ESTRO
EUROPEAN SOCIETY FOR RADIOTHERAPY & ONCOLOGY

Department of Radiation Oncology
Comprehensive Cancer Center
Vienna General Hospital
Medical University of Vienna

Universitätsklinik für Strahlentherapie und Strahlenbiologie Wien

Challenges and Accomplishments for Globalization of Brachytherapy: The (GEC-) ESTRO Perspective

Richard Pötter , Peter Hoskin, Chrisitan Kirisits, Christine Verfaillie, Jacob Lindegaard

„BrachytherapyNext“
Building a Global Brachytherapy Community
Miami, Florida
May 30, 2014

Disclosures

Richard Pötter, MD, does not have any financial relationships or products or devices with any commercial interest related to the content of this activity of any amount during the past 12 months.

Richard Pötter, MD, is chairman of the ESTRO School since 2006 and Principal Investigator of EMBRACE.

The Medical University of Vienna receives financial and equipment support for training and research activities from Nucletron, an Elekta Company and Varian Medical.

Brachytherapy (BT) developments

- Complex disease assessment
- BT delivery technology
- BT application devices
- Volumetric Imaging for BT
- Advanced concepts for GTV, CTV, OAR
- Treatment Planning (3D/4D, with EBRT)
- Outcome assessment (clinical/imaging, QoL)
- Multidisciplinary (Radiation) Oncology
- Clinical evidence (evidence level approach)

BT essential (component of) oncological treatments (potential)

- Advanced cervix cancer
- Endometrium cancer
- Prostate c
- Breast can
- Head and
- Anal Canc
- Eye melanoma

within the field of rapidly evolving multidisciplinary oncology

Potential: Skin, Rectum, Bladder, Oesophagus, Bronchus, Bladder, Metastases, Re-irradiation….

Continuous Progress through Research and Development:
Brachytherapy, Radiotherapy, (Radiation) Oncology

- Research & Development (R&D)
  Academic Centers, Study gr
  Industry
- Dissemination of Science (DiSc)
- Education and Training (E&T)
  Knowledge Transfer

ESTRO DiSc/E&T
Europe
Global Perspective

Training of Skills

Fig. 3. Blooms taxonomy, modified after Krathwohl [8].

Building of Competencies

Fig. 1. The seven roles of a physician identified by the Canadian CanMEDS syst
Figure modified from http://rcpsc.medical.org/canmeds/index.php.

Major players in R&D, DiSc, E&T

- Academic Centers (critical mass)
- regional/national/international working groups
- Networks
- National and International Associations and Societies (…., (GEC-)ESTRO, ABS/ASTRO, CARO, ALATRO, AROI, CSRO, SEAROG, JASTRO, Korean, RANZCR…., IAEA)
- Journals (Green, Red, Blue, Contemp. BT, Indian…)
- Schools: ESTRO School, ABS Schools, ACR, ICRO,…
- Industry
- Industry associated Schools, e.g. BT Academy

Strong European Traditions in Brachytherapy

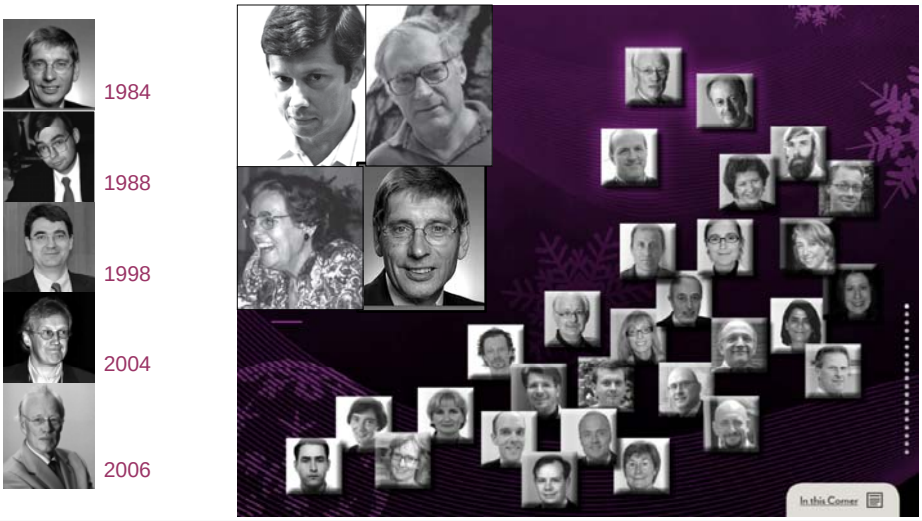
(Curie…..Radium…..Schools…Systems…..Iridium…..Afterloading…..

