

## Systems Biology Day

Date: Wednesday, 16 June, 2010

Time: 10.40 – 17.00 h

Venue: Peppelzaal, Hof van Wageningen (formerly WICC), Lawickse Allee 9, 6701 AN Wageningen

For whom: Everybody interested, involved in Systems Biology research.

Systems Biology is the emerging interdisciplinary field that combines biology, mathematics, information science, chemistry, and physics in investigating biological systems. An outspoken characteristic of Systems Biology is the complexity of the systems under consideration: biological processes and functions are an interplay between large numbers of components in time and space. Furthermore, the time scales and length scales can vary several orders of magnitude. Systems Biology creates a rational approach in tackling this complexity issue. This is a formidable task, but an essential step towards understanding. It is data-driven modelling combined with model-driven experimentation; in this iterative cycle, interdisciplinary cooperation is vital. In fact, it is causing a paradigm shift in life sciences: exploitation of the iterative modelling cycle is essential for the progress in understanding complex systems.

In 2006 Wageningen UR decided to include Systems Biology in its IP/OP Programme as one of its six research focal points. With the involvement of several Science Groups (AFSG, PSG, ASG) and Research Schools (EPS, PE&RC, VLAG, WIAS, and WIMEK), Systems Biology will be a central issue within Wageningen UR in the coming decades. At present the challenge lies in strengthening cooperation between the involved groups and coordination of the efforts.

During the last years a great variety of projects on Systems Biology started within Wageningen UR. To promote synergy between all these research activities and exchange of information, a series of Systems Biology Days is organized by the IP/OP Systems Biology Committee. The first meeting was successful and took place in June 2009. The present meeting is the second one in the series.

**Registration: No fee involved, but registration needed for lunch. Please send an e-mail before June 14<sup>th</sup> to: [biometris@wur.nl](mailto:biometris@wur.nl) (c.o. Dinie.Verbeek) to announce your participation.**

### Program:

10.00 – 10.40 Coffee/tea

10.40 – 10.50 **Jaap Molenaar:** Opening

10.50 – 11.20 **Vitor Martins dos Santos:** ‘Developments in Systems Biology’

11.20 – 11.40 **Servé Kengen, Bram Bielen:** ‘Reconstructing the metabolic network leading to hydrogen formation in *Caldicellulosiruptor saccharolyticus*’

11.40 – 12.00 **Jurriaan Mes, Ernst Woltering:** ‘Cold sweetening of stored potatoes’

12.00 – 12.20 **Dirkjan Schokker, Mari Smits, Annemarie Rebel:** ‘Spatial and temporal development of the chicken intestine as determined by gene regulatory network analysis in healthy and infected chickens’.

12.20 – 13.40 Lunch

13.40 – 14.00 **Marieke Boer, Claudia Stötzel, Susanna Röblitz, Peter Deuflhard, Roel Veerkamp, Henri Woelders:** ‘A mathematical model of the bovine estrous cycle’

14.00 – 14.20 **Julienne Fanwoua, Paul Struik:** ‘A systems biology approach to model tomato fruit growth dynamics: progress and preliminary results’

14.20 – 14.40 **Mohammad Ullah, Michael Müller:** ‘Integrative analysis of PPAR $\alpha$  dependent pathways in mouse liver and small intestine’

- 14.40 – 15.00 **Richard Immink, Gerco Angenent:** ‘Regulatory genetic networks in Arabidopsis leaf growth’
- 15.00 – 15.30 Coffee/tea break
- 15.30 – 16.50 **Peter van Baarlen, Jerry Wells:** ‘Systems Biology of host-microbe interactions in the intestine’
- 15.50 – 16.10 **Sylvester de Nooijer, Ton Bisseling:** ‘Understanding the forces shaping Arabidopsis nuclear organization’
- 16.10 – 16.30 **Nuria Mach, Mari Smits and André Bannink:** ‘Gene expression patterns in udder tissue correlate with milk fatty acid composition’
- 16.30 – 16.50 **Wilma van Esse, Sacco de Vries:** ‘Quantification of de BRI1 receptor *in planta*’