Image Guided and Adaptive Radiotherapy in Clinical Practice
11-15 February 2018 | Budapest, Hungary

The course focuses on several practical strategies for image guidance and adaptive radiotherapy depending on workflow and resources available. After completion, you will be able to evaluate which of these strategies best fit your specific institutions.

TARGET GROUP
The course is primarily aimed at and recommended for medical physicists and experienced dosimetrists working in treatment planning. The participants should preferably have some practical experience in radiotherapy physics and treatment planning systems. A good medical physics background is required.

COURSE AIM
The course aims to:
- Review external beam radiotherapy physics and beam modelling
- Make understandable the concepts behind dose algorithms and modelling in state-of-the-art treatment planning systems
- Make understandable and examine the process of commissioning treatment planning systems
- Review dosimetry methods of importance for commissioning and verification
- Review dose verification methods and to offer an overview of available technologies and evaluation methods
- Enable practical implementation of concepts for dose verification in advanced external beam therapy including SRT and IMRT.

LEARNING OUTCOMES
By the end of this course participants should be able to:
- Identify and interpret the input data requirements for the configuration of beam models
- Illustrate modelling of the patient, treatment beam and energy deposition in the treatment planning process
- Present the concepts behind simple and advanced dose calculation algorithms as implemented on modern treatment planning systems and monitor unit or dose calculation check software tools
- Compare and critically evaluate the tools and methods available for the verification of the calculated dose
- Assess aspects of quality assurance specific to the treatment planning process.

COURSE CONTENT
- Review of basic concepts of fluence, radiation transport and convolution
- Linac head design and multisource models
- Patient and phantom characterisation for treatment planning systems
- Point, pencil beam and grid based approaches to dose calculation
- 1D, 2D and 3D detectors for measurement
- Use of measured data in beam models and uncertainty budgets
- Monitor unit calculation and relation to beam models
- Commissioning and quality assurance of a treatment planning system
- Dose based metrics
- Practical exercises on monitor unit calculation and modelling.

COURSE DIRECTORS
Coen Rasch (NL)
Marianne Aznar (UK)

TEACHERS
Rianne de Jong (NL)
Andrew Hope (CA)
Helen McNair (UK)
Uwe Ostelke (UK)
Parag Parikh (USA)
Jan-Jakob Sonke (NL)
Marcel van Herk (UK)

LOCAL ORGANISER
Tibor Major
National Institute of Oncology
Budapest
major@oncol.hu

PROJECT MANAGER
Elena Giusti, ESTRO office (BE)

WORKING SCHEDULE
The course starts on 11 February 2018 at 13:00 and ends on 15 February 2018 at 13:30.

LANGUAGE
The course is conducted in English. No simultaneous translation will be provided.

COURSE ORGANISATION
For any further information please contact ESTRO:
Elena Giusti
E-mail: egiusti@estro.org
Tel: +32 2 775 9016
Fax: +32 2 779 54 94

COURSE VENUE
Mercure Budapest Buda
Krisztina Korut 41-43
1013 Budapest
Hungary

TECHNICAL EXHIBITION
Companies interested in exhibition opportunities during this teaching course should contact ESTRO:
Elena Giusti
E-mail: egiusti@estro.org
Tel: +32 2 775 9016
Fax: +32 2 779 54 94

ACCOMMODATION
To book your room, please download the accommodation form from the ESTRO website:
www.estro.org/school
These pages offer the guarantee of secured online payments. The system will seamlessly redirect you to the secured website of OGONE (see www.ogone.be for more details) to settle your registration fee.

If online registration is not possible please contact us:
ESTRO OFFICE
Rue Martin V, 40 • B-1200 Brussels
Tel.: +32 2 775 93 39 • Fax: +32 2 779 54 94
E-mail: education@estro.org

REGISTRATION FEES
Please check the early deadline date on our website

<table>
<thead>
<tr>
<th></th>
<th>EARLY FEE</th>
<th>LATE FEE</th>
</tr>
</thead>
<tbody>
<tr>
<td>In-training members*</td>
<td>450 €</td>
<td>625 €</td>
</tr>
<tr>
<td>Members</td>
<td>600 €</td>
<td>725 €</td>
</tr>
<tr>
<td>Non members</td>
<td>750 €</td>
<td>850 €</td>
</tr>
</tbody>
</table>

*Radiation Therapist (RTT) members are eligible for the in-training fee

The fee includes the course material, coffees, lunches, and the social event.

Reduced fees are available for ESTRO members working in economically less competitive countries. Check the eligible countries and the selection criteria on the website of the ESTRO School.

PREREQUISITES
Before commencing this course you should preferably have attended the ESTRO course ‘Physics for Modern Radiotherapy’ or equivalent.

TEACHING METHODS
- 21 hours of lectures
- 4 hours of practical workshops
- Interactive Debate
- 1h30 of Q&A.
The course consists of didactic lectures, interactive discussion sessions and practical calculation and modelling sessions. Lectures and preparation workshops will be given on monitor unit calculation and beam modelling. Participants will engage in realistic monitor unit calculation scenario exercises. Participants will also undertake computer based modelling of basic models for photon beam head scatter and kernel based dose calculations.

METHODS OF ASSESSMENT
- MCQ
- Q&A
- Practical
- Evaluation form.

KEY WORDS
Beam models and dose calculation approaches in treatment planning systems, commissioning, verification and quality assurance of treatment planning systems.

PARTICIPANTS SHOULD REGISTER ONLINE AT: WWW.ESTRO.ORG/SCHOOL

ESTRO goes green: Please note that the course material will be available online. No course book will be provided during the courses.

ADVANCE REGISTRATION AND PAYMENT ARE REQUIRED. ON-SITE REGISTRATION WILL NOT BE AVAILABLE.
Since the number of participants is limited, late registrants are advised to contact the ESTRO office before payment, to inquire about availability of places. Access to homework and/or course material will become available upon receipt of full payment.

INSURANCE AND CANCELLATION
The organiser does not accept liability for individual medical, travel or personal insurance. Participants are strongly advised to take out their own personal insurance policies.

In case an unforeseen event would force ESTRO to cancel the meeting, the Society will reimburse the full registration fees to the participants, ESTRO ESTRO will not be responsible for the refund of travel and accommodation costs.

In case of cancellation, full refund of the registration fee minus 15% for administrative costs may be obtained up to three months before the course and 50% of the fee up to one month before the course. No refund will be made if the cancellation request is postmarked less than one month before the start of the course.

WWW.ESTRO.ORG/SCHOOL

METHODS OF ASSESSMENT