- GEC (since late 60ies (Paris, France))
- ESTRO (since 1982), (green journal)
- GEC ESTRO (merge since 1990)

- GEC/ESTRO annual meetings, conferences, workshops
- GEC ESTRO based clinical research and clinical studies
- Education and Training: ESTRO Teaching Courses, GEC ESTRO Guidelines, BT booklets, GEC ESTRO Handbook of BT 2002
- ICRU Reports 38, 58….88 (upcoming)

- European and International Brachytherapy Conferences (Nucletron) + books + journal publications („Activity“)

30 YEARS ESTRO ETC 1984 – 2014



ESTRO School

ESTRO CORE CURRICULA: 1991, 2004, 2012

Radiother Oncol.1991 Nov;22(3):153-5

The European core curriculum on radiotherapy.
Leer JW[1], Overgaard J, Heeren G.

[1]Department of Radiotherapy, University Hospital, Leuven, Belgium

Radiotherapy and Oncology

Competencies in radiation oncology: A new approach for education and training of professionals for Radiotherapy and Oncology in Europe

Editorial

Shaping the future: training of professionals for radiotherapy in Europe

Radiotherapy and Oncology

ESTRO Core Curricula

The updated ESTRO core curricula 2011 for clinicians, medical physicists and RTTs in radiotherapy/radiation oncology

ESTRO School

ESTRO ETC
ESTRO School for Radiotherapy and Oncology

1984	ESTRO ETC created
1997	>ESTRO ETC dedicated to teaching only >EBR created as a combined ETC for ESTRO & UEMS, responsible for the harmonisation of training programmes and structures in Europe
2006	ESTRO School created
2006	Core ETC created to develop long-term strategy and set priorities for the School to be implemented by task forces in which ETC members and ev also non ETC members will be invited to take on responsibility
2008	Mission Statement of the ESTRO School
2009	Appointment ESTRO liaison persons to FU on groups of courses
2010	EAGLE Task Force created
2011	FALCON Task Force created

03/01/13

ESTRO School

ESTRO educational activities: milestones

ESTRO education started slowly and has been growing exponentially:

1985-1989:	5 courses	in 5 years
1990-1999:	58 courses	in 10 years (annual Mod. BT course)
2000-2004:	58 courses	in 5 years (prostate and Gyn BT)
Total:	121 courses	for ~ 11.000 participants

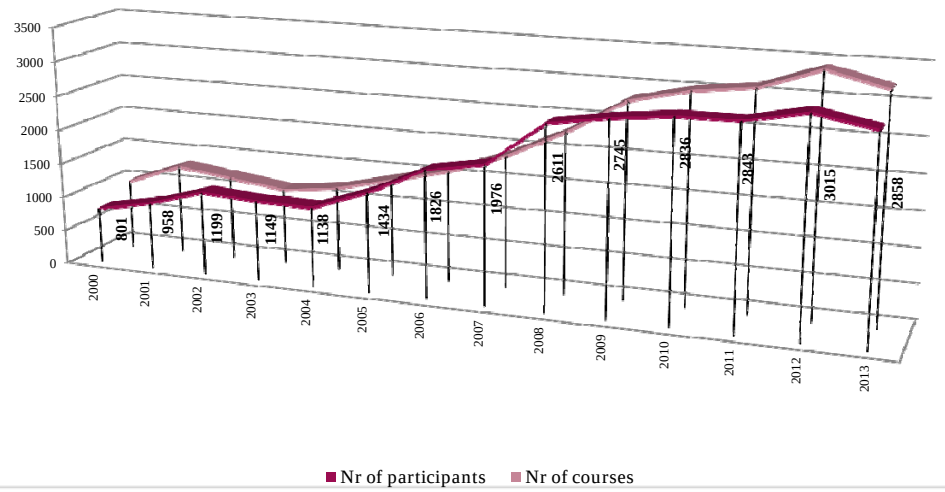
2006: Creation of the ESTRO School for Radiotherapy and Oncology
➔ framework for ESTRO's educational activities
➔ increase profile & quality of education and training

➔ 2005-2012: 115 courses for ~ 19.000 participants

4 April 2014

ESTRO School

Live courses & participants 2000-2013

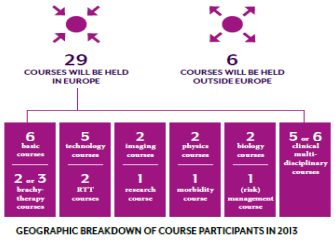


4 April 2014

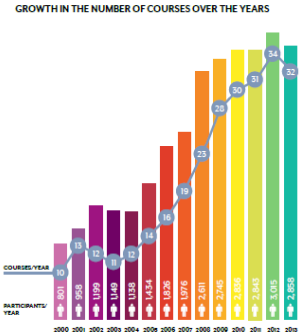
ESTRO School

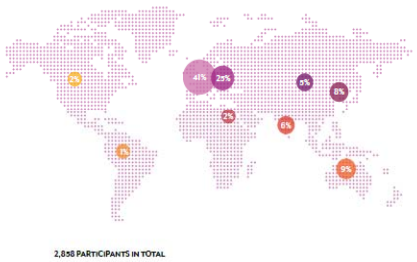
ESTRO SCHOOL TODAY – LIVE COURSES 2013

- ESTRO CC for RO/RT endorsed by UEMS
- ESTRO School programme max 35 courses/y >>> ensure quality
- To cover CC, new courses to be included in the School programme >>>some courses will become biennial + School progr planned for 2y



