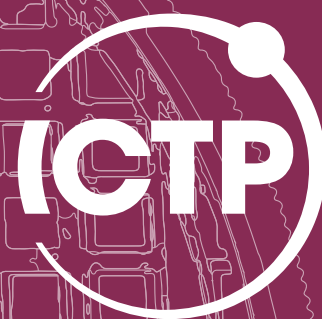


School and Workshop on Random Matrix Theory, Point Processes, Mixing and Control



16 - 27 September 2019
Trieste, Italy

Further information:
<http://indico.ictp.it/event/8720/smr3324@ictp.it>

The topics to be discussed at the activity are at the forefront of current research in Random Matrix Theory, Point Processes, Dynamical Systems and Control Theory.

One of the main goals of the School and Workshop is to bring this material to both established and young mathematicians from all developing countries. Mini courses will be given as well as more advanced research seminars.

The activity will be organized as two thematic weeks on interrelated topics. Each week will consist of one or two mini courses and some seminar speakers.

Description:

Week 1: Mixing and Control

- Central topic is the study, with the help of the mathematical control theory, of ergodic and mixing properties of dynamical systems stochastically perturbed by a very degenerate noise. This concerns the systems governed by nonlinear PDEs and ODEs. We also plan to discuss mathematical aspects of the non-equilibrium statistical physics and some other topics.

Week 2: Random Matrix Theory and Point Processes

- The second week will focus on point processes arising in the study of random matrices such as determinantal point processes. These point processes satisfy the Kolmogorov 0-1 Law and the Central Limit Theorem of Soshnikov, are rigid in the sense of Ghosh and Peres and obey an analogue of the De Finetti Theorem. Palm-Khintchine theory for our point processes will be emphasized, as well as the connection with the theory of integrable systems. Numerous open problems will be discussed, in particular, those related to pfaffian point processes.

Topics:

- Point process;
- Random matrices;
- Integrable probability;
- Integrable systems;
- Mixing;
- Stationary measure;
- Markov systems;
- Nonholonomic constraints;
- Controllability.

Organizers:

A. Agrachev, SISSA, Trieste
A. Bufetov, Marseille & Steklov Institute
T. Grava, SISSA & Bristol
A. Guionnet, ENS Lyon
S. Kuksin, Paris & Shandong University

Local Organizer:

S. Luzzatto, ICTP, Trieste

Lecturers:

A. Agrachev, SISSA, Trieste
A. Bufetov, Marseille & Steklov Institute
A. Guionnet, ENS Lyon
S. Kuksin, Paris & Shandong University

Speakers:

F. Augeri, Weizmann, Israel
F. Baudoin, Purdue Univ.
C. Bordenave, Toulouse, France
U. Boscaïn, CNRS, Sorbonne Univ.
A. Bufetov, MIT, U.S.A.
M. Cafasso, Angers, France
*I. Corwin, Columbia University
N. Cuneo, University Paris-Diderot
A. de Bouard, Ecole Polytechnique
A. Debussche, ENS Rennes
A. Dymov, Steklov Institute, Moscow
*J-P. Eckmann, University of Geneva
*L. Erdős, Wien, Austria
N. Glatt-Holtz, Tulane University
H. Guan, Tsinghua University
V. Jaksitch, McGill University
I. Krasovsky, Imperial College, London.
M. Krishnapur, Bangalore, India
*A. Kupiainen, University of Helsinki
K. Mc Laughlin, Colorado State University
V. Nersisyan, University of Versailles
P. Nikitin, Steklov, St. Petersburg
G. Olshanski, ITP, RAS, Russia
S. Peche, LPSM, Paris, France
Y. Qiu, CNRS, France
A. Ramirez, Pontificia Universidad Catolica de Chile
R. Raquenas, University Grenoble Alpes (Institut Fourier)
T. Sasamoto, Chiba, Japan
M. Shcherbina, Kharkov, Ukraine
A. Shirikyan, Cergy-Pontoise
N. Tzvetkov, University of Cergy Pontoise
A. Veselov, Loughborough University, U.K.
*H-T. Yau, Harvard, U.S.A.

* to be confirmed

How to apply:

Online application:
<http://indico.ictp.it/event/8720/>

Female students and scientists are encouraged to apply.

Grants:

A limited number of grants are available to support the attendance of selected participants, with priority given to participants from developing countries. There is no registration fee.

Deadline:

15 May 2019



The Abdus Salam
**International Centre
for Theoretical Physics**
www.ictp.it
Trieste, Italy

