



IAEA

Atoms for Peace

الوكالة الدولية للطاقة الذرية

国际原子能机构

International Atomic Energy Agency

Agence Internationale de l'énergie atomique

Международное агентство по атомной энергии

Organismo Internacional de Energía Atómica

National Liaison Officer

Vienna International Centre, PO Box 100, 1400 Vienna, Austria

Phone: (+43 1) 2600 • Fax: (+43 1) 26007

Email: Official.Mail@iaea.org • Internet: <http://www.iaea.org>

In reply please refer to: C7-RER/6/032/001

Dial directly to extension: (+431) 2600-22409

2015-12-18

Subject: Invitation to a Regional Training Course (Joint IAEA-ICTP workshop) on Computed Tomography: Quality Control, Dosimetry and Optimization, Trieste, Italy, from 2 to 13 May 2016

Dear National Liaison Officer,

I am pleased to invite you to send nominations of suitable candidates to participate in the above-mentioned training course under the framework of TC Project RER/6/032 – Strengthening Quality Assurance and Quality Control in Diagnostic X rays: Phase II. The purpose of the training course and related information are outlined in the attached Prospectus.

For candidates who are selected by the IAEA, the IAEA will cover the cost of return international travel from the home country to Trieste, Italy and provide a stipend for the duration of the training course in line with IAEA rules and procedures.

Please submit nominations to the IAEA online through the Technical Cooperation Department's InTouch system (<http://intouch.iaea.org>). Only if this is not possible, nominations may be submitted on the Nomination Form for Training Course available on the IAEA website: <http://www.iaea.org/technicalcooperation/How-to-take-part/train-course/index.html>. Completed forms should be endorsed by relevant national authorities and sent to the Programme Management Officer for this project, Mr Asif Salahuddin (IAEA Official Fax: +43-1-26007 or E-Mail Official.Mail@iaea.org), through the official channels, i.e. the designated National Liaison Office for IAEA matters, not later than **10 February 2016**.

In addition, as mentioned in the attached prospectus, the above applicants must also directly apply to the ICTP: (<http://indico.ictp.it/event/7635/>).

Both the ICTP application and the official nomination to the IAEA are required in order to be considered for participation in the course.

Yours sincerely,

Martin Krause

Director

Division for Europe

Department of Technical Cooperation

Enclosure: Prospectus

International Atomic Energy Agency

Regional Training Course (Joint IAEA-ICTP workshop) on Computed Tomography:
Quality Control, Dosimetry and Optimization

PROSPECTUS

- Project Number & Title:** RER/6/032 - Strengthening Quality Assurance and Quality Control in Diagnostic X rays: Phase II
- Place (City, Country):** Trieste, Italy
- Dates:** 2-13 May 2016
- Deadline for Nominations:** 10 February 2016
- Organizers:** The International Atomic Energy Agency (IAEA) in collaboration with the Government of Italy through Abdus Salam International Centre for Theoretical Physics (ICTP).
- Host Country Organizer:** Mr Luciano Bertocchi
The Abdus Salam International Centre
for Theoretical Physics (ICTP)
Strada Costiera, 11
I-34151 Trieste,
Italy
E-mail: pio@ictp.it
bertocch@ictp.it
- Language:** English
- Purpose:** The purpose of the course is to provide advanced knowledge on the physics and technological innovations in computed tomography (CT), procedures for quality control and dosimetry. The optimization strategies, aiming to achieve diagnostic image quality at lower radiation dose, will be also extensively discussed.
- Expected Output(s):** Medical physicists with advanced training on Quality Control, Dosimetry and Optimization procedures for Computed Tomography
Scientific networks of professionals in the area of Computed Tomography.

Scope and Nature:

The course will be conducted as a Joint IAEA-ICTP Workshop on Computed Tomography: Quality Control, Dosimetry and Optimization. It will consist of lectures and practical exercises. By successful completion of the course, the participants will be able to design and implement QA/QC programs and establish dosimetry and optimization radiology practices related to CT.

