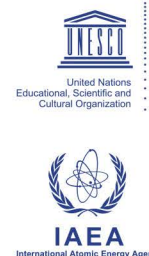




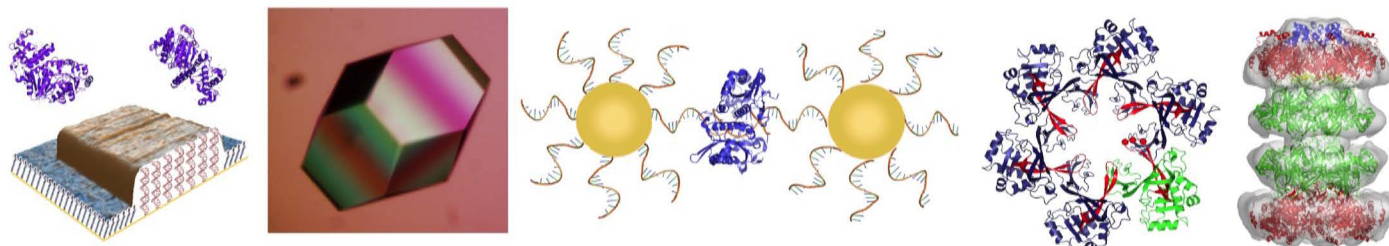
The Abdus Salam  
**International Centre  
for Theoretical Physics**  
www.ictp.it



*Advanced School on*  
**Synchrotron Radiation Techniques and Nanotechnology:  
A Synergic Approach to Life Sciences and Medicine**

**(11 - 22 November 2013)**

*iThemba Labs. - National Research Foundation (SA)  
Cape Town Campus, Stellenbosch, South Africa*



The Abdus Salam International Centre for Theoretical Physics (ICTP, Trieste, Italy), in cooperation with iThemba Labs - National Research Foundation (SA) Cape Town Campus, Stellenbosch, South Africa is organizing an Advanced School on Synchrotron Radiation Techniques and Nanotechnology: A Synergic Approach to Life Sciences and Medicine to be held in Cape Town, Stellenbosch, South Africa.

In the post-genomic era the emphasis has shifted from genes to proteins and to the understanding of their structure and biological function. The rapid development of nano-sciences has made available a new range of tools and approaches that have revolutionized biological and medical research, by allowing scientist to manipulate nano-particles and macromolecular objects and to monitor the behaviour of single molecules. Not only is this having a great impact on basic biological research, but its applications have become a driving and innovative force in the modern economic and industrial framework, particularly for health and biotechnology.

**Topics will include: Macromolecular crystallography, Single particle electron microscopy, Small angle X-ray scattering, Computational biology, Nano-biophysics, High resolution atomic force microscopy, Nano-mechanics and tissue engineering.**

The aim of the school is to introduce young researchers to the latest developments in the field of structural biology, nano-biophysics and nano-medicine and to their revolutionary impact on biotechnology, pharmacology and early diagnostics of widespread diseases. Potential applications range from low-cost diagnostic tools and therapeutics for neglected diseases (such as malaria, Dengue, AIDS) to the development of local biotechnology industry. A few practical sessions will provide the students with some hands-on experience in some of the subjects covered by the lectures.

**PARTICIPATION:**

Scientists and students from all countries that are members of the United Nations, UNESCO or IAEA may attend, with particular emphasis on scientists coming from South Africa and other African countries. As the event 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, a limited number of 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 their home institution. Every effort should be made by candidates to secure support for their fare. However, very limited funds are available for partial support of some participants, who are nationals of, and working in, a developing country, and who are not more than 45 years old. Such support is available only for those who attend the entire Workshop. There is no registration fee for attending this activity.

**HOW TO APPLY FOR PARTICIPATION**

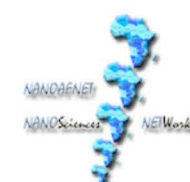
An Online Application Form can be accessed through the School website

<http://agenda.ictp.it/smr.php?2516>

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

(Due to logistic laboratory reasons this activity has "limited participation")

**Deadline for Application: 9 AUGUST 2013**



**SCIENTIFIC ADVISORY BOARD**

**Loredana CASALIS**

(Elettra-Sincrotrone Trieste, Italy)

**Alessandro LAIO**

(SISSA, Trieste, Italy)

**Malik MAAZA**

(iThemba Labs Cape Town, South Africa)

**Joseph NIEMELA**

(ICTP, Trieste, Italy)

**Silvia ONESTI**

(Elettra-Sincrotrone Trieste, Italy)

**Iqbal PARKER**

(ICGEB, Cape Town, South Africa)

**Wolf-Dieter SCHUBERT**

(Western Cape Univ., South Africa)

**Giacinto SCOLES**

(University of Udine, Italy)

**INVITED SPEAKERS:**

**Heinz AMENITSCH**

(Graz, Austria)

**Laura BALLERINI**

(Trieste, Italy)

**Daniela CESELLI**

(Udine, Italy)

**Majed CHERGUI**

(Lausanne, Switzerland)

**Alberto DIASPRO**

(Genova, Italy)

**Julio FERNANDEZ**

(New York, U.S.A.)

**Wim HOL**

(Seattle, U.S.A.)

**Musa MHLANGA**

(Pretoria, South Africa)

**Glaucius OLIVA**

(San Paolo, Brazil)

**Menico RIZZI**

(Novara, Italy)

**Helen SAIBIL**

(London, U.K.)

**Trevor SEWELL**

(Cape Town, South Africa)

**Dimitri SVERGUN**

(Hamburg, Germany)

**Viola VOGEL**

(Zurich, Switzerland)