



## Solvay Workshop

# “Dynamics of biological systems: Modelling genetic, signalling and microbial networks”

VENUE: ULB, Campus de la Plaine, Brussels Building N.O. - 5th Floor - SOLVAY ROOM

## Program (May 2 - 4, 2018)

### WEDNESDAY 2 MAY 2018

- 08:30 - 08:45      Registration
- 08:45 - 09:00      Welcome by Marc Henneaux (Director of the Solvay Institutes, Brussels)
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- 09:00 - 12:30      *Development and cell differentiation*  
09:00 - 10:00      Speaker: Denis Thieffry  
*Logical modelling of developmental regulatory networks*
- 10:00 - 10:30      COFFEE BREAK (IN HALL ADJACENT TO THE SOLVAY ROOM)**
- 10:30 - 11:30      Speaker: Dagmar Iber  
*From Networks to Function - Computational Models of Organogenesis*
- 11:30 - 12:30      Speaker: Jordi Garcia-Ojalvo  
*Dynamical strategies for resource sharing in bacteria*
- 12:30 - 14:00      LUNCH BREAK (IN HALL ADJACENT TO THE SOLVAY ROOM)**
- 14:00 - 17:30      *Circadian Rhythms*  
14:00 - 15:00      Speaker: Elisabeth Klerman  
*Mathematical modeling of human sleep and circadian rhythms*
- 15:00 - 16:00      Speaker: Hanspeter Herzel  
*The circadian clock - a system of coupled oscillators*
- 16:00 - 16:30      COFFEE BREAK (IN HALL ADJACENT TO THE SOLVAY ROOM)**
- 16:30 - 17:30      Speaker: Felix Naef  
*Systems Chronobiology: quantitative analysis of circadian rhythms in cells and tissues*
- 19:30                      BANQUET (Le Belga Queen - Rue Fossé aux Loups, 1000 Brussels)**

## THURSDAY 3 MAY 2018

- 09:00 - 12:30 *Microbial Systems Biology*  
09:00 - 10:00 Speaker: Ricard Solé  
*Engineering microorganisms for major transitions*
- 10:00 - 10:30 COFFEE BREAK (IN HALL ADJACENT TO THE SOLVAY ROOM)**
- 10:30 - 11:30 Speaker: Yang Yu Liu  
*Controlling Human Microbiota*
- 11:30 - 12:30 Speaker: Isabelle Gordo  
*Real time evolution of commensal bacteria in the mammalian gut*
- 12:30 - 12:40 GROUP PHOTO (in the Solvay room)**
- 12:40 - 14:00 LUNCH BREAK (IN HALL ADJACENT TO THE SOLVAY ROOM)**
- 14:00 - 16:00 *Microbial Systems Biology*  
14:00 - 15:00 Speaker: Michael Henson  
*Spatiotemporal metabolic modeling of multispecies bacterial biofilms*
- 15:00 - 16:00 Speaker: Shiri Freilich  
*Metabolic network approaches for studying microbial community function*
- 16:00 - 18:00 SESSION POSTER with coffee and cakes...**  
(IN HALL ADJACENT TO THE SOLVAY ROOM)

## FRIDAY 4 MAY 2018

- 09:00 - 12:30 *Cell Cycle*  
09:00 - 10:00 Speaker: Béla Novák  
*Cell cycle regulation by systems-level feedback controls*
- 10:00 - 10:30 COFFEE BREAK (IN HALL ADJACENT TO THE SOLVAY ROOM)**
- 10:30 - 11:30 Speaker: Albert Goldbeter  
*The cell cycle and the circadian clock: Dynamics of two coupled cellular rhythms*
- 11:30 - 12:30 *Signalling 1*  
11:30 - 12:30 Speaker: Mary Teruel  
*Control of mammalian cell differentiation by feedback and noise*
- 12:30 - 14:00 LUNCH BREAK (IN HALL ADJACENT TO THE SOLVAY ROOM)**

14:00 - 17:30	<i>Signalling 2</i>
14:00 - 15:00	Speaker: Ursula Kummer <i>Different modes of calcium information processing in fish vs mammalian liver cells</i>
15:00 - 16:00	Speaker: Alexander Skupin <i>Spiking calcium as a mediator in metabolism and cell fate</i>
<b>16:00 - 16:30</b>	<b>COFFEE BREAK (IN HALL ADJACENT TO THE SOLVAY ROOM)</b>
16:30 - 17:30	Speaker: Martin Falcke <i>Theory for the basic dynamic signatures of <math>Ca^{2+}</math> spiking</i>
17:30	End of the conference