Background Information:

Achieving good image quality at lower patient dose became of high importance in the last decades with the new technological development and especially when new generations of multi-detector CT became widely available. The improved diagnostic accuracy and shortened scanning time in CT lead to the global increase of the number of CT examinations, both for adults and children. As noted by UNSCEAR (2008), "the increasing trend in annual CT examination frequency and the significant dose per examination have an important impact on the overall population dose due to medical examinations". CT is already the main contributor to the effective dose from medical exposure, estimated to contribute to 43% of the total dose to the world population. CT imaging is currently an important component, not only in diagnostic radiology, but in all disciplines of radiation medicine. CT has evolved from standalone techniques to combined imaging, used together with single photon emission computed tomography (SPECT) and positron emission tomography (PET) in hybrid systems. In radiation therapy, CT imaging is an indispensable tool for the accurate treatment planning.

While CT is an established technology and modern CT systems are being installed worldwide, there is a significant shortage of clinical medical physicists specialized in the field of diagnostic radiology that are able to adequately support this technology. Because of the rapid technological development in CT, keeping up to date knowledge of clinical specialists is a challenging task. Optimization of CT is a complex and multidisciplinary task, requiring deep knowledge of technology, technical factors affecting image quality and patient dose, clinical purpose and required image quality. Medical physicists are responsible for quality control and dosimetry, and have an important role in optimization of clinical protocols. This course under the umbrella of ICTP and IAEA is expected to contribute to strengthening the qualification of medical physicists working in CT. It will assist in the development of networks of professionals working in CT from different regions.

Participation:

Not more than one participant from each participating country in this project.

Due to the limited number of students that can be hosted and the duration of the course, the total number of participants supported through RER6032 is limited to **ten (10)**.

As the number of participants is limited compared to the number of countries participating in the project, a similar event on CT QA/QC and dosimetry will be organized in 2017 for the countries that will not be able to benefit from this event.

Participants' Qualifications:

This training course would seek to target experienced medical physicists working in hospitals, and teachers involved in medical physics education and postgraduate training from all countries, including developing countries.

As the training course will be conducted in English, participants should have sufficient proficiency to follow lectures and express themselves in this language without difficulty.

Nomination Procedure:

Please submit nominations to the IAEA online through the Technical Cooperation Department's InTouch system (<http://intouch.iaea.org>). Only if this is not possible, nominations may be submitted on the Nomination Form for Training Course available on the IAEA website: <http://www.iaea.org/technicalcooperation/How-to-take-part/train-course/index.html>. Completed forms should be endorsed by relevant national authorities and sent to the Programme Management Officer for this project, Mr Asif Salahuddin (IAEA Official Fax: +43-1-26007 or E-Mail Official.Mail@iaea.org), through the official channels, i.e. the designated National Liaison Office for IAEA matters, not later than **10 February 2016**.

In addition to following the standard IAEA procedure, above applicants must directly apply to the ICTP: (<http://indico.ictp.it/event/7635/>).

Both the ICTP application and the official nomination to the IAEA are required in order to be considered for participation in the course.

Administrative and Financial Arrangements:

Nominating Governments will be informed in due course of the names of the candidates who have been selected and will, at that time, be given full details of the procedures to be followed with regard to administrative and financial matters.

Selected participants from countries eligible to receive technical assistance will be provided with a round trip economy class air ticket from their home countries to **Trieste, Italy**, and a stipend sufficient to cover the cost of their accommodation, food, and minor incidentals. Shipment of accumulated training course materials to the participants' home countries is not the responsibility of the IAEA.

The organizers of the training course do not accept liability for the payment of any cost or compensation that may arise from damage to or loss of personal property, or from illness, injury, disability or death of a participant while he/she is travelling to and from or attending the training course, and it is clearly understood that each Government, in nominating participants, undertakes responsibility for such coverage. Governments would be well advised to take out insurance against these risks.