

ESTRO TEACHING COURSE ON

## IMAGE-GUIDED RADIOTHERAPY & CHEMOTHERAPY IN GYNAECOLOGICAL CANCER

- WITH A SPECIAL FOCUS ON ADAPTIVE BRACHYTHERAPY -  
BEIJING, CHINA, MARCH 4<sup>TH</sup>-8<sup>TH</sup>, 2012

Course Directors : Christine Haie-Meder (*CHM*) (FR), Richard Pötter (*RP*) (AT)

Teaching Staff : Daniel Berger (*DB*) (AT), Ina Jürgenliemk-Schulz (*IJS*) (NL), Umesh Mahantshetty (*UM*) (IN), Taran Paulsen Hellebust (*TPH*) (NO), Primož Petrič (*PrPe*) (SI), Peter Petrow (*PePe*) (FR), Kari Tanderup (*KT*) (DK)

Local Organisers : Yexiong Li (*YXL*), Ling Ying Wu (*LYW*), Fuquan Zhang (*FZ*)

ESTRO coordinator : Marta Jayes (BE)

CSTRO coordinator: Jing Jin (*JJ*)

## Programme

<i>Sunday, March 4<sup>th</sup> 2012:</i>			
<i>Anatomy/Pathology Imaging + CTV/PTV external irradiation + presentation on contouring for ERT cervix cancer</i>			
<b>8.30 – 8.45 INTRODUCTION (RP/CMH)</b>			
<b>8.45 – 12.30</b> <b><u>Introduction to Cervix Cancer Pathology, Imaging protocols, CTV/ITV for external irradiation</u></b>			
<u>Chairpersons</u> : <i>UM /CHM</i>			
<i>8.45</i>	Anatomical considerations, role of clinical gynaecological examination, and staging	<i>YXL</i>	<i>30 min</i>
<i>09:15</i>	3D Image based normal anatomy: uterus, parametria, organs at risk and nodes US, CT, MRI	<i>PePe</i>	<i>30 min</i> (15min translation)
<i>10:00</i>	<i>Tea / Coffee Break</i>		<i>30 min</i>

<i>10:30</i>	Pathology of gynaecologic tumors : At time of diagnosis At time of brachytherapy	<i>PePe</i> <i>PrPe</i>	<i>15 min</i> <i>20 min</i> (20 min translation)
<i>11:25</i>	Assessment of nodal pathology	<i>PePe / IJS</i>	<i>15 min</i> (5 min translation)
<i>11:45</i>	CTV/ITV for external irradiation	<i>IJS / TPH</i>	<i>30 min</i> (15 min translation)
<i>12:30</i>	<i>Lunch</i>		<i>90 min</i>
<b><i>14:00 – 17:15</i></b>			
<b><u>Treatment planning for external irradiation in cervix cancer</u></b>			
Chairperson : <i>DB/PePe</i>			
<i>14:00</i>	Image guidance and PTV	<i>KT/RP</i>	<i>30 min</i> (15min translation)
<i>14:45</i>	Treatment planning EBRT – physics aspects	<i>TPH</i>	<i>20 min</i> (10min translation)
<i>15:15</i>	Treatment planning EBRT – medical aspects (dose constraints, DVHs)	<i>UM</i>	<i>20 min</i> (10min translation)
<i>15:45</i>	<i>Tea / Coffee Break</i>		<i>30 min</i>
<i>16:15</i>	EBRT workshop : frontal presentation on target and organs at risk	<i>IJS / PrPe / UM</i>	<i>40 min</i> (20min translation)

*Monday, March 5<sup>th</sup> 2012:*  
*Results of home work delineation*  
*Clinical trials cervix / endometrium cancer*  
*Case presentations*  
*Postoperative EBRT*  
*Techniques and adaptive CTV concept cervix cancer Brachytherapy: Part 1*

