic modeling

Coffee Break

10:45 - 12:25	*Oral contributions. Chair:* **Bruno Andrieu**
	Alexandra Jullien**, Amélie Mathieu, Jean-Michel Allirand, Amélie Pinet, Philippe de Reffye, Bertrand Ney, Paul-Henry Cournède.** Modelling of branch and flower expansion in GreenLab model to account for the whole crop cycle of winter oilseed rape (*Brassica Napus* L.)
	Xiujuan Wang, Amélie Mathieu, Paul-Henry Cournède, Jean-Michel Allirand, Alexandra Jullien, Philippe de Reffye, Baogui Zhang. Stochastic models in floral biology and application to the study of oilseed rape fertility
	Yuntao Ma, A Mathieu, AM Wubs, E Heuvelink, JY Zhu, BG Hu, PH Cournede, P de Reffye. Parameter estimation and growth variation analysis in six capsicum cultivars with the functional-structural model greenLab
	BaoGui Zhang, MengZhen Kang, Véronique Letort, XiuJuan Wang, Philippe de Reffye. Comparison between empirical or functional sinks of organs - application on tomato plant
	Lili Yang, **YiMing Wang, MengZhen Kang, Gaetan Louran, QiaoXue Dong, Philippe de Reffye.** Relationship between tomato fruit set and trophic competition - a modelling approach

Lunch (the 23rd floor of Jinma Hotel)

13:30 - 14:50	*Oral contributions. Chair:* **Jochem Evers**

	Tino Dornbusch, Jillian Watt, Rim Baccar, Christian Fournier, Bruno Andrieu. Towards a quantitative evaluation of cereal lamina shape using an empirical shape model
	Bangyou Zheng, Yuntao Ma, Baoguo Li, Yan Guo, Qiyun Deng. Assessment of the effects of leaf angle combinations on potential photosynthesis capacity of rice with 3-D models using high performance computing
	Lifeng Xu, Michael Henke, Jun Zhu, Winfried Kurth, Gerhard Buck-Sorlin. A rule-based functional-structural model of rice considering source and sink functions
	Xiuhong Jin, Thierry Fourcaud, Baoguo Li, Yan Guo. Towards modeling and analyzing stem lodging for two contrasting rice cultivars

Coffee Break

15:05 - 16:05	*Oral contributions. Chair: Xiangdong Lei*
	Mikolaj Cieslak, Alla Seleznyova, Jim Hanan. A functional-structural kiwifruit vine model
	Sabine Demotes-Mainard, Gaelle Guéritaine, Rachid Boumaza, Patrick Favre, Vincent Guérin, Lydie Huché-Thélier, Bruno Andrieu. Coordinated development of the architecture of the primary shoot in bush rose
	Ning Xia, **Aishuang Li, Guizhi Zhu, Xiaoguo Niu, Chunsheng Hou, Yangying Gan.** Study of branching responses of one year old branches of apple trees to heading using hidden Semi-Markov chains

16:05 - 18:00	*Poster contributions. Chair: Mengzhen Kang*

Michael Renton. What is the appropriate level of detail for modelling agro-ecological processes in a land-use optimisation model?

Dongxiang Liu, **Mengzhen Kang, Veronique Letort, Meijun Xing, Gang Yang, Xinyuan Huang, Weiqun Cao.** Preliminary functional-structural modeling on Poplar (*Salicaceae*)

Michaël Chelle, Paul Toulouse, Didier Combes**.** Should be taken into account the plants azimuth to estimate the light phylloclimate within a virtual maize canopy?

Chang Liu, Weilong Ding, Qianyuan Zhang, Yuping Zhang. Visually simulate rice panicle based on bending deformation model.

Jochem Evers, Neil Huth, Michael Renton. Light extinction in spring wheat canopies in relation to crop configuration and solar angle

Jun Diao, Xiangdong Lei, Lingxia Hong, Jiantao Rong, Qiang Shi. Models for estimating single leaf area from leaf weight of Eucalyptus

Michael Chelle, Sheng Liu, Amélie Mathieu, **Bertrand Ney.** Sensitivity to temperature of epidemiological processes at leaf scale, a preliminary step towards FSPMs of sick wheat

Hong Guo, Veronique Letort, Xiangdong Lei, Yuanchang Lu, Philippe de Reffye. Applying GreenLab Model to Adult Chinese Pine Trees with Topology Simplification

Amelie Mathieu**, Veronique Letort, Renaud Gosset, Jacques Gignoux, Paul-Henry Cournede.** Simulation of morphological plasticity of *Acacia tortilis* in response to herbivore attacks

Amélie Pinet**, Alexandra Jullien, Jean Michel Allirand, Amelie Mathieu, Bertrand Ney.** Are yield and biomass distribution affected by sink organ clipping during reproductive phase of winter oilseed rape (*Brassica Napus* L.)?

