

# Summer School and Conference on Dynamical Systems

18 July - 6 August 2004  
Miramare, Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics is organizing a **Summer School and Conference on Dynamical Systems** from 18 July to 6 August 2004. It will be directed by Professors **M. Viana** (IMPA, Rio de Janeiro, Brazil), and **J.-C. Yoccoz** (Collège de France, Paris). Honorary Directors, Professors **J. Palis** (IMPA, Rio de Janeiro, Brazil), **Ya. Sinai** (Princeton University, U.S.A., & Landau Institute for Theoretical Physics, Moscow, Russia).

Local Organiser: **B. Fantechi** (SISSA, Trieste)

The main topics to be covered will be:

- *Chaotic Dynamics: Homoclinic Bifurcations, Attractors and Sinai-Ruelle-Bowen Measures, Stochastic Stability, Generic Systems, Partial Hyperbolicity and Dominated Splitting, Lorenz Attractors*
- *Conservative Dynamics: KAM and Mather Theories, Diffusion in Hamiltonian Systems, Lyapunov Exponents, Billiards, Infinite Dimensional Hamiltonian Systems, Celestial Mechanics*
- *One-dimensional Dynamics: Density of Hyperbolicity, Parametrized Families of Transformations, Stochastic versus Regular Behavior*
- *Complex Dynamics in one and Higher Dimensions, Dynamics of Polynomial Diffeomorphisms*
- *Ergodic Theory and Dynamical Systems Methods applied to Partial Differential Equations, Number Theory, Bio-mathematics.*

The Structure of the Summer School and Conference will be the following:

- The School will take place during the first two weeks and will include 4 Mini-Courses of five hours each
- The Conference will last for the three weeks, with special emphasis during the third week, and will include some 55-60 Invited Lectures + contributed lectures by participants

The Mini-Courses will be the following:

- *Generic Dynamical Systems*, **C. Bonatti**, Dijon, France
- *Polynomial Diffeomorphisms of  $C^n$* , **J. Smillie**, Cornell, USA
- *Interval Exchange Transformations and Moduli Spaces of Abelian Integrals*, **A. Zorich**, Rennes, France
- *Dynamics and Life Sciences*, **K. Sigmund**, Vienna, Austria

Mathematicians from all countries that are members of the United Nations, UNESCO or IAEA may attend the activity. Although the main purpose of the Centre is to help researchers from developing countries, through a programme of training activities within a framework of international co-operation, scientists from developed countries are also welcome to apply. As the activity will be conducted in English, participants should have an adequate working knowledge of this language. Participants should preferably have completed some years of study after a first degree.

Every effort should be made by candidates to secure financial support, especially for their fare (or at least half-fare) from their home country. Limited funds are available for some applicants from developing countries, to be selected by the organizers. Such financial support is intended only for those who are not more than 45 years. There is no registration fee for attending the School. The closing date for submitting requests for participation is **15 March 2004**. The decision of the organizers will be communicated to all candidates as soon as possible thereafter.

The **Application Form** is obtainable via the WWW server:  
<http://agenda.ictp.trieste.it/smr.php?1573>

or from the activity secretary. It should be completed, signed and returned to:

The Abdus Salam International Centre for Theoretical Physics  
Summer School and Conference on Dynamical Systems  
SMR 1573, (c/o Ms. P. Wardell)  
Strada Costiera 11, I-34014 Trieste  
Italy

or [smr1573@ictp.trieste.it](mailto:smr1573@ictp.trieste.it) (please save and send file attachments in RTF format)

Telephone: +39 - 040 - 2240576      Telefax: +39 - 040 - 2240585      Email: [wardell@ictp.trieste.it](mailto:wardell@ictp.trieste.it)  
ICTP Home Page: <http://www.ictp.trieste.it/>

Trieste, November 2003

## Honorary Directors

**J. Palis**                      Brazil  
**Ya. Sinai**                    U.S.A./Russia

## Directors

**M. Viana**                    Brazil  
**J.-C. Yoccoz**                France

## Main Lecturers/ Invited Speakers      will include

**A. Avila**,                      Jussieu, France  
**V. Baladi**,                    Jussieu, France  
**M. Benedicks**,              KTH, Stockholm  
**C. Bonatti**,                    Dijon, France  
**S. Crovisier**,                Dijon, France  
**W. de Meo**                    IMPA, Brazil  
**L. J. Diaz**,                    PUC-Rio, Brazil  
**D. Dolgopyat**,                Maryland, USA  
**H. Eliasson**,                Jussieu, France  
**G. Forni**,                      Orsay, France  
**X. Gomez-Mont**,            Guanajuato, Mexico  
**S. Hayashi**,                Tokyo, Japan  
**Yu Il'Yashenko**,            Moscow, Russia  
**V. Kaloshin**,                Caltech, USA  
**K. Khanin**,                    Cambridge, UK  
**O. Kozlovski**,                Warwick, UK  
**R. Krikorian**,                Paris, France  
**S. Kuksin**,                    Edinburgh, UK  
**M. Lyubich**,                Toronto, Canada  
**R. MacKay**,                Warwick, UK  
**G. Margulis**,                Yale, USA  
**S. Marmi**,                      Pisa, Italy  
**J. Mather**,                    Princeton, USA  
**J. Milnor**,                    Stonybrook, USA  
**C.G. Moreira**,              IMPA, Brazil  
**A. Neishtadt**,                Moscow, Russia  
**S. Newhouse**,                Michigan, USA  
**M. J. Pacifico**,              UFRJ, Brazil  
**F. Przytycki**,                Polish Acad. Scis.  
**E. Pujals**,                    IMPA, Brazil  
**D. Ruelle**,                    IHES, France  
**J. Seade**,                    Cuernavaca, Mexico  
**W. Shen**,                    Warwick, UK  
**M. Shishikura**,            Kyoto, Japan  
**K. Sigmund**                Vienna, Austria  
**J. Smillie**                    Cornell, USA  
**D. Szasz**,                    Budapest, Hungary  
**F. Takens**,                    Groningen, Holland  
**D. Treschev**,                Moscow, Russia  
**M. Tsuji**,                    Hokaido, Japan  
**S. van Strien**,              Warwick, UK  
**A. Verjovski**,                Cuernavaca, Mexico  
**A. Wilkinson**,              Northwestern, USA  
**L-S Young**,                    Courant, USA  
**A. Zorich**,                    Vienna, Austria

## Application Deadline

**15 MARCH 2004**

