

Centre de recherches mathématiques
Université de Montréal

Atelier : La décomposition des réseaux biochimiques
Du 24 au 28 septembre 2007

Workshop: Deconstructing Biochemical Networks
September 24-28, 2007

HORAIRE / *PROGRAM*

Conférences : salle 6214
Pauses-Café : salle 6245
Session d'affichage : salle 6245

Commanditaires :
MITACS
La Société Canadienne pour la Biologie des Systèmes

Lectures: Room 6214
Coffee Breaks: Room 6245
Poster Session: Room 6245

Sponsors:
MITACS
The Canadian Society for Systems Biology

Le lundi 24 septembre 2007 / *Monday, September 24, 2007*

08:30 Inscription (5345) / *Registration (5345)*

08:30 Café (6245) / *Coffee (6245)*

09:00 - 09:30 **Andrew Rutenberg** (Dalhousie University)

“Clocking out: modelling phage induced lysis of bacteria”

09:30 - 10:00 **Mads Kaern** (University of Ottawa)

“The impact of gene regulatory noise on population fitness”

10:00 - 10:30 **Felix Naef** (Swiss Institute for Experimental Cancer Research)

“Stochastic phase oscillators and circadian bioluminescence recordings”

10:30 - 11:00 Pause-café / *Coffee break*

(Salle / *Room* 6245)

11:00 - 11:30 **Brian Ingalls** (University of Waterloo)

“Exploiting Stoichiometric Structure for Steady State Analysis”

11:30 - 12:00 **Nick Monk** (University of Nottingham)

“Dissecting the dynamics of a simple genetic oscillator”

12:00 - 14:00 Pause déjeuner / *Lunch Break*

14:00 - 14:30 **Eric Siggia** (Rockefeller University)

“Predicting the course of evolution”

14:30 - 15:00 **Michael Ellison** (University of Alberta)

“Grass roots systems biology: a scientific Intifada”

15:00 - 15:30 **Eldon Emberly** (Simon Fraser University)

“Structure and oscillations in biological networks”

15:30 - 16:00 Pause-café / *Coffee break*

(Salle / *Room* 6245)

- *Chaire Aisenstadt Chair 2007*

16:00 - 17:00 **John Tyson** (Virginia Polytechnic Institute & State University)

“How Do Cells Compute?”

17:00 Cocktail (6245) / *Reception (6245)*

Le mardi 25 septembre 2007 / *Tuesday, September 25, 2007*

08:30 - 09:00 Café (6245) / *Coffee (6245)*

09:00 - 09:30 **James E. Ferrell, Jr.** (Stanford University School of Medicine)
“Amplitude and frequency control in two classes of biological oscillator”

09:30 - 10:00 **Peter Swain** (McGill University)
“Stochasticity and designs of genetic networks”

10:00 - 10:30 **David McMillen** (University of Toronto)
“Time evolution of gene expression distributions in perturbed bacterial populations”

10:30 - 11:00 Pause-café / *Coffee break*
(Salle / *Room* 6245)

11:00 - 12:00 **John Rinzel** (New York University)
“Modeling the rhythmic dynamics of developing spinal cord”

12:00 - 14:00 Pause déjeuner / *Lunch Break*

14:00 - 14:30 **Tim Elston** (University of North Carolina)
“A kinetic switch underlies mating differentiation in yeast”

14:30 - 15:00 **Eric Cytrynbaum** (University of British Columbia)
“A Multi-stranded Polymer Model Explains MinDE Dynamics in E. coli Cell Division”

15:00 Café (6245) / *Coffee (6245)*

**Le mercredi 26 septembre 2007 / *Wednesday, September 26,*
2007**

08:30 - 09:00 Café (6245) / *Coffee (6245)*

09:00 - 09:30 **Jeff Hasty** (University of California, San Diego)
“Engineered Genetic Oscillators”

09:30 - 10:00 **Ned Wingreen** (Princeton University)
*“Modeling adaptation in *E. coli* chemotaxis: precise, robust, and optimized?”*

10:00 - 10:30 **Sharad Ramanathan** (Harvard University)
“Evolution of protein kinase pathways”

10:30 - 11:00 Pause-café / *Coffee break*
(Salle / *Room* 6245)

11:00 - 11:30 **Terry Hwa** (University of California at San Diego)
“Quantitative aspects of gene regulation by small RNA in bacteria”

11:30 - 12:00 **John Tyson** (Virginia Polytechnic Institute & State University)
“Cell Cycle Regulation in Eukaryotes”

12:00 - 14:00 Pause déjeuner / *Lunch Break*

14:00 - 14:30 **Martin Howard** (Imperial College London)
“Modelling noisy concentration gradients inside single cells”

14:30 Séance d’affichage (6245) / *Poster Session (6245)*

14:30 Café (6245) / *Coffee (6245)*

Le jeudi 27 septembre 2007 / *Thursday, September 27, 2007*

08:30 - 09:00 Café (6245) / *Coffee (6245)*

09:00 - 09:30 **Anirvan Sengupta** (Rutgers, The State University of New Jersey)
"Modeling Epigenetic Silencing"

09:30 - 10:00 **Stephen Michnick** (Université de Montréal)
"Dynamics of protein complexes in living cells"

10:00 - 10:30 **Theodore J. Perkins** (McGill University)
"Modeling Drosophila development at the molecular, promoter, and pattern-formation levels"

10:30 - 11:00 Pause-café / *Coffee break*
(Salle / Room 6245)

11:00 - 11:30 **Edda Klipp** (Max Plank Institute for Molecular Genetics)
"Dynamic modeling of signaling pathways and their interaction with cell cycle progression in budding yeast"

11:30 - 12:00 **Pablo Iglesias** (Johns Hopkins University)
"Information-theoretic characterization of cellular signaling pathways"

12:00 - 14:00 Pause déjeuner / *Lunch Break*

14:00 - 14:30 **Jackie Vogel** (McGill University)
"Exploring the spectrum of function of essential genes at the genome scale"

14:30 - 15:00 **Chris Rao** (University of Illinois)
"Coordinate regulation of motility and invasion in Salmonella typhimurium"

15:00 Café (4361) / *Coffee (4361)*

Le vendredi 28 septembre 2007 / *Friday, September 28, 2007*

08:30 - 09:00 Café (6245) / *Coffee (6245)*

09:00 - 09:30 **Jose Vilar** (Memorial Sloan-Kettering Institute)
“Stochastic dynamics of macromolecular-assembly networks”

09:30 - 10:00 **Alexander Van Oudenaarden** (Massachusetts Institute of Technology)
“A signals-and-systems approach to the biology of osmo-adaptation in budding yeast”

10:00 - 10:30 **Andre Levchenko** (Johns Hopkins University)
“Positive feedback based differentiation switches in simple organisms”

10:30 - 11:00 Pause-café / *Coffee break*
(Salle / *Room* 6245)

11:00 - 11:30 **Ron Weiss** (Princeton University)
“Artificial signaling pathways for pattern formation and tissue engineering”