GEOGRAPHIC BREAKDOWN OF COURSE PARTICIPANTS IN 2013





2,858 PARTICIPANTS IN TOTAL

ESTRO School

ESTRO educational activities: milestones

Courses outside Europe

➔ In support of Eastern Europe since 1995

➔ In support of Internat. Society of Radiation Oncology since 2003

➔ In the frame of the ESTRO School since 2007 (~5 courses/year)

Memorandum of Understandings with

CSTRO, AROI, SEAROG, ALATRO

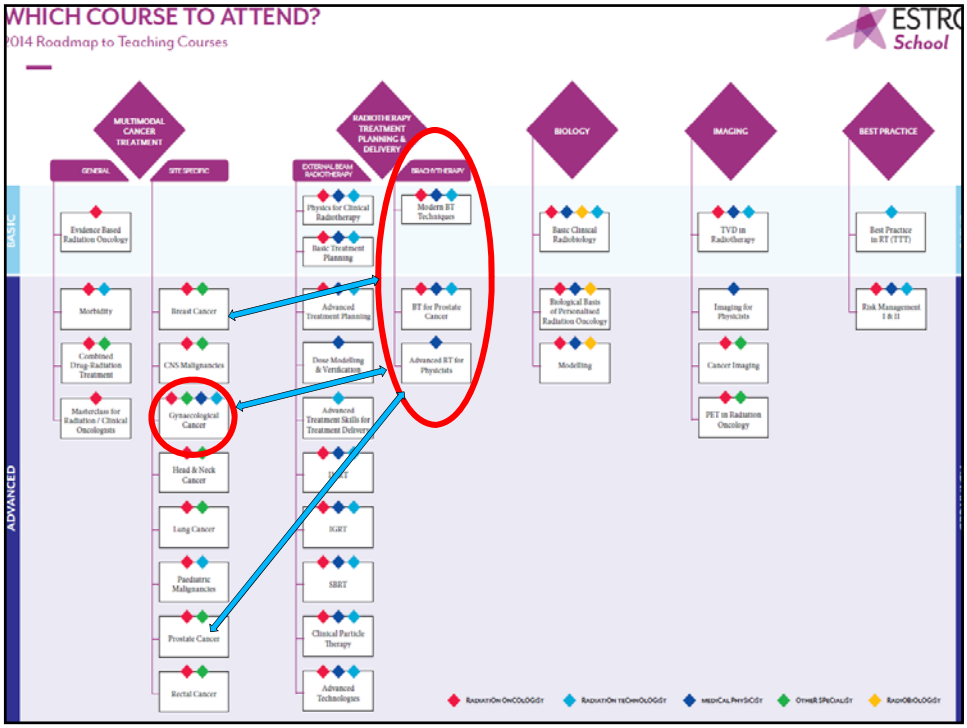
Established MoU with RANZCR

Upcoming MoU with JASTRO

International ETC since 2010 (annual meetings)

Up to today: 30.000 participants to ESTRO courses!