Jean-Baptiste Burie**, Michel Langlais, Agnes Calonnec.** Effect of crop growth and susceptibility on the dynamics of a plant disease epidemic: powdery mildew of grapevine

Wuping Zhang, Baoguo Li. General structural model of crop root system based on the dual-scale automaton

Bo Li**, Zhongfa Zhou, Kaicheng Huang.** Analyzing degradation ecological landscape pattern for the Karst Plateau on the basis of GIS technologies

Jia Liu**, Xiaopeng Zhang, Wei Ma.** Sketch-based branch modeling from images

Shenglian Lu, Chunjiang Zhao, Xinyu Guo, Chengfeng Li, Weiliang Wen. Efficient simulating interactive deformation of virtual plant

Xing Zhao**, Jingjing Hu, Mengzhen Kang.** GPU accelerated plant growth modeling and visualization

Paul-Henry Cournede, Thomas Guyard**, Benoît Bayol, Sébastien Griffon, François de Coligny, Philippe Borianne, Marc Jaeger, Philippe de Reffye.** A forest growth simulator based on functional-structural modelling of individual trees

18:00 - 18:15	**Thierry Fourcaud, Marc Jaeger, Yan Guo, Xiaopeng Zhang.** Presentations on AoB Plants & PMA09 Special issues in Annals of Botany, etc.

18:30 – 21:00 Banquet (the second floor of Jinma Hotel)

November 12th. Venue: the auditorium of Jinma Hotel (the third floor)

08:40 - 09:10	*Invited talk. Chair: **Thierry Fourcaud*** <u>**Christian Damgaard.**</u> Modelling asymmetric growth in crowded plant communities
09:10 - 10:30	*Oral contributions. Chair: **Thierry Fourcaud***
	<u>**Philippe de Reffye**</u>**, Sébastien Lemaire, Nitish Srivastava, Fabienne Maupasz, Paul-Henry Cournède,** Modeling inter-individual variability in sugar beet populations
	<u>**Vincent Le Chevalier,**</u> **Marc Jaeger, Paul-Henry Cournede.** Synchronisation formalism, resource and plant models for plant ecosystem simulation
	<u>**Sébastien Lemaire,**</u> **Fabienne Maupas, Paul-Henry Cournède, Jean-Michel Allirand, Philippe De Reffye, Bertrand Ney.** Analysis of the density effects on the source-sink dynamics in sugar-beet growth
	<u>**Dong Li,**</u> **Véronique Letort, Yan Guo, Philippe de Reffye, Zhigang Zhan.** Modeling branching effects on source-sink relationships of the cotton plant

Coffee Break

10:45 - 12:25	*Oral contributions. Chair: **Michael Renton***
	<u>**MengZhen Kang**</u>**, Philippe de Reffye, Ep Heuvelink.** Modelling the growth of inflorescence
	<u>**Qiongli Wu,**</u> **Paul-Henry Cournède.** Sensitivity analysis of GreenLab model for maize
	<u>**Cédric Loi,**</u> **Paul-Henry Cournède, Jean Françon.** Plants as combinatorial structures and applications
	<u>**Rui Qi**</u>**, Paul-Henry Cournède, Philippe de Reffye.** Tri-trophic ecosystem iil palm-pests-auxiliaries: II. sensitivity analysis, parameter identification and control
	<u>**Zhongping Li,**</u> **Vincent Le Chevalier, Paul-Henry Cournède.** Towards a continuous approach of functional-structural plant growth

Lunch (the 23rd floor of Jinma Hotel)

13:30 - 15:10	*Oral contributions. Chair: **Xiaopeng Zhang***
	<u>Ning Wang</u>, **Baogang Hu.** Aeolian sand movement and interacting with vegetation: a GPU based simulation and visualization method
	<u>Weiming Dong</u>, **Ning Zhou, Jean-Claude Paul.** Interactive example-based natural scene synthesis
	Xiaomin Wang, Chunjiang Zhao, <u>**Shenglian Lu**</u>**, Xinyu Guo.** Survey on modeling and visualization of plant leaf color

	Yige Tang, Zhongke Wu, Mingquan Zhou. Sketching 3D plant based on ball B-Spline curves and L-System
	Guanbo Bao**, Xiaopeng Zhang, Wujun Che, Marc Jaeger.** Billboards for tree simplification and real-time forest rendering

Coffee Break

15:25 - 16:30	*Closing Ceremony*

* Bold-Italic are confirmed chairpersons;

** Bold-underlined are confirmed speakers.