

## ESTRO teaching course on *Physics for Clinical Radiotherapy*

Tula, 30 May - 3 June 2010

### Teaching staff:

Ben Heijmen, Netherlands  
 Alberto Bossi, France  
 Ann Henry, United Kingdom  
 Mischa Hoogeman, Netherlands  
 Trine Juhler-Nøttrup, Denmark  
 Silvia Molinelli, Italy  
 Dag Rune Olsen, Norway  
 Luis A. Pérez-Romasanta, Spain

## EDUCATIONAL PROGRAMME

SUNDAY	30 MAY 2010	
09.00 - 09.15	Welcome address	NN
09.15 - 09.30	Introduction to the course	B. Heijmen
09.30 - 10.30	Entrance exam	
10.30 - 11.00	<i>Coffee break</i>	
	<i>Session for clinicians</i>	
11.00 - 12.00	Basic radiation physics I	S. Molinelli
	<i>Session for physicists</i>	
11.00 - 12.00	Reference dosimetry	B. Heijmen
12.00 - 13.30	<i>Lunch</i>	
13.30 - 14.15	Volumes in external radiation therapy	L. Pérez-Romasanta

14.15 - 15.30	Group 1: Discussions on palliative case Group 2: Discussions on palliative case  Group 3: Practical training / booth visit Group 4: Practical training / booth visit	A.Bossi / S.Molinelli T. Juhler-Nøttrup / B.Heijmen
15.30 - 16.00	<i>Coffee break</i>	
16.00 - 17.15	Group 1: Practical training / booth visit Group 2: Practical training / booth visit Group 3: Discussions on palliative case  Group 4: Discussions on palliative case	L.Pérez-Romasanta/ M. Hoogeman  A. Henry/D.R. Olsen
	<i>Session for clinicians</i>	
17.15 - 18.15	Basic radiation physics II	S. Molinelli
	<i>Session for physicists</i>	
17.15 - 18.15	Classification systems in oncology	L. Pérez-Romasanta
18.15 - 18.35	Summary of clinical cases: palliative case	A.Bossi / S.Molinelli
18.45 - 20.00	<i>Welcome reception</i>	

MONDAY	31 MAY 2010	
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	<i>Session for clinicians</i>	
09.00 - 10.00	Principles of radiotherapy equipment	M. Hoogeman
	<i>Session for physicists</i>	
09.00 - 10.00	Non-reference dosimetry	B. Heijmen
10.00 - 10.45	Imaging for GTV definition I	T. Juhler-Nøttrup
10.45 - 11.15	<i>Coffee break</i>	
	<i>Session for clinicians</i>	
11.15 - 12.00	Basic dose calculation principles	D. R. Olsen
	<i>Session for physicists</i>	
11.15 - 12.00	Basic dose plan algorithms	M. Hoogeman
12.00 - 13.30	<i>Lunch</i>	
13.30 - 14.15	CT for treatment preparation and planning	L. Pérez-Romasanta
14.15 - 15.30	Group 1: Discussions on breast case  Group 2: Discussions on breast case	T. Juhler-Nøttrup / B.Heijmen L.Pérez-Romasanta/ M. Hoogeman

Group 3: Practical training / booth visit  
 Group 4: Practical training / booth visit

15.30 - 16.00 *Coffee break*

16.00 - 17.15  
 Group 1: Practical training / booth visit  
 Group 2: Practical training / booth visit  
 Group 3: Discussions on breast case A. Henry/D.R. Olsen  
 Group 4: Discussions on breast case A.Bossi / S.Molinelli

17.15 - 17.35 Summary of clinical cases: breast case T. Juhler-Nøttrup / B.Heijmen

TUESDAY	1 JUNE 2010	
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09.00 - 09.45 IGRT - equipment for in-room imaging A. Henry

*Session for clinicians*

09.45 - 10.30 Calculation of dose distribution in TPS D. R. Olsen

*Session for physicists*

09.45 - 10.30 Advanced dose plan algorithms M. Hoogeman

10.30 - 11.00 *Coffee break*

11.00 - 12.00 IGRT - tumour set-up correction strategies B. Heijmen

12.00 - 13.30 *Lunch*

13.30 - 14.15 IMRT - physics aspects D. R. Olsen

14.15 - 15.30  
 Group 1: Discussions on lung case A. Henry/D.R. Olsen  
 Group 2: Discussions on lung case A.Bossi / S.Molinelli  
 Group 3: Discussions on lung case T. Juhler-Nøttrup / B.Heijmen  
 Group 4: Discussions on lung case L.Pérez-Romasanta/ M. Hoogeman

15.30 - 16.00 *Coffee break*

16.00 - 16.45 In-vivo dosimetry D. R. Olsen

16.45 - 17.30 Basics of stereotactic RT A. Bossi

17.30 - 17.50 Summary of clinical cases: lung case A. Henry/D.R. Olsen

WEDNESDAY	2 JUNE 2010	
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*Free morning*

*Session for physicists*

13.00 - 13.45      Radiation protection. An overview for physicists      S. Molinelli

*Session for clinicians*

13.00 - 13.45      Imaging for GTV definition II      T. Juhler-Nøttrup

13.45 - 15.00      Group 1: Discussions on H&N case      L.Pérez-Romasanta/  
M. Hoogeman  
Group 2: Discussions on H&N case      A. Henry/D.R. Olsen  
Group 3: Discussions on H&N case      A.Bossi / S.Molinelli  
Group 4: Discussions on H&N case      T. Juhler-Nøttrup /  
B.Heijmen

*15.00 - 15.30      Coffee break*

15.30 - 16.15      Radiotherapy dose and induction of secondary tumours      B. Heijmen

16.15 - 17.00      Radiobiology in the clinic      A. Henry

17.00 - 17.45      Basics of 3DCRT      A. Bossi

17.45 - 18.05      Summary of clinical cases: H&N case      L.Pérez-Romasanta/  
M. Hoogeman

THURSDAY	3 JUNE 2010	
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09.00 - 09.45      Basics of brachytherapy      A. Henry

09.45 - 10.30      IMRT - basics of clinical application      A. Bossi

*10.30 - 11.00      Coffee break*

11.00 - 12.00      Examination

12.00 - 12.30      Handing over of course certificates