ESTRO School



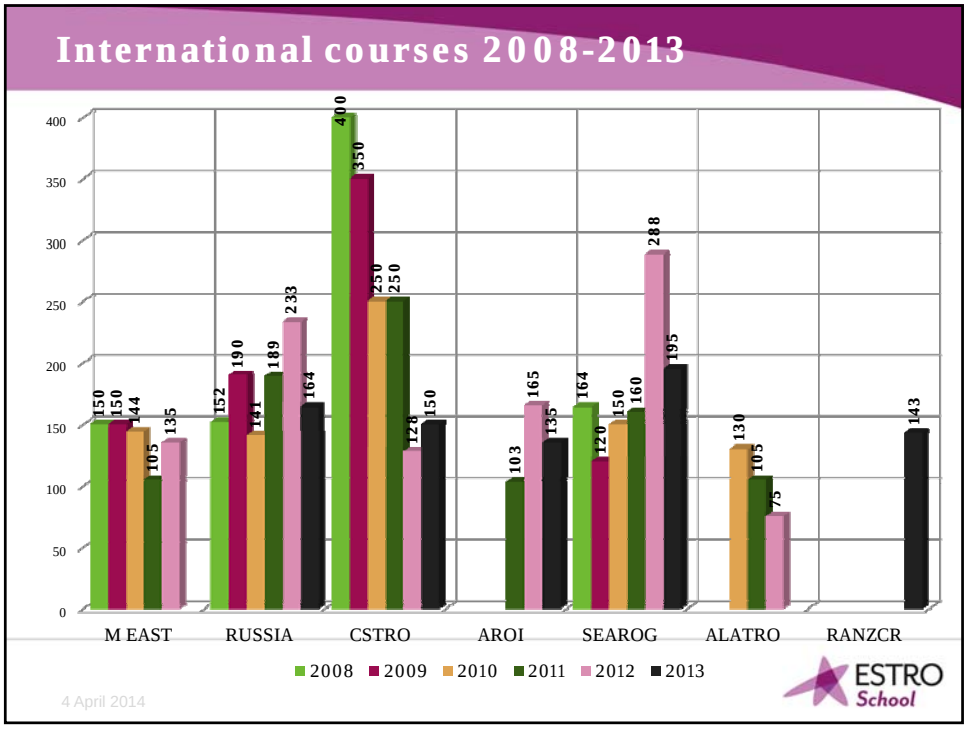
International courses 2002-2015

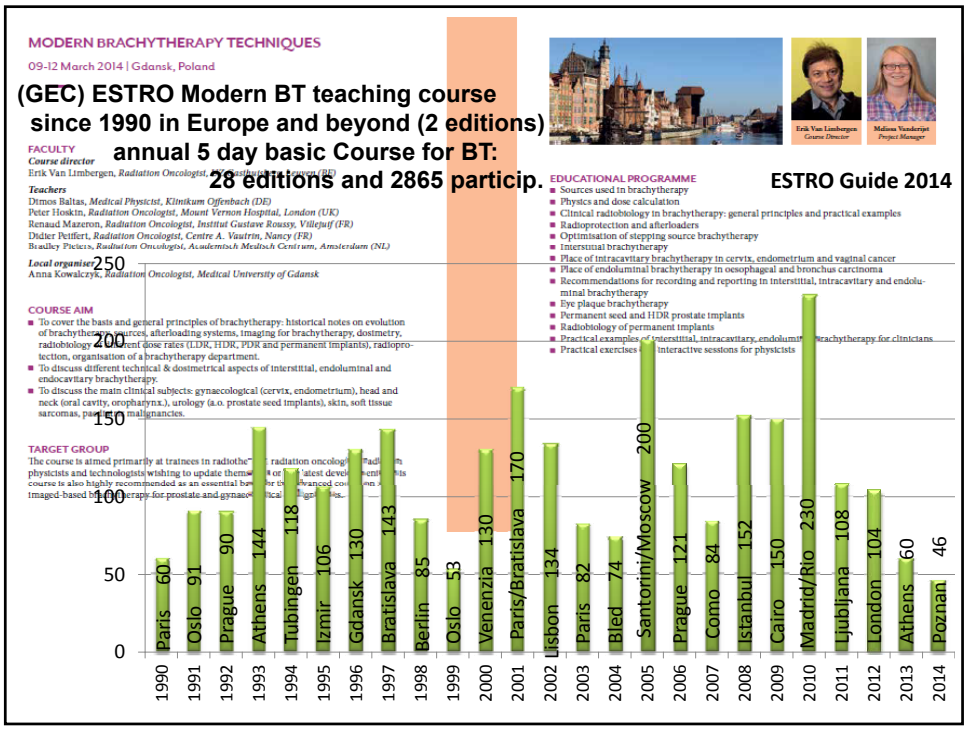
	RUSSIA	CSTRO	AROI	ALATRO	SEAROG	RANZCR	M EAST	JASTRO
2002	RB							
2003	PHYS							
2004	EBRO							
2005	BT		EBRO					
2006	PHYS							
2007	2D-3D	RB		PHYS				
2008	RB	TVD					EBRO	
2009	2D-3D	RB/RECT			GYNAE/EBRO	RB	BT	
2010	PHYS	ADV TECHN		BT	RB		2D-3D	
2011	EBRO	PHYS	GYNAE	2D-3D	ADV TECHN	RB	TVD	
2012	2D-3D	GYNAE	ADV TECH	EBRO	PHYS		BREAST	
2013	GYNAE	EBRO	H&N	PHYS	TVD	RB	ADV TECHN	
2014	RB	LUNG	BREAST		COMBINED		PAED	TVD
2015	TVD	H&N	EBRO		ADV TP	RB	PALLIATE	MOL ONC

