

The Doctoral School of Sciences of UHasselt, The Doctoral School of Natural Sciences of UGent,
and the KULeuven Arenberg Doctoral School organize a

Specialist Workshop on
Numerical methods in the study of bifurcations
of discrete and continuous dynamical systems

June 23-24-25, 2014

www.uhasselt.be/dysy/workshop-2014

Organizers

Peter De Maesschalck (UHasselt)
Willy Govaerts (Ugent)
Dirk Roose (KULeuven)
Giovanni Samaey (KULeuven)

Main Lecturers

Yuri Kuznetsov (Utrecht University)
Hil Meijer (Twente University)
Jan Sieber (University of Exeter)
Gaetan Kerschen (Université de Liège)

Contents

In this 3-day workshop the students will learn to numerically study the bifurcation behaviour of discrete and continuous dynamical systems, which includes tracing bifurcation diagrams for bifurcations such as saddle-node bifurcations, period doubling bifurcations, Hopf bifurcations, pitchfork bifurcations, Bogdanov-Takens bifurcations, ... The workshop will focus on discrete dynamical systems, ordinary differential equations, delay differential equations. The workshop comprises both theoretical sessions and practical sessions. In the practical sessions, computer software MATCONT and DDE-BIFTOOL (both MATLAB based) will be demonstrated.

Audience

The workshop is directed to Phd students inscribed in one of the doctoral schools, but also to all other Phd students and postdocs interested to learn about the subject. The workshop is ideally suited for phd students working with applied dynamical systems in areas as mathematical analysis and mathematical applications of dynamical systems in physics, engineering, biology and chemistry. Participants should have a basic understanding of applied dynamical systems. A basic knowledge of MATLAB is not required, though useful.

Registration

There is *no registration fee*, though registration is obliged **before June 1, 2014**. Registration is done by sending an email to stefanie.kerkhofs@uhasselt.be, mentioning "BIFURCATIONS 2014" in the email subject line. The number of participants is not unlimited.

Venue

The workshop will take place at Hasselt University, Campus Hasselt, Building "Oude Gevangenis", on walking distance from Hasselt railway station. Address: Martelarenlaan 42, 3500 Hasselt.

Program

Please consult the website.

Contact information

- Practical information: stefanie.kerkhofs@uhasselt.be
- Workshop information: peter.demaesschalck@uhasselt.be, willy.govaerts@ugent.be, dirk.roose@cs.kuleuven.be, giovanni.samaey@cs.kuleuven.be.