

# Summer School in Dynamics



**16 - 27 July 2018**  
**Trieste, Italy**

Further information:  
<http://indico.ictp.it/event/8325/>  
[smr3226@ictp.it](mailto:smr3226@ictp.it)

## A circle of concepts and methods in dynamics

Dynamical Systems and Ergodic Theory constitute a vibrant and exciting field of current research in pure mathematics, at the crossroad between analysis, probability and geometry. Several Fields Medals have been awarded in the area.

### Description:

The School on Dynamical Systems will include introductory courses.

#### Week 1:

Specifically aimed at masters students and beginning PhD students, introducing a variety of fundamental ideas and techniques in the simple setting of circle maps.

#### Week 2:

Will consist of more advanced courses which will build on the introductory courses and give some ideas of current directions of research.

Tutorial and exercise sessions will be held regularly. Activities directed to encourage and support women in mathematics, such as panel discussions and small groups mentoring and networking, will be organized during the event.

Applications from female candidates are strongly encouraged. A number of travel fellowships for female participants will be available

### Topics:

#### Week 1: Circle Maps

- Rotation Numbers;
- Distortion control;
- Structural stability;
- Renormalization and continued fractions;
- Symbolic dynamics and Sturmian sequences;
- Introduction to ergodic theory.  
(Invariant measures, ergodicity and Birkhoff ergodic theorem).

#### Week 2: Advanced courses

- Hyperbolicity;
- Ergodicity;
- Renormalization for flat surfaces and interval exchange maps.

## Organizers and Lecturers:

J. RODRIGUEZ-HERTZ, Shenzhen, China  
C. ULCIGRAI, Bristol University, U.K.  
A. WILKINSON, Chicago University, U.S.A.

## Local Organizer:

S. LUZZATTO, ICTP, Trieste, Italy

## Tutors:

O. BUTTERLEY, ICTP, Trieste, Italy  
I. PASQUINELLI, Durham University, U.K.  
D. RAVOTTI, Bristol University, U.K.  
L. SIMONELLI, ICTP, Trieste, Italy  
K. WAR, Bochum University, Germany

## How to apply:

Online application:  
<http://indico.ictp.it/event/8325/>

Female 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:

**2 April 2018**



The Abdus Salam  
International Centre  
for Theoretical Physics  
[www.ictp.it](http://www.ictp.it)  
Trieste, Italy

