BULLETIN

INTERNATIONAL CENTER FOR MATHEMATICS

June 2001 10

Contents

Coming Events

Thematic Term on Semigroups, Algorithms, Automata and Languages

Organizers

Gracinda M. S. Gomes (University of Lisbon, Portugal), Jean-Eric Pin (University of Paris VII, France) and Pedro V. Silva (University of Porto, Portugal).

Date

May - July, 2001.

The Term is designed to make Coimbra the gathering point of researchers in the subjects of semigroup theory and automata theory during the months of May, June and July 2001. Besides providing a basepoint for the development of joint research projects, the Term includes multiple activities such as specialized schools and workshops on relevant specific subjects. Postgraduate students are particularly welcome.

Each school consists of several 5 hour courses held by prominent researchers. The workshops include 50 minute invited lectures and a limited number of 20 minute talks on the specific topics of the workshop, proposed by the participants.

The programme of events is the following:

2-11 May: School on Algorithmic Aspects of the Theory of Semigroups and its Applications

Invited lecturers: J. Almeida (Porto), C. Choffrut (Paris VII), J. Fountain (York), S. Margolis (Bar-Ilan), L. Ribes (Carleton), M. Sapir (Vanderbilt), M. Volkov (Ekaterinburg), T. Wilke (Kiel).

4-8 June: School on Automata and Languages

Invited lecturers: M. Branco (Lisbon), V. Bruyère (Mons), O. Carton (Marne-la-Vallée), A. Restivo (Palermo).

11-13 June: Workshop on Model Theory, Profinite Topology and Semigroups

Invited lecturers: J. Almeida (Porto), T. Coulbois (Paris VII), H. Straubing (Boston College), P. Trotter (Tasmania), P. Weil (Bordeaux).

2-6 July: School on Semigroups and Applications

Invited lecturers: K. Auinger (Vienna), M. Lawson (Bangor), W. D. Munn (Glasgow), A. Pereira do Lago (São Paulo).

9-11 July: Workshop on Presentations and Geometry

Invited lecturers: R. Gilman (Stevens Inst. of Tech.), D. McAlister (DeKalb), J. Meakin (Lincoln), S. Pride (Glasgow), N. Ruskuc (St. Andrews), B. Steinberg (Porto).

The venue for all events is the Observatório da Universidade de Coimbra, in the peaceful setting of Mount Santa Clara.

Sponsors

Fundação Calouste Gulbenkian

Fundação para a Ciência e a Tecnologia

Centro de Matemática da Universidade do Porto

Centro de Álgebra da Universidade de Lisboa

Centro Internacional de Matemática

Fundação Luso Americana para o Desenvolvimento

Universidade do Porto

Câmara Municipal de Coimbra

Faculdade de Ciências da Universidade de Lisboa

Registration fees

May school

Euro 120

June events

Euro 120

July events

Euro 120

Full Term

Euro 240

In return for their fees, the participants are entitled to receive school/workshop documentation and to participate freely in the social activities, including the corresponding Term dinners, to be held on May 10, June 12 and July 10.

Accompanying persons wishing to join the social programme will pay 75% of the normal fee. Early payments can be made by international cheque addressed to "Centro Internacional de Matemática" (CIM). The cheques should be sent to:

Patrícia Paraíba,
C.A.U.L., Av. Prof. Gama Pinto 2,
1649-003 Lisboa, Portugal.

For more information on these events and registration forms, please visit the site http://alf1.cii.fc.ul.pt/term2001/

Summer School

Analytical and Numerical Methods in Non-Newtonian Fluid Mechanics

Organizers

Estelita Vaz (University of Minho, Portugal), J. Maia (University of Minho, Portugal) and K. Walters (University of Wales Aberystwyth, United Kingdom).

Date

25-29 June, 2001.

Aims

The aim of the school is to interest young researchers into the field of Rheology and Non-Newtonian Fluid Mechanics by helping to bridge the gap between the available theoretical tools and the existing problems of a mathematical nature in industry and academia.

The School will be held in the Guimarães Campus of the University of Minho, Portugal. Guimarães is located at 50 km north-east of Porto, in the Minho province. Porto International Airport is served by most major airline companies.

