IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Regional Training Course on Advanced TPS Algorithm Commissioning and Validation

Hosted by

The International Atomic Energy Agency
Dosimetry Laboratory
Seibersdorf, Austria

3-6 March 2025

Ref. No.: TN-TC - RER6040 - EVT2406758

Information Sheet

Purpose

The overall objective of the training course is for Medical Physicists to understand how the beam modelling in the treatment planning system can affect the treatment plans.

Working Language(s)

The working language of the event will be English.

Project Background

In the past there have been accidents and incidents in radiotherapy related to the commissioning of the treatment planning system. This has many consequences as once a treatment planning system has been commissioning it will be used to plan treatments for many patients and so an error can affect many individuals. This training course is aimed at trying to prevent these incidences by teaching the participant how to measure some of the commissioning data, investigate the limitations of the treatment planning system calculation algorithms, discuss some of the parameters in the beam model and how to validate the beam model.

The training course will be held at the IAEA dosimetry laboratory in Seibersdorf and consist of two days of lectures followed by two days of practical sessions. For the practical sessions the participants will be arranged in small groups and perform some small field dosimetry measurements using the Clinical Linac at the dosimetry laboratory, various detectors, film dosimetry and investigate how changing the beam model in the treatment planning system will affect dosimetry measurement.

Scope and Nature

The training course will cover the following:

- Small field dosimetry.
- An understanding of the algorithms used in the treatment planning system and their limitations.
- An overview of the modelling parameters used in the treatment planning system.
- Patient specific QA.
- Film dosimetry.
- How changing the beam model can affect the beam parameters determined in the treatment planning system.

Participation

The event is open to designated national counterparts from the member states participating in RER6040. The candidates should be clinically qualified radiotherapy medical physicists with at least 5 years working in the clinic.

Participants' Qualifications and Experience

This is an advanced training course whose main target audience is clinically qualified medical physicist who have an MSc in Medical Physics and have completed clinical training. The participant should have at least 5 years' experience working as a medical physicist in a radiotherapy department and either have recently commission or are planning to commission a treatment planning system in 2025.

In the application form participants should give details of their qualifications and their experience working in the clinic for the past 5 years. In addition, they should give details of the radiotherapy equipment that they have in the department and the treatment planning system that they have commissioned or are about commission. If no information is provided in the nomination forms, the application will not be considered.

Application Procedure

Candidates wishing to apply for this event should follow the steps below:

1. Access the InTouch+ home page (https://intouchplus.iaea.org) using the candidate's existing Nucleus username and password. If the candidate is not a registered Nucleus user, she/he must create a Nucleus account (https://websso.iaea.org/IM/UserRegistrationPage.aspx) before proceeding with the event application process below.

2. On the InTouch + platform, the candidate must:
    a. Finalize or update her/his personal details, provide sufficient information to establish the required qualifications regarding education, language skills and work experience ('Profile' tab) and upload relevant supporting documents.
    b. Search for the relevant technical cooperation event (EVT2406758) under the 'My Eligible Events' tab, answer the mandatory questions and lastly submit the application to the required authority.

NOTE: Completed applications need to be approved by the relevant national authority, i.e. the National Liaison Office, and submitted to the IAEA through the established official channels by the provided designation deadline **15 January 2025.**

For additional support on how to apply for an event, please refer to the InTouch+ Help page. Any issues or queries related to InTouch+ can be addressed to InTouchPlus.Contact-Point@iaea.org.

Should online application submission not be possible, candidates may download the nomination form for the training course from the IAEA website.

NOTE: A medical certificate signed by a registered medical practitioner dated not more than four months prior to starting date of the event must be submitted by candidates when applying for a) events with a duration exceeding one month, and/or b) all candidates over the age of 65 regardless of the event duration.

Administrative and Financial Arrangements

Nominating authorities will be informed in due course of the names of the candidates who have been selected and will at that time be informed of the procedure to be followed with regard to administrative and financial matters.

Selected participants will receive an allowance from the IAEA sufficient to cover their costs of lodging, daily subsistence and miscellaneous expenses. They will also receive either a round-trip air ticket based on the most direct and economical route between the airport nearest their residence and the airport nearest the duty station through the IAEA's travel agency American Express, or a travel grant, or they will be reimbursed travel by car/bus/train in accordance with IAEA rules for non-staff travel.

Disclaimer of Liability

The organizers of the event 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 course, and it is clearly understood that each Government, in approving his/her participation, undertakes responsibility for such coverage. Governments would be well advised to take out insurance against these risks.

Note for female participants

Any woman engaged by the IAEA for work or training should notify the IAEA on becoming aware that she is pregnant.

The Board of Governors of the IAEA approved new International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources. The Standards deal specifically with the occupational exposure conditions of female workers by requiring, inter alia, that a female worker should, on becoming aware that she is pregnant, notify her employer in order that her working conditions may be modified, if necessary. This notification shall not be considered a reason to exclude her from work; however, her working conditions, with respect to occupational exposure shall be adapted with a view to ensuring that her embryo or foetus be afforded the same broad level of protection as required for members of the public.

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