

REPORTS ON IMS SUPPORTED CONFERENCES

This new section will allow organisers of conferences which received (partial) funding from the IMS to provide short reports on their meetings. The listings are in the order of dates and the entries will (generally) not be edited by the Editor.

*International Workshop on
Multi-Rate Processes & Hysteresis*
University College Cork
April 3–8, 2006

This workshop brought together about fifty active scientists researching in the areas of dynamical systems with hysteresis and singular perturbations in order to analyze these phenomena that arise in many industrial, physical and economic systems. It was sponsored by University College Cork; by the Boole Centre for Research in Informatics, UCC; by the School of Mathematical Sciences UCC; by Science Foundation Ireland and by the Irish Mathematical Society. The organisers were Tom Carroll and Alexei Pokrovskii.

Singular perturbations and hysteresis are common strongly nonlinear phenomena that occur in many industrial, physical and economic systems. The wording ‘strongly nonlinear’ means that linearization will not encapsulate the observed phenomena. Often these two types of phenomena manifest different stages of the same or similar processes. A number of fundamental hysteresis models can be considered as limiting cases of time relaxation processes, or admit an approximation by a differential equation which is singular with respect to a particular parameter. However, the amount of interaction between practitioners of theories of systems with time relaxation and

systems with hysteresis (and between the ‘relaxation’ and ‘hysteresis’ research communities) is quite low.

In recent years Ireland has become home for a series of prestigious International Workshops in Singular Perturbations and Hysteresis:

- International Workshop on Hysteresis & Multi-scale Asymptotics (University College Cork, 17–21 March 2004). The proceedings have been published in *Journal of Physics: Conference Series*.
- International Workshop on Relaxation Oscillations & Hysteresis (University College Cork, 1–6 April 2002). The related collection of invited lectures was published as a volume “Singular Perturbations and Hysteresis”, SIAM, Philadelphia, 2005.
- International Workshop on Geometrical Methods of Nonlinear Analysis and Semiconductor Laser Dynamics (University College Cork, 5–6 April 2001). A collection of invited papers has been published as a special issue of *Proceedings of the Russian Academy of Natural Sciences: Nonlinear dynamics of laser and reacting systems*.

Among the aims of these workshops were (i) to bring together leading experts in time relaxation and hysteresis phenomena in applied problems; (ii) to discuss important problems in areas such as reacting systems, semiconductor lasers, shock phenomena in economic modelling, fluid mechanics, etc. with the emphasis on hysteresis and singular perturbations; (iii) to learn and to share modern techniques in areas of common interest.

These workshops have attracted leading specialists worldwide and have established Ireland, in particular the School of Mathematical Sciences at UCC, as one of the principal centres for research in this area.

Further details can be found at

<http://euclid.ucc.ie/murphys2006.htm>

Operator Algebra Workshop 2006
Queen's University Belfast
May 5–6, 2006

A two-day workshop which was dedicated to all aspects of operator algebras, both selfadjoint and non-selfadjoint, was organised by Martin Mathieu and Ivan Todorov in the Department of Pure Mathematics of Queen's University Belfast on Friday, 5 May and Saturday, 6 May 2006. This meeting continued a series on C^* -algebras which were held at Queen's in 1999 and 2001. The main speakers were

Soren Eilers (Copenhagen):
 "Classification of non-simple C^* -algebras (with applications)"

Aristides Katavolos (Athens):
 "Morita-type equivalence for operator algebras"

Jean Renault (Orleans):
 "Pseudogroups and masas in C^* -algebras"

Laszlo Zsido (Rome):
 "Weyl–von Neumann type theorems for non sigma-unital C^* -algebras"

Several contributed talks were given by the participants who consisted of graduate students and professional mathematicians. The rich scientific programme was rounded off by an exquisite dinner at Nick's Warehouse and a visit to the Giant's Causeway.

We gratefully acknowledge the support by the Irish Mathematical Society, the London Mathematical Society and the Nuffield Foundation.

The Fourth Irish Geometry Conference

Trinity College Dublin
May 19–20, 2006

The 4th annual Irish Geometry Conference was held at the Trinity College Dublin on May 19–20 of 2006. A broad spectrum of topics in geometry was presented in the talks by two guests from

abroad, Nigel Hitchin (Oxford University) and Wilhelm Kaup (University of Tübingen), as well as five speakers from Ireland, Jürgen Berndt (UC Cork), Stephen Buckley (NUI Maynooth), Bernd Kreuzsler (MIC Limerick), Michael Mackey (UC Dublin) and David Wraith (NUI Maynooth). The meeting was organized by Dmitri Zaitsev (TCD) and sponsored by the Hamilton Mathematics Institute and the School of Mathematics of TCD and the Irish Mathematical Society.

Further information can be found on the Conference Webpage:

<http://www.maths.tcd.ie/~igc2006/index.php>