

## SCIENTIFIC PROGRAMME AND WORKING SCHEDULE

**Course Directors:**

Eduard Gershkevitch

**Faculty:**

Marion Essers  
Shaista Hafeez  
Louise Murray

Kenneth Poels  
Michael Gubanski

Milan Tomsej  
Stephanie Peeters

### PRE-RECORDED LECTURES (45 minutes each)

The following lectures will be available few weeks in advance for participants to study at their own pace **prior** to the webinar. To access the lectures the students must complete an **ENTRY EXAM**, which consists of a multiple-choice questionnaire for a self-assessment.

Lecture	Speaker
Imaging for GTV definition	S. Hafeez
Imaging for treatment preparation and planning	M. Gubanski
Volumes in EBRT and introduction to GTV definition	S. Hafeez
<b>Physicists:</b> Modern dose calculation algorithms	M. Tomsej
<b>Clinicians:</b> Principles of Radiotherapy Equipment	E. Gershkevitch
PTV margin calculation	M. Essers
Field junctions: how, when, and alternatives	S. Hafeez / B. Heijmen
Radiation Protection and risk analysis	E. Gershkevitch
Commissioning and QA/QC of equipment and software	M. Tomsej
<b>Clinicians:</b> Physical principles of advanced Radiotherapy	M. Essers
<b>Physicists:</b> Reference Dosimetry	E. Gershkevitch
Brachytherapy	S. Hafeez
IMRT - Clinical application and impact	M. Gubanski
Radiobiology in the clinic	L. Murray

### LIVE WEBINARS 22-26 MAY

Participants will have the opportunity to meet with the faculty during interactive live webinar sessions. Invitations to the teleconferences will be sent prior to the webinars.

#### ENTRY EXAM

#### DAY 1 – MONDAY 22 MAY

Time	Lecture	Speaker	Moderator
13.00 – 13.15	Welcome and Introduction to the course	Course director	All teachers
13.15 – 14.00	<b>Clinicians:</b> Basics of radiation physics for clinicians	E. Gershkevitsh S. Peeters	S. Hafeez M. Essers
	<b>Physicists:</b> Oncological Concepts		
14.00 – 14.45	IMRT - Physics aspects	K. Poels	L. Murray
14.45 – 15.00	<i>Coffee break</i>		
15.00 – 15.45	Simultaneously integrated boost and fractionation	L. Murray	K. Poels
15.45 – 16.30	Stereotactic radiotherapy - radiobiology, clinical application and impact	S. Peeters	M. Tomsej
16.30 – 16.45	<i>Coffee break</i>		
16.45 – 17.30	Stereotactic radiotherapy - physics aspects	M. Tomsej	S. Peeters
17.30 – 17.45	<b>Summary of Imaging &amp; volumes in RT*</b>	S. Hafeez	M. Gubanski

#### DAY 2 – TUESDAY 23 MAY

Time	Lecture	Speaker	Moderator
13.00 – 15.00	<b>Homework:</b> Discussions on lung case	TBA	
15.00 – 15.15	<i>Coffee break</i>		
15.15 – 16.00	IGRT – equipment for in-room imaging	L. Murray	M. Essers
16.00 – 16.45	IGRT – tumor set-up correction strategies	M. Essers	L. Murray
16.45 – 17.00	<i>Coffee break</i>		
17.00 – 17.45	AI in Radiotherapy (application, validation, QA)	E. Gershkevitsh	M. Gubanski
17.45 – 18.00	<b>Summary of Radiotherapy equipment*</b>	E. Gershkevitsh	M. Tomsej
18.00 – 18.15	<b>Clinical case feedback</b>	All teachers	

#### DAY 3 – WEDNESDAY 24 MAY

Time	Lecture	Speaker	Moderator
13.00 – 15.00	<b>Homework:</b> Discussions on breast case	TBA	
15.00 – 15.15	<i>Coffee break</i>		
15.15 – 16.00	<b>Clinicians:</b> Dose calculation principles	K. Poels M. Tomsej	M. Essers
	<b>Physicists:</b> QA for advanced delivery techniques		E. Gershkevitsh
16.00 – 16.45	<b>Clinicians:</b> Calculation of dose in the TPS	K. Poels E. Gershkevitsh	M. Essers
	<b>Physicists:</b> Non-reference dosimetry		M. Tomsej
16.45 – 17.00	<i>Coffee break</i>		
17.00 – 17.45	Implementing patient-specific QA	K. Poels	L. Murray
17.45 – 18:00	<b>Summary of Commissioning, QA and radiation protection*</b>	M. Tomsej	M. Essers
18.00 – 18.15	<b>Clinical case feedback</b>	All teachers	

### DAY 4 – THURSDAY 25 MAY

Time	Lecture	Speaker	Moderator
13.00 – 15.00	<b>Homework:</b> Discussions on spine case	TBA	
15.00 – 15.15	<i>Coffee break</i>		
15.15 – 16.00	Challenges in dose prescription and plan evaluation	L. Murray	K. Poels
16.00 – 16.30	Adaptive RT (offline approach)	S. Hafeez	L. Murray
16.30 – 16.45	<i>Coffee break</i>		
16.45 – 17.15	Adaptive RT (online approach)	S. Hafeez	M. Tomsej
17.15 – 17.45	Re-irradiation	M. Gubanski	L. Murray
17.45 – 18.00	<b>Clinical case feedback</b>	All teachers	

### DAY 5 – FRIDAY 26 MAY

Time	Lecture	Speaker	Moderator
13.00 – 14.00	<b>WORKSHOP:</b> BED and margin calculations	L. Murray, M. Essers	
14.00 – 14.45	Rotational therapy and flattening filter free dose delivery	M. Essers	K. Poels
14.45 – 15.30	Physics aspects of proton-, ion-, and electron beam therapy	K. Poels	M. Essers
15.30 – 15.45	<i>Coffee break</i>		
15.45 – 16.30	Clinical aspects and evidence for particle therapy and other novel technology	S. Peeters	M. Gubanski
16.30 – 17.15	Radiotherapy dose and induction of secondary tumours	M. Gubanski	S. Peeters
17.15 – 17.30	<b>Q&amp;A and closure of the course</b>	All teachers	
<b>EXIT EXAM</b>			

\* - Refers to pre-recorded lectures