



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



COLLEGE ON MEDICAL PHYSICS

**ENHANCING THE ROLE OF PHYSICISTS IN CLINICAL MEDICAL IMAGING:
PROCEDURE OPTIMIZATION, QUALITY ASSURANCE,
RISK MANAGEMENT AND TRAINING**

5 - 23 September 2016

Miramare, Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP), will organize a **College on Medical Physics** to take place from 5 - 23 September 2016. The topic will be: Enhancing the Role of Physicists in Clinical Medical Imaging: Procedure Optimization, Quality Assurance, Risk Management and Training..

OBJECTIVE OF THE COLLEGE ON MEDICAL PHYSICS

The objective of the ICTP College on Medical Physics 2016 is to contribute to the enhancement of the role of physicists in medical imaging by providing education and training in the fields of Procedure Optimization, Quality Assurance and Risk Management, as well as effective methods of knowledge transfer to other colleagues applying this technology in the clinical environment. The College will be especially useful for colleagues from LMI and developing countries. This will be achieved by providing the College participants with specific knowledge and practical training of the effective application of the new medical imaging methods, and also supplying them with and teaching resources which will enable them to understand better and disseminate the knowledge in their countries/regions. Knowledge of physics in the clinical setting is becoming an increasingly critical need because of the complexity of the modern medical imaging procedures that require optimization and risk analysis to achieve appropriate image quality and patient dose. The College participants will be equipped with education and resources focused on the effective and safe clinical application of the main medical imaging modalities.

PROGRAM

The program of the College will consist of lectures, tutorials, interactive discussions and problem solving sessions, focused practical exercise and applied learning experiences. The College on Medical Physics 2016 will include specially designed practical activities at the local hospital as well as PC simulations; it will provide the participants with specific Quality Assurance protocols and methods for Risk management and related calculations. The College will include also a Workshop on Enhancing the Role of Physicists in Medical Imaging with colleagues from the participating countries, which will aim to exchange experience and form future collaborations, specifically relevant to colleagues from developing countries. The College Program will cover the physics of various medical imaging methods (X-ray Diagnostic Radiology, Computed Tomography, Magnetic Resonance and Nuclear Medicine Imaging, with emphasis on:

- Physics principles used in Medical Imaging
- Application methods
- Patient Dose, Image Quality and Parameters.
- Optimization of Imaging Procedures
- Quality Control principles for each Imaging Modality
- Dose Management in Medical Imaging and Radiation Protection
- Evaluation and Analysis of Images in Medical Applications
- Development and Delivery of Highly Effective Educational Activities

PARTICIPATION

Scientists and advanced students from all countries that are members of the United Nations, UNESCO or IAEA may attend the College on Medical Physics. Participants should hold a university degree in physics, engineering, medical physics, or related subjects and have several years of professional experience in medical physics and/or physics/engineering related to medical imaging and healthcare. They are expected to apply acquired knowledge through teaching and working to improve medical imaging in their home countries. The main purpose of the Centre is to help experienced scientists from developing countries, through a programme of training activities within a framework of international cooperation.

However, students and post-doctoral scientists from developed countries are also welcome to attend. As this activity will be conducted in English, participants should have an adequate working knowledge of that language.

As a rule, travel and subsistence expenses of the College 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. Such financial support is available only for those who attend all 3 weeks of the College. There is no registration fee for the College.

HOW TO APPLY FOR PARTICIPATION

The application form can be accessed at the activity website:

<https://e-applications.ictp.it/applicant/login/2813>

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

ACTIVITY SECRETARIAT:

E-mail: smr2813@ictp.it

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

March 2016

DIRECTORS

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APPLICATION DEADLINE

30 April 2016