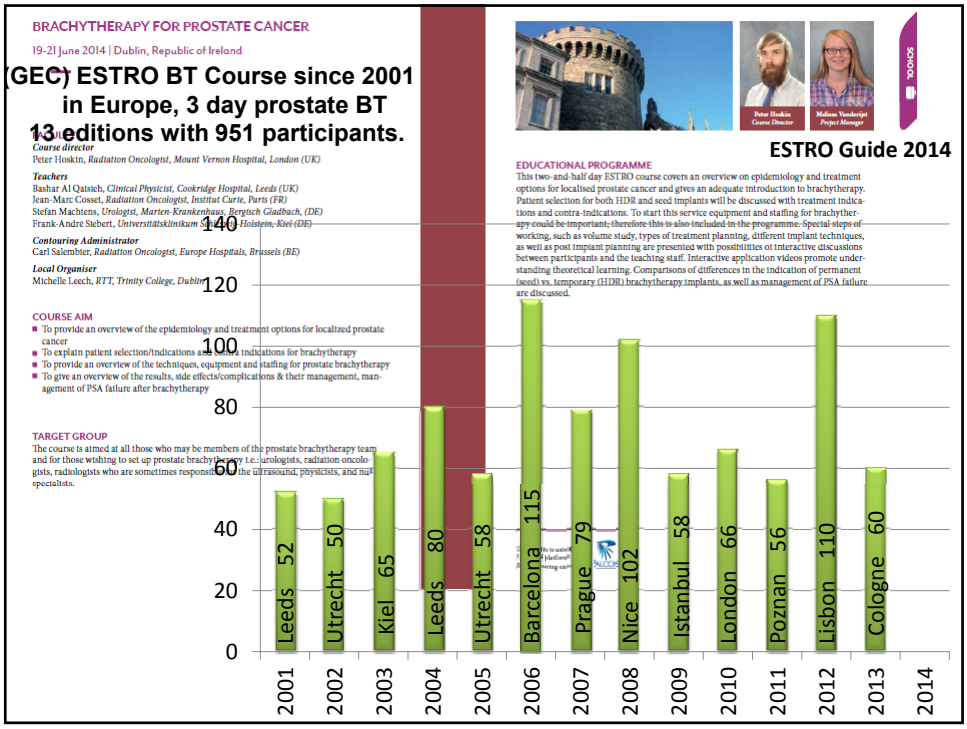
Gynae

4 April 2014

ESTRO School


International courses 2008-2013
400
350
300
250
200
150
100
50
0
150 150 144 105 135
152 190 141 189 233 164
400 350 250 250 128 150
103 165 135
164 120 150 160 288 195
130 105 75
143
M EAST
RUSSIA
CSTRO
AROI
SEAROG
ALATRO
RANZCR
2008 2009 2010 2011 2012 2013
ESTRO School
4 April 2014


MODERN BRACHYTHERAPY TECHNIQUES
09-12 March 2014 | Gdansk, Poland
(GEC) ESTRO Modern BT teaching course since 1990 in Europe and beyond (2 editions)
annual 5 day basic Course for BT:
28 editions and 2865 particip.
ESTRO Guide 2014
FACULTY
Course director
Teachers
Local organiser
COURSE AIM
TARGET GROUP
EDUCATIONAL PROGRAMME
Sources used in brachytherapy
Physics and dose calculation
Clinical radiobiology in brachytherapy: general principles and practical examples
Radioprotection and afterloaders
Optimisation of stepping source brachytherapy
Intersutial brachytherapy
Place of intracavitary brachytherapy in cervix, endometrium and vaginal cancer
Place of endoluminal brachytherapy in oesophageal and bronchus carcinoma
Recommendations for recording and reporting in interstitial, intracavitary and endoluminal brachytherapy
Eye plaque brachytherapy
Permanent seed and HDR prostate implants
Radiobiology of permanent implants
Practical exercises
Erik Van Limbergen
Course Director
Melissa Vanderpot
Project Manager
250
200
150
100
50
0
Paris 60
Oslo 91
Prague 90
Athens 144
Tubingen 118
Izmir 106
Gdansk 130
Bratislava 143
Berlin 85
Oslo 53
Venezia 130
Paris/Bratislava 170
Lisbon 134
Paris 82
Bled 74
Santorini/Moscow 200
Prague 121
Como 84
Istanbul 152
Cairo 150
Madrid/Rio 230
Ljubljana 108
London 104
Athens 60
Poznan 46
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014


BRACHYTHERAPY FOR PROSTATE CANCER
19-21 June 2014 | Dublin, Republic of Ireland
(GEC) ESTRO BT Course since 2001
in Europe, 3 day prostate BT
13 editions with 951 participants.
ESTRO Guide 2014
EDUCATIONAL PROGRAMME
COURSE AIM
TARGET GROUP
Leeds 52
Utrecht 50
Kiel 65
Leeds 80
Utrecht 58
Barcelona 115
Prague 79
Nice 102
Istanbul 58
London 66
Poznan 56
Lisbon 110
Cologne 60
0
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2001
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2014