Lecturers

K. Walters, University of Wales

A. R. Davies, University of Wales

M. H. Wagner, Technical University of Berlin

G. Marrucci, University of Naples

R. Keunings, Catholic University of Louvain

F. P. T. Baaijens, University of Eindhoven

Summer School Secretariat

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For more information on this event, please visit the site http://www.ecum.uminho.pt/SummerSchool/

Advanced School on Recent Developments in Large-Scale Scientific Computing

Organizers

Filomena Dias d'Almeida (Engineering Faculty, Univ. of Porto, Portugal) and Paulo Beleza de Vasconcelos (Economics Faculty, Univ. of Porto, Portugal).

Date

3-6 July, 2001.

Aim of the School

The aims of this advanced school are: to present the state-of-the-art methods and tools to solve large scale linear problems, namely large linear systems and large eigenvalue problems, to bring together specialist researchers on computational mathematics and to encourage the interchange of new ideas, to create a suitable environment for the participants to get acquainted and involved in today's computational mathematics research problems.

The School will be held in the Faculty of Engineering, University of Porto.

Topics

Parallel architectures

Performance measures

Parallel programming paradigms

Nonstationary iterative methods for large linear systems

Direct methods for large sparse linear systems and preconditioners

Large scale eigenvalue problem

Linear algebra libraries for large scientific computations

Lectures:

Jean-Marie Chesneaux, Univ. of Pierre et Marie Curie, France

Jack Dongarra, Univ. of Tennessee and Oak Ridge Nat. Lab., USA

Iain Duff, CERFACS, France and Rutherford Appleton Lab., UK

Osni Marques, Lawrence Berkeley Nat. Lab., USA

Francisco Moura, Computer Science Dep., Univ. of Minho, Portugal

Orlando Oliveira, Physics Dep., Univ. of Coimbra, Portugal

Rui Ralha, Mathematics Dep., Univ. of Minho, Portugal

Application Lectures:

Mário Ahues, Mathematics Dep., Univ. of St. Etienne, France

Álvaro Azevedo, Civil Dep., Engineering Faculty, Univ. of Porto, Portugal

Joaquim Júdice, Mathematics Dep., Univ. of Coimbra, Portugal

Orlando Oliveira, Physics Dep., Univ. of Coimbra, Portugal

José Palma, Mechanics Dep., Engineering Faculty, Univ. of Porto, Portugal

School fee

The registration fee is 200 Euros (1 Euro = 200.482 PTE). It includes the school documentation and coffee. The social program will include a small guided tour through Porto by bus, a walk in Ribeira (old part of the city), a visit to a Porto Wine Cellar and a School Dinner that will take place in the same Porto Wine Cellar.

Scientific sponsors

CIM - Centro Internacional de Matemática

IDMEC - CENUME: Unidade de Métodos Numéricos em Mecânica e Engenharia Estrutural

CMAUP - Centro de Matemática Aplicada da Universidade do Porto

FCT - Fundação para a Ciência e Tecnologia (Programa Operacional Ciência, Tecnologia, Inovação do III QCA)

FEP - Faculdade Economia do Porto

FEUP - Faculdade Engenharia da Univ. Porto

FLAD - Fundação Luso-Americana

INESC PORTO - Instituto de Engenharia de Sistemas e Computadores do Porto

UP - Reitoria da Universidade do Porto

Other sponsors

CMP - Câmara Municipal do Porto

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DanCake - Dan Cake Portugal SA

Montepio Geral - Caixa Económica Montepio Geral

O!PORTO! - Porto Convention Bureau

UNICER - União Cervejeira SA

For the registration form and more information on this event (including travel information and accommodation), please write to LSC@fep.up.pt or visit the site

http://www.fep.up.pt/docentes/pjv/LSC.html

Workshop on Electronic Media in Mathematics

Organizers

F. Miguel Dionísio (IST, Technical University of Lisbon, Portugal), José Carlos Teixeira (University of Coimbra, Portugal) and Bernd Wegner (Technische Universität Berlin, Germany).

Date

13-15 September, 2001.

Aims

The workshop will provide an open forum for the exchange of information and presentations on electronic media in Mathematics for mathematicians, teachers of mathematics and people using mathematics in applications. Four main subject areas are to be covered: a) Computational algebra and computational tools. b) Visualization and animation software. c) Electronic information and communication. d) Electronic publishing and mathematical libraries.

The event will take place in Coimbra.

