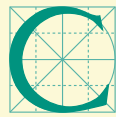


CENTRE DE
RECERCA
MATEMÀTICA

Workshop and Advanced Course on Deterministic and Stochastic Modeling in Computational Neuroscience and Other Biological Topics

Dates

Advanced Course: May 11 and 12, 2009
Workshop: May 13 to 15, 2009

Place

Centre de Recerca Matemàtica
Campus de la Universitat Autònoma de Barcelona, Bellaterra

Goals

The Advanced Course and the Workshop will mainly turn around stochastic differential equations in biology, with a bias to neuroscience. The three series of lectures are thought of as an introduction to modeling, simulation and analysis in the different biological areas of this research programme. A major goal is to visualize the mathematical transversality across biology; that is, to see how similar mathematical tools apply to different biological problems.

Strengthening interactions among researchers in different biological areas is one of the goals of the Workshop, in which specialists in the field are invited to guide a session consisting of a lecture about some hot topic of their preference, followed by a discussion with the audience after each session. This format is intended to stimulate discussion among participants and promote collaborations. Proposals for workshop lectures are encouraged, including also topics on differential equations (both stochastic and deterministic) that could eventually be applied to one of the branches of this research programme: computational neuroscience, tumour growth and cancer modeling, population dynamics and adaptive dynamics.

Coordinators

Àngel Calsina, Universitat Autònoma de Barcelona
José A. Carrillo, Universitat Autònoma de Barcelona – ICREA
Toni Guillamon, Universitat Politècnica de Catalunya

Advanced Course Speakers and Titles

Gustavo Deco, Universitat Pompeu Fabra
The neurodynamics of attention, memory and decision-making
Louis Tao, Beijing University
Modeling large-scale dynamics in the primary visual cortex
Juan J. L. Velázquez, Universidad Complutense de Madrid
Stochastic processes and PDEs in mathematical biology

Workshop Invited Speakers

Aureli Alabert, Universitat Autònoma de Barcelona
Nils Berglund, Université d'Orléans
Nicolas Brunel, Université de Paris V
María J. Cáceres, Universidad de Granada
Tom Chou, University of California at Los Angeles
Albert Compte, Hospital Clínic – IDIBAPS
Stephen Coombes, University of Nottingham
Paolo del Giudice, Instituto Superiore di Sanità
Maria R. D'Orsogna, California State University
Olivier Faugeras, INRIA Sophia Antipolis-Méditerranée
Jordi García-Ojalvo, Universitat Politècnica de Catalunya
Pedro E. García, Universitat Pompeu Fabra
Vincent Hakim, École Normale Supérieure
Gemma Huguet, Centre de Recerca Matemàtica
Simona Mancini, Université d'Orléans
Giovanni Naldi, Università degli Studi di Milano
David H. Terman, Ohio State University at Columbus
Joaquín J. Torres, Universidad de Granada
Frederic Utzet, Universitat Autònoma de Barcelona
Gilles Wainrib, Université de Paris 7

Registration and Payment

Deadline for registration and payment: April 18, 2009
Registration fee: 250 Euros

Information

wkmodeling@crm.cat
www.crm.cat/wkmodeling



CENTRE DE RECERCA MATEMÀTICA



1984-2009

CRM
Apartat 50
08193 Bellaterra
Barcelona, Spain

Tel: +34 93 581 1081
Fax: +34 93 581 2202
crm@crm.cat
www.crm.cat

