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Coming Events

International Center for Mathematics

Pedro Nunes Lectures — 2011

Open questions leading to a global perspective dynamics by Jacob Palis

Pedro Nunes Lectures is an initiative of Centro Internacional de Matemática (CIM) in cooperation with Sociedade Portuguesa de Matemática (SPM), with the support of the Fundação Calouste Gulbenkian, to promote visits of notable mathematicians to Portugal. Each visitor is invited to give two or three lectures in Portuguese Universities on the recent developments in mathematics, their applications and cultural impact. Pedro Nunes Lectures are aimed to a vast audience, with wide mathematical interests, especially PhD students and youth researchers.

Jacob Palis (IMPA)
February 23, 2011 (15:00) Universidade do Porto.
March 02, 2011 (16:30) Universidade de Lisboa.

Open questions leading to a global perspective in dynamics

Abstract.—We will address one of the most challenging and central problems in dynamical systems, meaning flows, diffeomophisms or, more generally, transformations, defined on a closed manifold (compact, without boundary or an interval on the real line): can we describe the behavior in the long run of typical trajectories for typical systems? Poincaré was probably the first to point in this direction and s tress its importance. We shall consider finite-dimensional parameterized families of dynamics and typical will be taken in terms of Lebesgue probability both in parameter and phase spaces. We will discuss a conjecture stating that for a typical dynamical system, almost all trajectories have only finitely many choices, of (transitive) attractors, where to accumulate upon in the future. Interrelated conjectures will also be discussed.

3rd Porto Meeting on Mathematics for Industry, Porto, Portugal, April, 28-30, 2011

The purpose of this meeting is to focus the attention on the many and varied opportunities to promote applications of mathematics to industrial problems. Its major objectives are:

Development and encouragement of industrial and academic collaboration, facilitating contacts between academic, industrial, business and finance users of mathematics.

Through "bridging the industrial/academic barrier" these meetings will provide opportunities to present successful collaborations and to elaborate elements such as technology transfer, differing vocabularies and goals, nurturing of contacts and resolution of issues.

To attract undergraduate students to distinctive and relevant formation profiles, motivate them during their study, and advance their personal training in Mathematics and its Applications to Industry, Finance, etc.

The meeting will be focused on short courses, of three one-hour lectures each, given by invited distinguished researchers, which are supplemented by contributed short talks by other participants and posters of case studies.

The meeting will be followed by the 81th European Study Group that will take place in Lisbon between the 23th and the 27th of May 2011.

Summer Course and Workshop on Optimization in Machine Learning, Austin, Texas, USA, May 31 - June 7, 2011

The Summer Course on Optimization in Machine Learning (May 31 - June 4, 2011) will introduce a range of machine learning models and optimization tools that are used to apply these models in practice. For the students with some Machine Learning background the course will introduce what lies behind the optimization tools often used as a black box as well as an understanding of the trade-offs of numerical accuracy and theoretical and empirical complexity. For the students with some Optimization background this course will introduce a variety of applications arising in Machine Learning and Statistics as well as novel optimization methods targeting these applications.

This course will be followed by the Workshop on Optimization in Machine Learning (June 6-7, 2011) which will bring a number of experts in the area and further present the state-of-art.

CoLab Mathematics Summer School and Workshop, Instituto Superior Técnico, June 13-24, 2011

The CoLab Mathematics Summer School and Workshop is a yearly event, organized by the UTAustin|Portugal Program that aims at bringing together Ph.D. students and junior faculty with well known experts in the several areas of mathematics.This event will be held in the Mathematics Department of Instituto Superior Técnico in Lisbon, from June 13–24, 2011.

The school will be between June 13–17, 2011, and this year main topic is Aubry Mather Theory and Optimal Transport. The faculty for this school (L. Ambrosio, P. Bernard, Y. Brenier, and A. Figalli) are internationally known experts in these fields. We believe that their courses will be extremely useful for Ph.D. students, postdocs and established researchers who wish to broaden their knowledge in this very active area of research.

The Nonlinear PDEs workshop aims at bringing together researchers in several areas of nonlinear partial differential equations and its applications, and will be held in the week of June 20-24.

This event is also part of the program of the Portuguese International Center for Mathematics (CIM).

