The Abdus Salam
International Centre for Theoretical Physics

United Nations
Educational, Scientific
and Cultural Organization

International Atomic
Energy Agency

WORKSHOP ON

BIOMEDICAL APPLICATIONS OF HIGH ENERGY ION BEAMS

12-16 February 2007

Miramare - Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP) will organise the **Workshop on Biomedical Applications of High Energy Ion Beams**, *to be held in Trieste* **from 12-16 February 2007.**

Research using ion beams at the interface between the physical sciences, biology and medicine is a rapidly advancing and exciting field that will have enormous future impact. There are huge ranges of applications; including micro and nano analysis; tissue scaffolding; the response of cells to ion radiation and using ion beams as an effective treatment for cancer. These subjects intermesh and overlap over the range of ion energies. It is only by seeing the whole picture that a proper appreciation of the subject and the complementarities of its different themes can be gained, this will enable new synergies and research directions to be developed.

This Workshop aims to promote the advancement of common research interests through a cross-fertilization of knowledge, to bridge the divides between the various disparate research communities. It aims to bring together, in a common forum, complementary experience and scientific expertise from senior scientists from a wide range of disciplines and to impart the necessary knowledge to scientists and students about a subject outside their normal discipline area. Through this training and interaction, the breadth and depth of research knowledge and collaborations will be expanded, enhancing advanced research at the interface between nuclear physics, biology, and medicine.

The topics covered by the Workshop include:

•Technology of focused micro and nano beams• - •Interaction mechanisms and responses of cells and tissue to nuclear radiations• - •Active trace elements influencing the physiological and biochemical mechanisms in cells and tissues• - •Clinical applications of ion beams• - •in silico modelling of the response of tumours to radiation• - •Applications of ion beams in cancer pharmacology, tissue engineering, etc.• - •Ion beams studies of micro-organisms and plant biology• - •Emerging applications in nano-biotechnology• - •Challenges in current and future research and *how to make* multidisciplinary research work•

Students and young scientists from all countries that are members of the UN, UNESCO or IAEA can attend the Workshop. The main purpose of the Centre is to help researchers from developing countries through a programme of training activities within a framework of international co-operation. However, scientists from developed countries are also strongly encouraged to apply. This course is specially meant for strongly motivated graduate students and young post-doctoral scientists. Logistics limit the number of participants to 75-80.
Limited funds are available for some applicants from developing countries, to be selected by the organizers. Every effort should be made by candidates to secure support for their fares (or at least half-fare) from their home country. Such financial support is available only to those attending the entire activity. ***There is no registration fee for attending the Workshop****.*

Application forms for the Workshop can be found on the Web server of ICTP at:
http://cdsagenda5.ictp.trieste.it/full_display.php?smr=0&ida=a06182

The closing date for receipt of applications for participation is 31 October 2006.

Those wishing to participate should fully complete and sign the Request for Participation form available from the ICTP WWW server and send by mail or FAX to

Workshop on
Biomedical Applications of High Energy Ion Beams (smr1828)
The Abdus Salam International Centre for Theoretical Physics
Strada Costiera 11
34014 Trieste, Italy

If sending an application by e-mail: smr1828@ictp.it
(Please save and send file attachments in RTF or PDF)

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DEADLINE

for requesting participation

31 October 2006