Speakers:

Alberto Marini, Milan, Italy

Albrecht Gündel-vom Hofe, Berlim, Alemanha

Ana Ramalho Correia, Lisboa, Portugal

Bernd Wegner Berlim, Alemanha

Enrique Macias, Santiago de Compostela, Espanha

F. Miguel Dionísio, Lisboa, Portugal

Gertraud Griepke, Heidelberg, Alemanha

Hans Becker, Göttingen, Alemanha

Ken Brodlie, Leeds, UK

José Carlos Teixeira, Coimbra, Portugal

José F. Rodrigues, Lisboa, Portugal

Konrad Polthier, Berlim, Alemanha

Luis Borbinha, Lisboa, Portugal

Olga Caprotti, Linz, Áustria

Sponsors

CIM - Centro Internacional de Matemática

DMUC - Departamento de Matemática da Universidade de Coimbra

CMUC - Centro de Matemática da Universidade de Coimbra

SPM - Sociedade Portuguesa de Matemática

FCT - Fundação para a Ciência e Tecnologia

APM - Associação de Professores de Matemática

Timberlake Consultants

Academia Global

For registration and other information on this event (including deadlines for abstracts), please write to emm@mat.uc.pt or visit the site

http://www.mat.uc.pt/EMM

Workshop - From Brownian Motion to Infinite Dimensional Analysis

Organizers

A. B. Cruzeiro (Grupo de Física Matemática - University of Lisbon, Portugal) and L. Streit (University of Bielefeld, Germany).

Date

18-22 September 2001.

Aims

The need for the development of infinite dimensional Analysis on spaces of continuous paths or of less regular objects such as distributions has become evident mainly by physical motivations (e.g. Quantum Mechanics and Quantum Field Theory).

These spaces are endowed with probability measures, one of the more regular cases being the law of Brownian motion. In this case Itô calculus provides the underlying techniques to manipulate irregular functionals of the paths and the corresponding infinite dimensional Analysis has developed intensively in the past recent decades giving rise to important results in Mathematics, but also applications outside the initial framework (e.g., Filtering and Control Theory, Financial Mathematics).

More recently, special attention has been given to the geometry of (curved) spaces. The goal of the workshop is to bring together various approaches to infinite dimensional Analysis.

The event will take place in Coimbra.

Speakers giving a series of lectures:

Bernt Øksendal (Univ. of Oslo, Norway)

Jurgen Potthoff (Univ. of Mannhein, Germany)

Other speakers:

Thomas Deck (Univ. of Mannhein, Germany)

Hermann Matthies (Technical University Braunschweig, Germany)

Marta Sanz-Solé (Univ. of Barcelona, Spain)

Ali Suleyman Ustunel (Ec. Nat. Sup. Telecommunications Paris, France)

Grants:

Students can apply for participation grants. Applications can be sent to cruzeiro@cii.fc.ul.pt.

For information on this event, please visit the site

http://gfm.cii.fc.ul.pt/Events/fbm2ida/

CIM News

CIM Events for 2002

The CIM Scientific Committee, in a meeting held in Coimbra on March 17, approved the CIM scientific program for 2002.

Thematic Term

The **Thematic Term** for 2002 will be dedicated to Mathematics and Biology. The application of mathematics to biology has had considerable effect on the development of new research areas at the interface of both sciences. The development of Mathematical Biology research requires interdisciplinary teams with great expertise on several scientific areas.

This Thematic Term has the objective of acting as a seed for the development and enlargement of mathematical research applied to biological systems centered on some expertise and areas that exist already within the teams working in Portugal.

The areas covered range from Ordinary Differential Equations; Dynamical Systems, Partial Differential Equations; Optimization; Numerical Analysis; Homegenization; Calculus of Variations; Nonlinear Continuum Mechanics; to Epidemiology; Population Dynamics; Molecular Geometry; Material Science; Bone Remodeling; Numerical Analysis and Design of Bone Prosthesis and Implants; Computer Simulation of the Mechanics of Soft Tissues and Muscles and Computer Simulation of the Heart and Circulatory System.

It is expected that a large number of graduate students and researchers not only from mathematics and biology, but also from engineering, physics and chemistry, may have the opportunity of exchanging their views and knowledge in order to establish a solid and fruitful collaboration in the near future.