



# JOINT ICTP-IAEA TRAINING IN RADIATION PROTECTION FOR PATIENTS

16 – 27 September 2013

*Miramare, Trieste, Italy*

The aim of this course is to provide advanced knowledge to meet the increasing need of radiation protection of patients undergoing diagnostic and therapeutic radiological procedures. The course will:

- disseminate information on challenges in estimating radiation dose to patients in different diagnostic and interventional procedures, compare doses with international standards
- train participants in justification and optimization to reduce patient doses without affecting diagnostic quality
- train participants in protection aspects in radiotherapy and nuclear imaging
- facilitate the creation of a network for the exchange of information on medical radiation protection among medical physicists in developing and developed Member States.

According to the United Nations Scientific Committee on Effects of Atomic Radiation (UNSCEAR) report of 2008, 3.6 billion diagnostic X-ray examinations are performed each year globally and medical exposure accounts for 98 per cent of the contribution from all man-made radiation sources. Further, about 6 million radiotherapy treatments take place annually. It is the largest contributor to the population dose worldwide next only to natural background. Computed tomography (CT) scans are the major contributor, with other major contributions from X-ray based interventional procedures and nuclear medicine studies.

Traditionally, medical physicists have played a significant role in radiation protection activities and have responsibilities under international and national standards. With millions of health professionals involved in the above mentioned billions of imaging examinations and millions of therapeutic applications, the need to develop leadership in radiation protection in medicine with emphasis on patient protection is acute.

## PARTICIPATION

This course would seek to target experienced medical physicists working in hospitals in imaging departments and those involved in imaging in radiotherapy. 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?2485>

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

**ACTIVITY SECRETARIAT: Telephone: +39-040-2240-226**  
**Telefax: +39-040-2240-7226**

**E-mail: [smr2485@ictp.it](mailto:smr2485@ictp.it)**

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

## DIRECTORS

**M. Rehani (IAEA)**

**O. Holmberg (IAEA)**

## LOCAL ORGANIZER

**L. Bertocchi (ICTP)**

## TOPICS

**International system of radiation protection**

**Responsibilities in radiation protection**

**Patient dose assessment in computed Tomography, digital and analogue radiography, interventional procedures, mammography and in nuclear imaging**

**Patient dose management versus image quality**

**Specific issues in radionuclide therapy and radiotherapy**

**Training program development for specific clinical personnel**

**Patient exposure history**

**Reporting system for higher exposures**

**Case studies**

## APPLICATION DEADLINE

**30 June 2013**