



The Abdus Salam  
**International Centre  
for Theoretical Physics**  
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# SCHOOL AND CONFERENCE IN DYNAMICAL SYSTEMS

20 July - 7 August 2015

ICTP, Miramare - Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP) is organizing a "School and Conference in Dynamical Systems". The activity will be held **from 20 July to 7 August 2015**, in Trieste, Italy. It will be directed by S. **Luzzatto** (ICTP, Trieste, Italy), M. **Viana** (IMPA, Rio de Janeiro, Brazil) and J.-C. **Yoccoz** (Collège de France, Paris, France).

## TOPICS

- **Chaotic dynamics:** homoclinic bifurcations, attractors, generic systems, partial hyperbolicity and dominated splitting, Lorenz attractors.
- **Conservative dynamics:** KAM and Aubry-Mather theories, diffusion in Hamiltonian systems, billiards, infinite dimensional systems, celestial mechanics.
- **Ergodic Theory:** Sinai-Ruelle-Bowen measures, stochastic stability, Lyapunov exponents, linear cocycles, spectral theory of Schrodinger operators, recurrence and applications to Number Theory.
- **Geometric, algebraic, and topological aspects of Dynamics:** smooth group actions, knots and braids, commutators.
- **One-dimensional dynamics:** density of hyperbolicity, parametrized families of transformations, stochastic versus regular behavior.

During the **two first weeks (20-31 July)**: courses on the following topics will be delivered:

### Applications of homogeneous dynamics: from number theory to statistical mechanics

*Jens Marklof (University of Bristol)/ Andreas Strömbergsson (Uppsala University)*

### Renormalization in low dimensional dynamics

*Marco Martens (SUNY at Stony Brook)*

### Partially hyperbolic diffeomorphisms

*Sylvain Crovisier (Université Paris 13)/ Rafael Potrie (CMAT)*

**The second and third week will be a conference.** The invited speakers will include some of the best experts in the field as well as brilliant young researchers. They will provide the participants with some of the most recent and most interesting perspectives for future research.

Up to date information about the program of the school and conference can be found at the activity website <http://indico.ictp.it/event/a14293/>

## PARTICIPATION

Mathematicians from all countries that are members of the United Nations, UNESCO or IAEA may attend the Activity.

Scientific background on the area of the School and Conference is essential.

## HOW TO APPLY FOR PARTICIPATION

Applicants should apply online, at the activity website:

<http://indico.ictp.it/event/a14293/>

Deadline for receiving applications: 15 March 2015.

### Activity Secretariat:

The Abdus Salam International Centre for Theoretical Physics (ICTP)  
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ICTP Home Page: <http://www.ictp.it>

Trieste, November 2014



Co-sponsored by



## INVITED LECTURERS

Jens MARKLOF (Univ. of Bristol)  
Marco MARTENS (Stony Brook Univ.)  
Sylvain CROVISIER (Univ. Paris 13)  
Rafael POTRIE (CMAT)  
Andreas STRÖMBERGSSON (Uppsala Univ.)

## INVITED SPEAKERS

Marco ABATE (Univ. of Pisa)  
Jose Ferreira ALVES (Univ. of Porto)  
Idris ASSANI (UNC)  
Artur AVILA (IMPA/Paris-CNRS)  
Michael BENEDICKS (KTH)  
Henk BRUIN (Univ. of Vienna)  
Alexander I.BUFETOV (Steklov Math. Institute)  
David BURGUET (Univ. Pierre et Marie Curie)  
Keith BURNS (Northwestern Univ.)  
Jérôme BUZZI (Dép. de Math. d'Orsay)  
Wellington DE MELO (IMPA)  
Lorenzo J DÍAZ (PUC-Rio)  
Hakan ELIASSON (IAS)  
Albert FATHI (Ens de Lyon)  
Bassam R. FAYAD (Université Paris 13)  
Shaobo GAN (Peking Univ.)  
Andy HAMMERLINDL (Univ. New South Wales)  
Vanderlei Minori HORITA (UNESP)  
Vadim KALOSHIN (Univ. of Maryland)  
Konstantin KHANIN (Univ. of Toronto)  
François LEDRAPPIER (Univ. of Notre Dame)  
Yuri LIMA (Univ. of Maryland)  
Carlangelo LIVERANI (Univ. Roma T. Vergata)  
Stefano MARMI (Scuola Normale Superiore)  
Carlos Santos MATHEUS (IMPA)  
Carlos MOREIRA (IMPA)  
Andrés NAVAS FLORES (USACH)  
Sheldon E NEWHOUSE (Michigan State Univ.)  
Krerley OLIVEIRA (Univ. Federal de Alagoas)  
Maria José PACIFICO (UFRJ)  
Yakov PESIN (The Pennsylvania State Univ.)  
Vilton Jeovan Viana PINHEIRO (UFBA)  
Gabriella PINZARI (Univ. Napoli Federico II)  
Mark POLLICOTT (Univ. of Warwick)  
Mario PONCE (Univ. Católica Chile)  
Enrique PUJALS (IMPA)  
Juan RIVERA-LETELIER (Univ. Católica Chile)  
Jana RODRIGUEZ-HERTZ (Univ. Montevideo)  
Federico RODRIGUEZ-HERTZ (Penn State)  
Omri SARIG (The Weizmann Inst. for Science)  
Weixao SHEN (Univ. of Singapore)  
Mitsuhiro SHISHIKURA (Kyoto Univ.)  
Wenxiang SUN (Peking Univ.)  
Domokos SZASZ (Hungarian Acad. of Sciences)  
Ali TAHZIBI (ICMC-USP)  
Masato TSUJII (Kyushu Univ.)  
Corinna ULCIGRAI (Univ. of Bristol)  
Raúl URES (Univ. de la Re. Uruguay)  
Sebastian VAN STRIEN (Imperial C. London)  
Lan WEN (Peking Univ.)  
Anton ZORICH (Univ. de Rennes 1)

**DEADLINE: MARCH 15, 2015**