



The Abdus Salam
International Centre for Theoretical Physics



JOINT ICTP-IAEA INTERNATIONAL
TRAINING WORKSHOP ON
**TRANSITIONING FROM 2D TO 3D
CONFORMAL RADIOTHERAPY
AND INTENSITY MODULATED
RADIATION THERAPY**

10 - 14 December 2012

Miramare, Trieste, Italy

Advances in computer technology have enabled the possibility of transitioning from basic 2-D treatment planning and delivery to a more sophisticated approach with 3-D conformal radiotherapy (CRT). Medical physicists play an important role in the safe and effective delivery of treatments in radiation oncology. Whereas 2-D radiotherapy techniques can be applied with simple equipment, infrastructure and training, the transition to 3-D CRT requires more resources in technology, equipment, staff and training.

In addition, a novel radiation treatment approach using intensity modulated radiotherapy (IMRT) that optimizes the delivery of radiation to irregularly shaped tumour volumes demands even more sophisticated equipment and seamless teamwork, and consequentially requires even more resources, advanced training and more time for treatment planning and verification of dose delivery than 3-D CRT.

This one-week training workshop aims to offer participants involved in the development and management of radiation oncology medical physics programs, with an overview of the criteria, milestones and practical implications of a transition from the 2-D conventional approach in order to achieve high precision.

PARTICIPATION

This course seeks to target clinical radiotherapy medical physicists with experience in 2-D radiotherapy who plan to transition to 3-D CRT in the near future. It will also provide medical physicists who are familiar with 3D CRT, with an introduction to IMRT implementation. Scientists and students from all countries which are members of the United Nations, UNESCO or IAEA may attend the course. 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?2378>.

The IAEA self-assessment questionnaire should also be completed.

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

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Co-Sponsors

AAPM

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DIRECTORS

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Debbie van der Merwe (IAEA)

LOCAL ORGANIZER

Luciano Bertocchi (ICTP)

TOPICS

**Milestones in the transition from
2D to 3D and IMRT**

**Cross-sectional imaging and
treatment planning requirements**

**Equipment selection, acceptance
testing and commissioning**

Positioning and immobilization

**Geometrical uncertainties and
treatment margins**

**Treatment prescriptions and
treatment plan evaluation**

**Treatment plan and delivery
verification**

**Quality assurance and data
transfer**

Safety concerns

Case studies

APPLICATION DEADLINE

31 July 2012