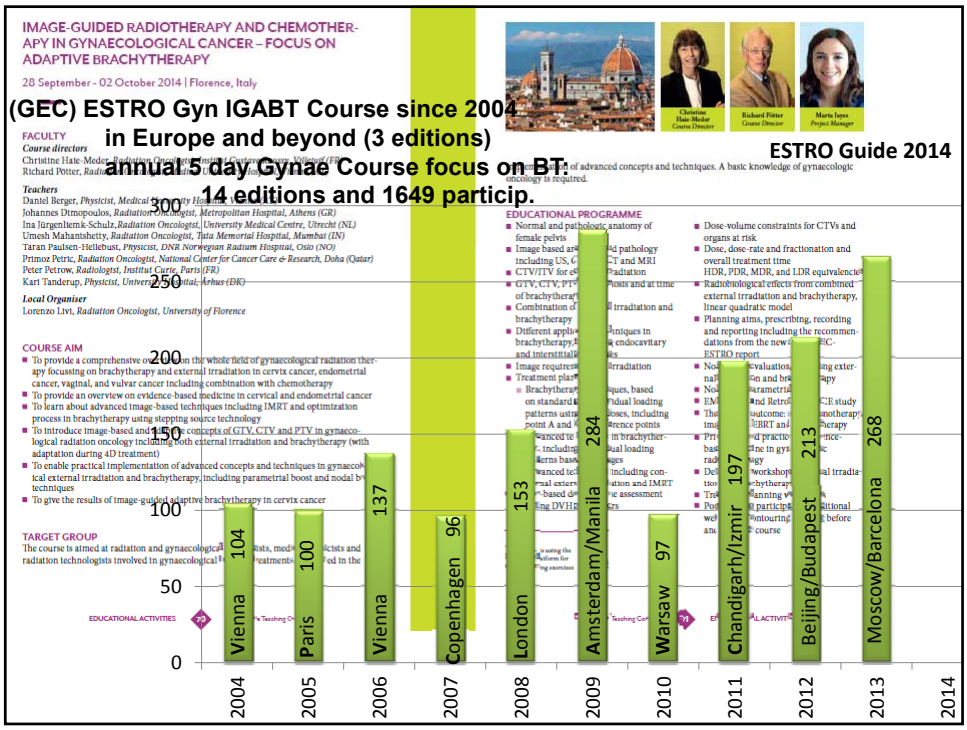


IMAGE-GUIDED RADIOTHERAPY AND CHEMOTHERAPY IN GYNAECOLOGICAL CANCER – FOCUS ON ADAPTIVE BRACHYTHERAPY
28 September - 02 October 2014 | Florence, Italy
(GEC) ESTRO Gyn IGABT Course since 2004
in Europe and beyond (3 editions)
annual 5 day Gynae Course focus on BT:
14 editions and 1649 particip.
ESTRO Guide 2014
FACULTY
EDUCATIONAL PROGRAMME
COURSE AIM
TARGET GROUP
Vienna 104
Paris 100
Vienna 137
Copenhagen 96
London 153
Amsterdam/Manila 284
Warsaw 97
Chandigarh/Izmir 197
Beijing/Budapest 213
Moscow/Barcelona 268
0
50
100
150
200
250
300
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014

A FREE INTERNATIONAL CME SYMPOSIUM

BrachyNext

Working Together to Shape the Future of Brachytherapy

ADVANCED BRACHYTHERAPY PHYSICS

NEW!

18-21 May 2014 | Brussels, Belgium

Just finished:
70 participants
to be repeated
in regular intervals

FACULTY

Course directors
Jack LM Venselaar, *Physicist, Verbeeten Instituut, Tilburg (NL)*
Dimos Baltas, *Physicist, Sana Klinikum Offenbach GmbH (DE)*

Teachers
Luc Beaulieu, *Physicist, Centre Hospitalier University de Quebec (CA)*
Christian Kirisits, *Physicist, Medical University Vienna (AT)*
Panagiotis Papagiannis, *Physicist, University of Athens (GR)*
Mark Rivard, *Physicist, Tufts University School of Medicine, Boston (US)*

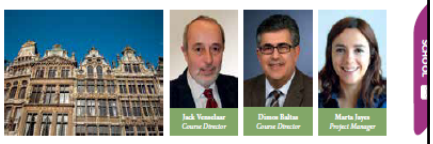
Guest lecturers
Mark De Ridder, *Radiation Oncologist, Universitair Ziekenhuis Brussel (BE)*
Philip Poortmans, *Radiation Oncologist, Instituut Verbeeten, Tilburg (NL)*

COURSE AIM

- To provide physics knowledge relevant to modern brachytherapy, including radiobiology, physics backgrounds of experimental dosimetry, calibration of radioactive sources, treatment planning, use of MC techniques in brachytherapy planning, fundamentals and limitations of algorithms, and developments therein.
- To provide an overview of sources and delivery systems, and the essential quality assurance aspects, in-vivo dosimetry, and developments therein.
- To provide an introduction to modern prescription and delivery concepts in brachytherapy, including imaging, optimisation strategies and treatment plan evaluation, and the required quality assurance and concepts of risk assessment.

TARGET GROUP

The course is primarily aimed at medical physicists who are interested in extending their knowledge in the field of brachytherapy physics. A basic knowledge of the sub-specialty is required, preferably based on at least 1 year of experience in clinical practice. Participation in a previous course (such as the *Modern Brachytherapy Techniques* teaching course) is recommended. Also, any senior who would like to refresh part of his/her knowledge would benefit from this course.



