

Hands-on course
Image-Guided Radiation Therapy (IGRT)
26 May – 30 May 2009
Amsterdam / Deventer / Haarlem / Rotterdam
The Netherlands

Course aims

- To give a review of modern imaging technologies applied for IGRT.
- To compare different IGRT techniques, identify limitations of each method and define the applicability for particular clinical use.
- To identify potential sources of error in target localisation, and how IGRT can help; focus on 3D conformal radiotherapy (3DCRT), intensity-modulated radiotherapy (IMRT), and organ motion.
- To give insight in how IGRT techniques are integrated in the clinical workflow.

Target group

- Radiation therapy technologists, clinical physicists (trainees), dosimetrists, clinical physicist co-workers, residents, (starting) research scientists, medical engineers and other professionals involved in modern radiotherapy.
- A maximum number of 30 participants can be accepted.

Prerequisites

- Basic knowledge of imaging systems for diagnostics: CT, MR, PET, US.
- Knowledge of principles of patient setup verification
- Some experience in treatment planning.

Outline programme (draft 080509)

Tuesday 26 May 2009	INHOLLAND Haarlem	Introduction to IGRT	Faculty
13:00-13:05		Welcome and introduction to the course	Ben Mijnheer
13:05-13:45	lecture	Advanced imaging for in-room verification	Ben Mijnheer
13:45-14:30	lecture	Advanced imaging for 3D treatment planning	Jeroen van de Kamer
14:30-15:00	coffee break		
15:00-15:45	lecture	Geometrical uncertainties and margins	Jeroen van de Kamer
15:45-16:30	lecture	Patient setup verification using stereoscopic imaging	Johan Cuijpers
16:30-17:15		IGRT for breast cancer at The Netherlands Cancer Institute	Danny Minkema
17:30-18:30		Welcome drink	

Wednesday 27 May 2009	INHOLLAND Haarlem	IGRT in clinical practice	
09:00-10:00	lecture	Overview of different IGRT approaches for head and neck cancer	Coen Rasch
10:00-10:30	lecture	Overview of different IGRT approaches for lung cancer – part 1	John van Sörnsen de Koste
10:30-11:00	coffee break		
11:00-11:30	lecture	Overview of different IGRT approaches for lung cancer	John van Sörnsen de Koste
11:30-12:30	lecture	Overview of different IGRT approaches for prostate cancer – part 2	Marco van Vulpen
12:30-13:30	lunch break		
13:30-13:45	lecture	Introduction to the workshop	Jelle Scheurleer Ben Mijnheer
13:45-15:15	hands-on	Workshop Image fusion – part 1	Marcel van Herk .
15:15-15:30	coffee break		
15:30-17:00	hands-on	Workshop image fusion – part 2	Marcel van Herk
17:00-17:30		Evaluation of the workshop	Ben Mijnheer

Thursday 28 May 2009	Erasmusmc Rotterdam	CyberKnife	
15:30-16:00	welcome coffee		
16:00-16:30	lecture	Introduction to CyberKnife	Mischa Hoogeman
16:30-17:00	lecture	Clinical applications of CyberKnife	Joost Nuytens
17:00-17:45	demo / hands-on	1. Demo and explanation QA Motion Table and Synchrony (location: Cygnus) 2. Demo Treatment Planning (location: data)	Martijn Hol Mischa Hoogeman RTT

		room or CK planning room)	
17:45-18:15		Evaluation of demo / hands-on exercises	Mischa Hoogeman CS

Friday 29 May 2009	RISO Deventer	TomoTherapy	
14:00-14:30	welcome coffee		
14:30-15:15	lecture	Introduction to TomoTherapy	André Minken
15:15-16:15	demo / hands-on	TomoTherapy treatment planning and QA (Group-1 / Group-2)	RISO team
16:30-17:30	demo / hands-on	TomoTherapy treatment planning and QA (Group-1 / Group-2)	RISO team
17:30-18:00		Evaluation of demo / hands-on exercises	

Saturday 30 May 2009	VUmc/NKI-AVL	kV-CBCT / kV-fluoroscopy	
09:30-10:30	demo-1	Group-1: 3D/4D imaging of a phantom with a moving target Group-2: kV-CBCT part-1: CBCT-scanning of a moving phantom	Johan Cuijpers / Frank de Weerd Danny Minkema / Maddalena Rossi
10:30-11:00	coffee break		
11:00-12:00	demo-2	Group-1: Stereoscopic patient positioning Group-2: kV-CBCT part-2: Comparison CBCT images (3D) with EPID orthogonal images (2D)	Johan Cuijpers Danny Minkema / Maddalena Rossi
12:00-13:00	lunch break	Move to other hospital	
13:00-14:00	demo-3	Group-1: kV-CBCT part-1: CBCT scanning of a moving phantom Group-2: 3D/4D imaging of a phantom with a moving target	Anja Betgen / Maddalena Rossi Johan Cuijpers / Frank de Weerd
14:00-15:00	demo-4	Group-1: kV-CBCT part-2: Comparison CBCT images (3D) with EPID orthogonal images (2D) Group-2: Stereoscopic patient positioning	Anja Betgen / Maddalena Rossi Johan Cuijpers / Ingrid Kuijper
15:00-15:30	coffee break	Evaluation of the course	