Dynamical Models in Life Sciences, University of Évora , July 24-30, 2011

The aim of this summer school is to bring together specialists and students in mathematics, biology, physics and engineering with a common goal: the better understanding of the mathematics behind life sciences and the better understanding of life sciences using a deeper knowledge of mathematics.
This will be a joint event of the portuguese Centro Internacional de Matemática, the European Society for Mathematical and Theoretical Biology and the European Mathematical Society in the historical city of Evora, Portugal, providing the perfect environment for the interaction between senior scientists in the field and students.

It will consist of 7 mini-courses aimed to Ph.D. students and junior post-docs, in mathematics, biology and related areas.

Optimization 2011, Universidade Nova de Lisboa, July 24-27, 2011

Optimization 2011 aims to bring together researchers and practitioners from different areas and with distinct backgrounds, but with common interests in optimization.

This meeting has international recognition as an important forum of discussion and exchange of ideas. It is the seventh edition of a series of international conferences in optimization organized in Portugal under the auspices of APDIO (the Portuguese Operations Research Society).

In this edition, we are happy to announce a special session celebrating the 60th anniversary of our dear colleague Joaquim João Júdice, the founder of the Optimization series and a well-known researcher in the field of Optimization.

Groups and Semigroups: Interactions and Computations, University of Lisbon, July, 25-29, 2011

The aim of this conference is to deepen the existing interactions between group theory and semigroup theory. The main themes that the conference cover include, not exclusively, the application of permutation group theory in the theory of transformation semigroups; computational techniques in group theory and semigroup theory; and combinatorial methods in group theory and semigroup theory.

Elementary Geometry from an Advanced Point of View, University of Aveiro , September 1-2, 2011

The aim of this conference (http://egapv2011.glocos.org) is to present several contemporary perspectives on Geometry including, among others, talks on visualization, applications and surveys, both at elementary and more advanced levels. The goal of this meeting, promoted by CIM in collaboration with CIDMA/Univ. Aveiro, CM/Univ. Minho and CMAF/Univ. Lisboa, is to contribute to the current international reflection on the ICMI/IMU Klein Project concerning central topics on Geometry, its contents, interdisciplinary connections and approaches for the teaching of this mathematics discipline at senior secondary school and first years at University level.

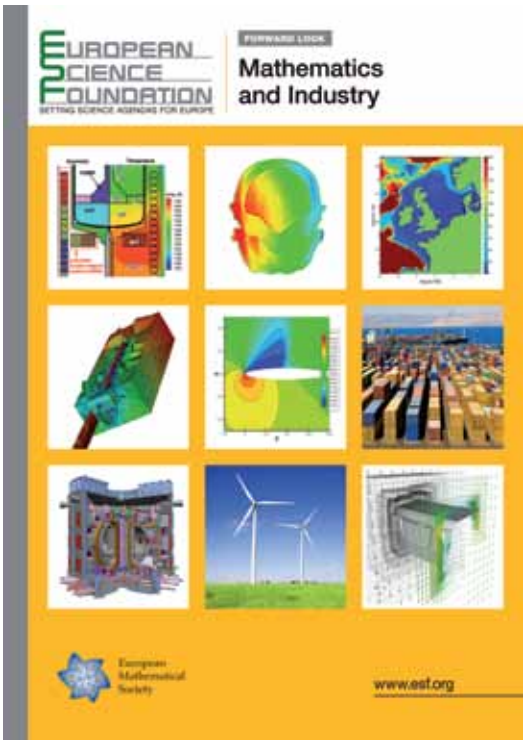
Organisors—Ana Breda (U Aveiro)—Chair, Ana Pereira do Vale (U Minho),
Tomas Recio (U Cantabria), Eugénio Rocha (U Aveiro), José Francisco Rodrigues (U Lisboa)

Encontro CIM-SPM-SPE

O Caos e o Acaso

Forward Look Mathematics and Industry

European Science Foundation



The European Science Foundation published the report "Forward Look Mathematics and Industry". The document can be accessed via the link http://www.esf.org/publications.html. We reproduce here the conclusion of the report:

"The basic message of this report is that if Europe is to achieve its goal of becoming the leading knowledge-based economy in the world, mathematics has a vital role to play. In many industrial sectors the value of mathemat- ics is already proven, in others its potential contribution to competitiveness is becoming apparent. The benefits resulting from a dynamic mathematics community interacting actively with industry and commerce are considerable and certainly far outweigh the rather modest costs required to support such a community. Nevertheless, such benefits will not be realised unless action is taken to develop mathematics and a coordinated community of industrial and applied mathematicians needed for the future success and global competitiveness of the European economy and prosperity."

—*Forward Look Mathematics and Industry*, p. 5

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