ESTRO Guide 2014

EDUCATIONAL PROGRAMME

This is a 3.5 day course organised to create a high level of understanding of the physics backgrounds of brachytherapy delivery and its technical aspects. The following items will be covered

Advanced dose calculations:
- TG43: essentials and limitations
- 3D models based dose calculations
- 3D Monte Carlo techniques
- Open issues and consequences of introducing 3D dose calculations
- Commissioning of MBDCA in clinical practice

Dose optimisation and evaluation:
- Optimization and inverse planning
- Dose plan evaluation
- Practical session on treatment planning

Imaging in brachytherapy:
- Overview of imaging modalities for brachytherapy
- Reconstruction using 3D imaging
- Tissue segmentation and characterisation in 3D
- Demands on QA of imaging

Measurements in brachytherapy:
- Source strength determination
- Experimental dosimetry in brachytherapy
- In-vivo dosimetry

Radiobiology and modelling, prescription and reporting:
- Overview of radiobiology in brachytherapy
- Models and modelling
- Prescribing and reporting

Accuracy and quality management:
- Risks and safety in brachytherapy
- Uncertainties in brachytherapy
- Quality management
- Failure mode and effect analysis

This course will be organised in co-operation with manufacturers of equipment for treatment planning and delivery. Interaction with the industry is encouraged.

GEC ESTRO working groups (since 2000)

Tasks: (Facilitation of) Research and Development, Networking, Science Dissemination, (Support of) Education and Training, Guidelines/Recommendations on specific topics, Varia

GEC-ESTRO Breast* - Chair: Vratislav Strnad

GEC-ESTRO Urology* - Chair: Peter Hoskin

GEC-ESTRO Gynaecology* - Chair: Kari Tanderup

GEC-ESTRO BRAPHYQS* - Chair: Frank-André Siebert

GEC-ESTRO Head and Neck* - Chair: György Kovacs

GEC-ESTRO Anal - Chair: Arthur Sun Myint (new)

*** Publication of Recommendations/Guidelines**

BRAPHYQS work packages

BRAPHYQS

ESTRO
EUROPEAN SOCIETY FOR RADIOTHERAPY & ONCOLOGY

WP1+2	Dose delivery audit, Geometric reconstruction audit (co
WP3	QA recommendations (completed)
WP4	TG43 website
WP5	Calibration for LDR and HDR
WP6	Prostate survey of practices (completed)
WP7	Phantom studies for physics part (completed)
WP8	Evaluation of clinical part (completed)
WP9	New recommendations
WP10	DVH calculation evaluation (completed)
WP11	Physics data on radiation protection
WP12	QA for prostate implant dosimetry in LDR and HDR
WP13	Uncertainties in Brachytherapy (completed)
WP14	In-Vivo dosimetry
WP15	Interobserver variability study (completed)
WP16	Integral doses in BT
WP17	DICOM standard in Brachytherapy

BRAPHYQS/UroGEC Meeting
Clinica La Luz, Madrid, Juli 2013

AAPM BTSC/ABS liaison: FA Siebert

clinical trials have been initiated through these groups/networks which were facilitated through ESTRO

.

Accelerated Partial Breast Brachytherapy

Versus

Whole Breast Irradiation

in low risk breast cancer

Randomized trial: PI V. Strnad

Gyn GEC ESTRO NETWORK R&D, Educ.

since 5/2005, coordinator Medical Uni.Vienna and Aarhus Uni.Hosp.

Aarhus Athens Leeds Leuven Lubljana Milwaukee Mount Vernon Mumbai Oslo Paris IGR Utrecht Vienna

ESTRO N E T W O R K

3D based contouring of CTV and OAR WP1	Applicator reconstruction WP2	Treatment planning WP3	Applicator development WP4

W O R K P A C K A G E S

EMBRACE Study (since 2008) **supported by Nucletron/Varian/Bebig**

A C T I V I T I E S

- WORKSHOPS FOR CONTOURING Dub,Wash,Milwauk,Utrecht
- WORKSHOP FOR IMAGE GUIDED GYN BT UTRECHT 2006
- WORKSHOP FOR TREATMENT PLANNING Ljubljana 2007
- EMBRACE KICK OFF MEETING Brussels 2008
- WORKSHOP FOR APPLIATOR DEVELOPMENT Leuven 2009
- WORKSHOP FOR OUTCOME ASSESSMENT IN IGABT Paris 2010
- WORKSHOP ON UNCERTAINTIES IN IGABT AARHUS 2011
- WORKSHOP ON MORBIDITY AND DISEASE OUTCOME ATHENS 2012
- WORKSHOP on EMBRACE and retroEMBRACE research 2011, 2012

PUBLICATIONS ON:

- 3D IMAGING
- INTER-OBSERVER VARIATIONS
- APPLICATOR RECONSTRUCTION
- TREATMENT PLANNING
- UNCERTAINTIES

Review of clinical brachytherapy uncertainties. Analysis guidelines of GEC-ESTRO and the AAPM