**08:30-12:45**

**Homework delineation results/ Concomitant Chemoradiotherapy Cervix Cancer / Endometrium Cancer/ Case Presentations**

Chairperson : *IJS/*

<i>08:30</i>	Results of homework delineation examples Educase analysis	<i>IJS / PrPe / UM</i>	<i>30 min</i> (15min translation)
<i>09:15</i>	Results of trials in cervix cancer	<i>UM</i>	<i>30 min</i> (15min translation)
<i>10:00</i>	<i>Tea / Coffee Break</i>		<i>30 min</i>
<i>10:30</i>	Results of trials in low and intermediate-risk endometrium cancers (including definitive treatment)	<i>CHM</i>	<i>30 min</i> (15min translation)
<i>11:15</i>	EBRT techniques and clinical evidence for post-operative radiotherapy	<i>IJS</i>	<i>30 min</i> (15min translation)
<i>12:00</i>	Case presentations: One advanced cervix cancer One intermediate-risk endometrium cancer	<i>CMH</i> <i>IJS</i>	<i>15 min</i> <i>15 min</i> (15min translation)
<i>12:45</i>	<i>Lunch</i>		<i>75 min</i>

**14:15 – 17:55**

**Endometrium high-risk/ Techniques for cervix brachytherapy**  
**Assessment of GTV, CTVs in cervical cancer**

Chairpersons : *RP /PrPe*

<i>14:15</i>	Role of chemo/chemo-radiation (high-risk) endometrium	<i>UM</i>	<i>20 min</i> 10 min translation
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<i>14:45</i>	Cervix : Fletcher/Manchester, Tandem/Ring, Moulage technique and limitations in standard loading patterns	<i>PrPe</i>	<i>30 min</i> (10 min translation)
<i>15:25</i>	Interstitial techniques for cervix cancer	<i>RP</i>	<i>30 min</i> (10 min translation)
<i>16:05</i>	<i>Tea/coffee Break</i>		<i>30 min</i>
<i>16:35</i>	GTV, CTVs at diagnosis and at time of brachytherapy cervix	<i>CHM</i>	<i>50 min</i> (15 min translation)
<i>17:40</i>	Clinical cartoons	<i>UM</i>	<i>10 min</i> (5 min translation)

Tuesday, March 6<sup>th</sup> 2012 :

Brachytherapy : Part 2

Organs at risk

Applicator reconstruction techniques

GEC-ESTRO on dose volume reporting

BT techniques in endometrium and vaginal cancers

Contouring presentation (physicians), Reconstruction presentation (physicists)

**8:30 – 11:30**

**OAR delineation, applicator reconstruction, dose-volume reporting,**

Chairpersons : *TPH / RC*

<i>08:30</i>	Delineation of organs at risk	<i>PrPe</i>	<i>40 min</i> (15 min translation)
<i>09:15</i>	Applicator reconstruction using Sectional Imaging	<i>TPS/KT</i>	<i>30 min</i> (10 min translation)
<i>10:05</i>	<i>Tea / Coffee Break</i>		<i>30 min</i>
<i>10:35</i>	GEC-ESTRO recommendations on dose volume reporting	<i>RP</i>	<i>40 min</i> (15 min translation)
<i>11:30</i>	<i>Lunch</i>		<i>90 min</i>

**13:00 – 14:30**

**BT techniques in endometrial, and vaginal cancers**

Chairpersons : *KT / PrPe*

<i>13:00</i>	Endometrium : BT techniques	<i>IJS / RP</i>	<i>30 min</i> (10 min translation)
<i>13:40</i>	Vagina: BT techniques	<i>UM</i>	<i>40 min</i> (10 min translation)
<i>14:30</i>	<i>Tea / Coffee Break</i>		<i>30 min</i>

**15:00-16:00**

**MDs:**

**Frontal presentation : cervix large-good response MRI/CT (Vienna case 1):**

*IS/PrPe/UM*

**Physicists:**

**Reconstruction in three groups (Varian, Nucletron, Bebig)**

*Wednesday, March 7<sup>th</sup> 2012:*  
*Treatment planning, radiobiology,*  
*dose/volume parameters, uncertainties*  
*addition of external irradiation and brachytherapy (boosts)*

