



The Abdus Salam  
International Centre for Theoretical Physics



# 2<sup>ND</sup> INTERNATIONAL CONFERENCE AND ADVANCED SCHOOL ON TURBULENT MIXING AND BEYOND

27 July - 7 August 2009

Miramare, Trieste, Italy

**The Goals of the International Conference and the Advanced School** are to expose the generic problem of Non-equilibrium Turbulent Processes and Turbulent Mixing to a wide scientific community, to promote the development of new ideas in tackling the fundamental aspects of the problem, to assist in application of novel approaches in a broad range of phenomena, where the turbulent processes occur, and to have a potential impact on technology.

**Non-equilibrium turbulent processes** play a key role in a wide variety of natural and artificial systems, ranging from astrophysical to atomistic scales, under both high and low energy density conditions. Examples include inertial confinement, heavy ion and magnetic fusions, light-matter interaction, high strain rates deformation of materials and nano-electronics, shocks and explosions, supernovae and accretion disks, stellar non-Boussinesq and magneto-convection, planetary interiors and mantle-lithosphere tectonics, combustion, oceanography and atmospheric flows, unsteady boundary layers and scramjets, hypersonic and supersonic flows. Our ability to comprehend and control non-equilibrium turbulent transports is vital in cutting-edge industrial applications in aeronautics and aerodynamics, laser micro-machining and free-space optical communication.

## TOPICS AND STRUCTURE

**The Activity will offer the opportunity** to bring together seasoned scientists and young researchers from developed and developing countries and from the areas, which include but are not limited to fluid dynamics, plasmas, combustion and reactive media, high energy density physics, material science, applied mathematics, probability, statistics, optics, telecommunications, earth science, geophysics, astrophysics and planetary science, and to have their attention focused on the long-standing formidable task of non-equilibrium turbulent processes.

**TMB-2009 will be structured** to encourage the participants' communications with experts from different fields, to promote the exchange of ideas and suggestion of open problems, and to motivate the discussions of rigorous mathematical issues, theoretical approaches and state-of-the-art numerical simulations along with advanced experimental techniques and technological applications.

## PARTICIPATION

Scientists and students from all countries which are members of the United Nations, UNESCO or IAEA may attend the activity. As it will be conducted in English, participants should have an adequate working knowledge of this language. Although the main purpose of the Centre is to help research workers from developing countries, through a programme of training activities within a framework of international cooperation, students and post-doctoral scientists from developed countries are also welcome to attend.

As a rule, travel and subsistence expenses of the participants should be borne by the home institution. Every effort should be made by candidates to secure support for their fare (or at least half-fare). However, limited funds are available for some participants from developing countries, to be selected by the organizers. There is no registration fee.

## HOW TO APPLY FOR PARTICIPATION

The application form can be accessed at the activity website:

<http://agenda.ictp.it/smr.php?2049>

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

Telephone: +39-040-2240226

Telefax: +39-040-22407226

E-mail: [smr2049@ictp.it](mailto:smr2049@ictp.it)

ICTP Home Page: <http://www.ictp.it>



## Co-SPONSORS

*To be announced  
on the web-site*

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## INVITED SPEAKERS AND LECTURERS

*To be announced  
on the web-site*

## APPLICATION DEADLINE

**30 March 2009**