

## **Coupled cell networks and dynamics**

3-5 February 2014

#### Porto

http://www.fc.up.pt/cmup/coupledcells

Coupled-cell systems are formed by interacting individual dynamical systems (the cells). The network associated with a coupled-cell system codifies information concerning the types of cells and the interactions involved. Coupled-cell networks are a natural tool for the mathematical modeling of a wide range of problems in fields such as biology, physics, economics, and social sciences, among others. For pure and applied scientists it is a challenge to understand the interplay between the structure of the network and the dynamics of coupled-cell systems. Real- world networks pose challenges for mathematicians. In particular, phenomena that would be nongeneric in an arbitrary dynamical system can become generic when constrained by a particular network topology. Also interesting is how much of the dynamics can be derived from the network structure independently of the specific equations chosen to describe specific phenomenon. The workshop will focus on recent theoretical developments on the dynamics of coupled cell systems inspired by real-world applications as well as on the understanding of real- world networks using the dynamics of networks of dynamical systems.

# **Invited Speakers**

Paulo Aguiar. Faculty of Sciences, University of Porto, Porto, Portugal.

Peter Ashwin. College of Engineering, Mathematics and Physical Sciences, University of Exeter, Exeter, UK.

Fathican Atay. Max Planck Institute for Mathematics in the Sciences, Germany.

Michael Field. Department of Mathematics, University of Rice, Houston, USA.

Isabel Labouriau. Faculty of Sciences, University of Porto, Portugal

Maria Conceição Leite, Department of Mathematics and Statistics, College of Natural Sciences and Mathematics, University of Toledo, USA.

Raoul-Martin. Memmesheimer, Neuroinformatics department, Donders Institute, Radboud University Nijmegen, Netherlands.

José Fernando Mendes. Department of Physics, University of Aveiro, Portugal.

Célia Sofia Moreira. Centre of Mathematics, University of Porto, Portugal.

Bob Rink. Department of Mathematics, VU University Amsterdam, The Netherlands.

Francisco C. Santos. Department of Computer Science and Engineering, Instituto Superior Técnico, University of Lisbon, Portugal.

Yunjiao Wang. Department of Mathematical Sciences, University of Houston, USA.

# Dynamical Systems Applied to Biology and Natural Sciences (DSABNS Anual Workshop)

10-12 February 2014

University of Lisbon–CMAF, Lisbon http://ptmat.ptmat.fc.ul.pt/dsabns2014/

The Fifth Workshop DSABNS will be held at the Centro de Matemática e Aplicações Fundamentais (CMAF), Lisbon University, in Portugal, from February 10 to 12, 2014.

The Fifth Workshop Dynamical Systems applied to Biology and Natural Sciences will be held at the Centro de Matemática e Aplicações Fundamentais (CMAF), Lisbon University, in Portugal, from February 10 to 12, 2014. The workshop has both theoretical methods and practical applications and the abstracts included in the program will cover research topics in population dynamics, eco-epidemiology, epidemiology of infectious diseases and molecular and antigenic evolution.

Participants are kindly requested to register by 3 February 2014. If you intend to participate. Looking forward to see you there.

#### **Workshop Organizers**

Maíra Aguiar [Lisbon University]
Bob Kooi [Vrije Universiteit Amsterdam
Luis Mateus [Lisbon University]
Filipe Rocha [Lisbon University]
Urszula Skwara [Lisbon University]
Nico Stollenwerk [Lisbon University]
Ezio Venturino [Turin University]



#### **Plenary Talks**

Konstantin Blyuss [University of Sussex, UK]
Nick Britton [University of Bath, UK]
Bernard Cazelles [Ecole Normale Supérieure, France]
Alvaro Corral [Universitart Autònoma de Barcelona,
Spain]

Bob Kooi [Vrije Universiteit, The Netherlands]
Andrea Parisi [Lisbon University, Portugal]
Andrea Pugliese [Università de Trento, Italy]
Mario Recker [University of Exeter, UK]
José Francisco Rodrigues [Lisbon University, Portugal]
Francisco C. Santos [Lisbon University, Lisbon University, Portugal]

Anavaj Sakuntabhai [Pasteur Institut, France] Gauthier Sallet [INRIA, France] Nico Stollenwerk [Lisbon University, Portugal] Ezio Venturino [Turin University, Italy]

Carlos Braumman [Évora University, Portugal]

Laurent Coudeville [Sanofi Pasteur, France]

#### **Invited Talks**

Isabel Rodríguez Barraquer [Johns Hopkins University, USA1

Fabio Chalub [Nova University, Portugal]
Teresa Faria [Lisbon University, Portugal]
José Martins [Polytechnic Institute of Leiria, Portugal]
Maria Teresa T. Monteiro [Minho University, Portugal]
Luis Mier-y-Teran-Romero [Johns Hopkins University, USA]

Paulo Pimenta [Centro de Pesquisas René Rachou, Brazil]

Paula Rodrigues [Nova University, Portugal]
Ana Clara Silva [Instituto de Administração da Saúde e
Assuntos Sociais, Portugal]

Max Souza [Fluminense Federal University, Brasil] Hyun Mo Yang [Campinas University, Brasil]

# 3<sup>rd</sup> International Conference on Dynamics, Games and Science

17-22 February 2014

University of Porto — Porto http://www.fc.up.pt/DGS2014/

Following the 1st and 2nd International Conference Dynamics, Games and Science - DGS I 2008 and DGS II 2013, we

invite the Academic Community including MSc and PhD students and researchers to participate and to present their research work. If you would like to present a paper you are working on, please register at

http://www.fc.up.pt/DGS2014/registration.html The 3rd International Conference Dynamics Games and Science 2014 — DGS III 2014, aims to bring together world top researchers and practitioners from the fields of Dynamical Systems, Game Theory and its applications to such areas as Biology, Economics and Social Sciences.

DGSIII represents an opportunity for MSc and PhD students and researchers to meet other specialists in their fields of knowledge and to discuss and develop new frameworks and ideas to further improve knowledge and science.

## **Keynote speakers**

Albert Fisher [University of São Paulo, Brazil]

Alberto Pinto [University of Porto, Portugal]

Athanassios Yannacopoulos [AUEB, Greece]

Bruno Oliveira [INESC TEC, Portugal]

Carlos Braumann [University of Evora, Portugal]

David Rand [University of Warwick, UK]

David Zilberman [University of California, USA]

Diogo Pinheiro [Brooklyn College, USA]

Elvio Accinelli [UASLP, Mexico]

Filipe Martins [INESC TEC, Portugal]

Frank Riedel [Bielefeld University, Germany]

Gabrielle Demange [EHESS, France]

Jérôme Renault [Université de Toulouse, France]

João Gama [University of Porto, Portugal]

João Paulo Almeida [INESC TEC, Portugal]

José Martins [INESC TEC, Portugal]

Mohamad Choubdar [University of Porto, Portugal]

Nico Stollenwerk [University of Lisbon, Portugal]

Nigel Borroughs [University of Warick, UK]

Onesimo Hernandez-Lerma [IPM, Mexico]

Penelope Hernandez [University of Valencia, Spain]

Rabah Amir [University of Arizona, USA]

Renato Soeiro [University of Porto, Portugal]

Ricardo Cruz [University of Porto, Portugal]

Robert MacKay [University of Warwick, UK]

Rolf Jeltsch [ETH Zurizh, Switzerlan]

Saber Elaydi [Trinity University, USA]

Sebastian van Strien [Imperial College London, UK]

Tenreiro Machado [ISEP, Portugal]