**8:30-09:50**

**Treatment planning (1), radiobiology and DVH parameters**

Chairpersons: *IJS / TPH*

<i>8:30</i>	Basic physics and dose planning principles	<i>TPH</i>	<i>15 min</i> (5min translation)
<i>8:50</i>	Radiobiological models to combine dose from external beam and brachytherapy (HDR, MDR, PDR, LDR)	<i>DB</i>	<i>15 min</i> (10 min translation)
<i>9:15</i>	Medical aspects of treatment planning and dose constraints	<i>RP</i>	<i>25 min</i> (10 min translation)
<i>9:50</i>	<i>Tea / Coffee Break</i>		<i>30 min</i>

**10:20-12:05**

**Treatment planning (2)**

Chairpersons: *DB / CHM*

<i>10:20</i>	Physics aspects of intracavitary treatment planning (endometrium)	<i>TPH</i>	<i>15 min</i> (5 min translation)
<i>10:40</i>	Physics aspects of treatment planning interstitial techniques (other than cervix)	<i>DB,</i> <i>CHM / RP</i>	<i>20 min</i> (10 min translation)
<i>11:10</i>	Physics aspects of treatment planning intracavitary +/- interstitial techniques in cervix cancer and PTV concept	<i>KT</i>	<i>40 min</i> (15min translation)
<i>12:05</i>	<i>Lunch</i>		<i>90 min</i>

**13:35-15:30**

**Uncertainties / Parametrial and nodal boosts**

Chairperson: *RP*

<i>13:35</i>	Inter- and intra-fraction uncertainties and imaging strategies (MRI/CT) in brachytherapy	<i>KT</i>	<i>40 min</i> (15 min translation)
<i>14:30</i>	Nodal boost: techniques, contribution of brachytherapy	<i>IJS/KT</i>	<i>20 min</i> (10 min translation)
<i>15:00</i>	Parametrial boost: comparison between brachytherapy and external irradiation	<i>KT/IJS</i>	<i>20 min</i> (10 min translation)
<i>15:30</i>	<i>Tea / Coffee Break</i>		<i>30 min</i>
<i>16:00-17:00</i>			
<b><u>MDs:</u></b>			
<b><u>Frontal presentation : cervix large-bad response CT/MRI (Vienna case 2)</u></b>			
<i>IS, UM, PrPe</i>			
<b><u>Physicists:</u></b>			
<b><u>Physics treatment planning in three groups (Varian, Nucletron, and Bebig)</u></b>			

*Thursday, March 8<sup>th</sup> 2012 :*  
*Dose reporting*  
*Examples*  
*Outcome of IGABT*  
*Practical issues, ongoing trials*

**8:30-10:30**

**Treatment planning (3)/ morbidity**

Chairpersons: *KT / UM*

<i>8:30</i>	Practical exercise for dose reporting	<i>DB</i>	<i>30 min</i> (10 min translation)
<i>9:10</i>	<b><u>Examples: treatment planning workshops</u></b>		<i>80 min</i>
<i>10:30</i>	<i>Tea/Coffee break</i>		<i>30 min</i>
<i>11:00</i>	Morbidity: Rectum, Sigmoid, Bladder, Vagina	<i>CMH</i>	<i>30 min</i> (10 min translation)
<i>11:40</i>	<i>Lunch</i>		<i>90 min</i>
<b>13:10 – 15:55</b>			
<b><u>Outcome of 3-D image based gynaecological Brachytherapy/ Practical issues for 3D image based gynaecological Brachytherapy</u></b>			
Chairperson: <i>CHM</i>			
<i>13:10</i>	Disease Control	<i>RP</i>	<i>40 min</i> (20 min translation)
<i>14:10</i>	Practical implementation - Tips and tricks	<i>RP/DB</i>	<i>30 min</i> (15 min translation)
<i>14:55</i>	EMBRACE and GYN network	<i>RP/KT</i>	<i>10 min</i> (10 min translation)
<i>15:15</i>	Introduction to the examination	<i>CMH</i>	<i>10 min</i> (5 min translation)
<i>15:30</i>	Final Remarks and Closure of the Course	<i>RP/CMH</i>	<i>15 min</i> (10 min translation)
<b><i>15:55 End of the course</i></b>			