School/Workshop on Wave Dynamics: Turbulent vs Integrable Effects

28 August - 1 September 2023
An ICTP Meeting
Trieste, Italy

Further information:
http://indico.ictp.it/event/10203/
smr3869@ictp.it

The insurgence of turbulent vs integrable behavior is a classical topic of fundamental importance in physics and mathematics. The goal of this school/workshop is to bring together different communities working in nearby topics of wave dynamics to foster interactions which can benefit each group.

Description:

The relevant equations describing these phenomena come from dispersive partial differential equations and fluid dynamics, describing propagation and interaction of nonlinear wave phenomena in dispersive media, encompassing both dynamic and stochastic aspects of wave propagation.

Recently, several theoretical and experimental outcomes in the field of dispersive and fluids equations have opened up new areas for research, with intriguing open issues in both theory and applications.

On one side, experimental and theoretical physicists working on insurgence of turbulent dynamics, rogue wave formations, experimental fluid dynamics.

On the other side, mathematicians working analytically on integrable systems, soliton gases, stability and perturbation theory, KAM and normal forms of dispersive and fluids equations, and rigorous derivations of wave kinetic equations and (generalized) hydrodynamic equations.

Topics:

- Turbulent dynamics and wave kinetic equations
- Rogue wave formations
- Fluid dynamics
- Soliton gas and generalized hydrodynamic
- KAM theory and normal forms

How to apply:

Online application:
http://indico.ictp.it/event/10203/

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.

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SISSA

Directors:

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Local Organiser:

S. LUZZATTO, ICTP, Italy

School Lecturers:

G. DEMATTEIS, Woods Hole Oceanographic Institution, USA
G. EL, University of Northumbria, UK
Z. HANI, University of Michigan, USA
R. JENKINS, University of Central Florida, USA
K. MCLAUGHLIN, Tulane University, USA
S. NAZARENKO, Insitute de Physique de Nice, France
G. STAFFILANI, MIT, USA

Speakers:

M. BERTOLA, Concordia University, Canada
G. BIONDINI, University of Buffalo, USA
A. DHAR, ICTS-TIFR, Bengaluru, India
L. FRANZOI, NYU Abu Dhabi, UAE
R. GRANDE, ENS Paris, France
Z. HASSAINA, NYU Abu Dhabi, UAE
R. LUCA, BECAM Bilbao, Spain
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B. PRINARI, University of Buffalo, USA
M. PROCESI, Roma 3, Italy
P. SURET, University of Lille, France
F. J. TORRES DE LIZAUR, University of Seville, Spain

Deadline:

15 May 2023

The Abdus Salam International Centre for Theoretical Physics
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Trieste, Italy