

# INTRODUCTION TO Microfluidics

**8 - 26 August 2005**

**Miramare, Trieste, Italy**

## TOPICS:

- Introduction to fluid mechanics in micro/nano-scales
- Modeling
- Two-phase flows
- Micromixing
- Elements of microfluidic systems
- Microreactors
- Bio-chemical systems and instrumentation (lab-on-a-chip and  $\mu$ TAS)
- Measurements in microfluidic systems
- Applications of microfluidics in various industries
- Fabrication technologies for microfluidics
- Research topics in microfluidics

The purpose of this School is to provide an introduction to the flow of fluids in micro/nano-devices with examples chosen from a variety of areas such as biotechnology (lab-on-a-chip and  $\mu$ TAS), chemical and aerospace engineering. Although the applications of microfluidics are in a wide range of areas, the fundamental principles of their operation are governed by fluid mechanics: flow in micro/nano channels, mixing and methods of driving such flows. Examples of microfluidic devices and systems covering a broad spectrum of applications will also be discussed in this School. It is open to graduate students and young researchers interested in the field, with backgrounds in science and engineering.

## **PARTICIPATION**

Scientists and students from all countries which are members of the United Nations, UNESCO or IAEA may attend the School. 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.

The **Application Form** is obtainable from the ICTP WWW server: <http://agenda.ictp.trieste.it/smr.php?1670> (which will be constantly updated) or from the activity Secretariat. It should be completed and returned before **31 March 2005** to:

**Introduction to Microfluidics**  
(smr 1670) (c/o Ms. Suzie Radosic)  
the Abdus Salam International Centre for Theoretical Physics  
Strada Costiera 11, 34014 Trieste, Italy.

or  
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## **APPLICATION DEADLINE**

**31 March 2005**