



The Abdus Salam  
**International Centre  
for Theoretical Physics**

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# School on Algebraic, Geometric and Probabilistic Aspect of Dynamical Systems and Control Theory

4 - 15 July 2016  
Miramare, Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP), in collaboration with International School for Advanced Studies - Trieste (SISSA), is organizing a **School on Algebraic, Geometric and Probabilistic Aspect of Dynamical Systems and Control Theory**, which will be held at ICTP, Trieste, Italy, from 4 to 15 July 2016.

Analyzing the interplay between different sub areas of mathematics is one of the fascinating goals of researchers in this area. The ideas from probability theory and algebra are ubiquitous in ergodic theory of dynamical systems. The deep works of many dynamicists had proved the power of ergodic theory methods to solve celebrated problems in number theory and algebra. The aim of this workshop is to gather some of the experts of these areas and discuss recent developments with mostly young researchers.

The workshop will consist of long courses, invited and contributed talks, as well as an open problem session and a poster session. The idea is to have sufficient time to have discussion sections with students and post-docs and help young researchers to define new projects.

## MINICOURSES

- Counting Techniques (*S. Filip*)
- Introduction to smooth group actions and rigidity (*F. Hertz*)
- Symbolic dynamics for low-dimensional systems with positive entropy (*Y. Lima*)
- Dynamics of group actions on homogeneous spaces (*A. Mohammadi*)
- Spectrum in parabolic dynamics (*B. Solomyak*)
- Brownian motion, evolving geometries and entropy formulas (*A. Thalmaier*)

This project has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 research and innovation programme under grant agreement No 647133 (ICHAOS).

## GRANTS

A limited number of grants are available to support the travel and living expenses of selected participants, with priority given to participants working in a developing country and who are at the early stages of their career.

## HOW TO APPLY FOR PARTICIPATION

The online application form can be accessed on the activity's website:  
<http://indico.ictp.it/event/7647/>

Once in the website, comprehensive instructions will guide you step-by-step, on how to fill out and submit the application form.

## ACTIVITY SECRETARIAT:

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## Co-Sponsors

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## Local Organizer

**Stefano LUZZATTO**

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## Lecturers

**Simion FILIP**

(University of Chicago, USA)

**Federico HERTZ**

(The Pennsylvania State University, USA)

**Yuri LIMA**

(Paris Sud University, France)

**Amir MOHAMMADI**

(The University of Texas at Austin, USA)

**Boris SOLOMYAK**

(Bar-Ilan University, Israel)

**Anton THALMAIER**

(University of Luxembourg)

## Speakers

**José F. ALVES**

(University of Porto, Portugal)

**Rostislav GRIGORCHUK**

(Texas A&M University, USA)

**Francois LEDRAPPIER**

(University of Notre Dame, USA)

**Hirofumi OSADA**

(Kyushu University, Japan)

**Yanqi QIU**

(CNRS, France)

**Anton ZORICH** (tbc)

(Institut de Mathématiques de Jussieu, France)

## DEADLINE:

**15 MARCH 2016**