Christian Kirisits, Mark J. Rivard, Dimos Baltas, Facundo Ballester, Marisol De Brabandere, Rob van der Laarse, Yury Niatsetski, Panagiotis Papagiannis, Taran Paulsen Hellebust, Jose Perez-Calatayud, Kari Tanderup, Jack L. M. Venselaar, Frank-André Siebert

Radiother Oncol 2014

Clinical and physics research

EMBRACE

www.embracestudy.dk

DIAGNOSIS

Inclusion criteria:
1. Biopsy proven cervical Ca
2. Treatment with curative intent
3. FIGO, TNM staged
4. MRI/CT pelvis and PAN at diagnosis
5. MR guided BT planned
6. Informed consent (copy to the study office)

Registration form
- Status at diagnosis form (MRI + CRF + cartoons)
- Baseline morbidity form
- Baseline QoL

TREATMENT

EBRT+/- Chemo → Status at BT form → MRI guided BT
- Treatment and DVH form (EBRT +/- Chemo + BT1-n)
- End of treatment QoL form

POSTREATMENT

Follow-up → (

facilitation of clinical research through ESTRO supported working groups/networks unresrestricted industry grants

Local rec
toxici
COMPREHENSIVE REPORT TO STUDY OFFICE!!!

Off study form

GEC ESTRO Recommendations for Brachytherapy in Cervix Cancer and other Cancers plus booklets, textbook

Recommendations from Gynaecological (GYN) GEC-ESTRO Working Group* (I): concepts and terms in 3D image based 3D treatment planning in cervix cancer brachytherapy with emphasis on MRI assessment of GTV and CTV

Christine Haie-Meder[a,*], Richard Pötter[b], Erik Van Limbergen[c], Edith Briot[a], Marisol De Brabandere[c], Johannes Dimopoulos[b], Isabelle Dumas[a], Taran Paulsen Hellebust[d], Christian Kirisits[b], Stefan Lang[b], Sabine Muschitz[b], Juliana Nevinson[a], An Nulens[c], Petra Petrow[e], Natascha Wachter-Gerstner[b]

Radiotherapy and Oncology 74 (2005) 235–245

Contents lists available at ScienceDirect
Radiotherapy and Oncology
journal homepage: www.thegreenjournal.com

GEC-ESTRO Recommendations

Recommendations from Gynaecological (GYN) GEC-ESTRO Working Gr
Considerations and pitfalls in commissioning and applicator reconstru
in 3D image-based treatment planning of cervix cancer brachytherapy

Taran Paulsen Hellebust[a,*], Christian Kirisits[b], Daniel Berger[b], José Pérez-Calatayud[c], Marisol De Brabandere[d], Astrid De Leeuw[e], Isabelle Dumas[f], Robert Hudej[g], Gerry Lowe[h], Kari Tanderup[i]

ESTRO project

Recommendations from gynaecological (GYN) GEC ESTRO working group (II): Concepts and terms in 3D image-based treatment planning in cervix cancer brachytherapy—3D dose volume parameters and aspects of 3D image-based anatomy, radiation physics, radiobiology

Richard Pötter[a,*], Christine Haie-Meder[b], Erik Van Limbergen[c], Isabelle Barillot[d], Marisol De Brabandere[e], Johannes Dimopoulos[a], Isabelle Dumas[b], Beth Erickson[e], Stefan Lang[a], An Nulens[c], Peter Petrow[f], Jason Rownd[e], Christian Kirisits[a]

Radiotherapy and Oncology 103 (2012) 113–122

Contents lists available at SciVerse ScienceDirect
Radiotherapy and Oncology
journal homepage: www.thegreenjournal.com

GEC-ESTRO Recommendations

Recommendations from Gynaecological (GYN) GEC-ESTRO Working Group (IV): Basic principles and parameters for MR imaging within the frame of image based adaptive cervix cancer brachytherapy

Johannes C.A. Dimopoulos[a], Peter Petrow[b], Kari Tanderup[c], Primoz Petric[d], Daniel Berger[e], Christian Kirisits[e], Erik M. Pedersen[e], Erik van Limbergen[f], Christine Haie-Meder[g], Richard Pötter[e,*]

ESTRO (PHYSICS) BOOKLETS
(with the support of Europe Against Cancer and Atomic Energy Agency):

THE GEC ESTRO HANDBOOK OF BRACHYTHERAPY
by A. Gerbaulet, R. Pötter, J.-J. Mazeron, H. Meertens, E. Van Limbergen
Supported by Nucletron, Oncura and Varian

Booklet No. 8
A Practical Guide to Quality Control of Brachytherapy Equipment
by J. Venselaar, J. Pérez-Calatayud

GEC ESTRO Recommendations for Brachytherapy in Prostate Cancer, Head and Neck Cancer, Breast Cancer, Medical Physics

Ash D et al.; **ESTRO/EAU/EORTC recommendations on permanent seed implantation** for **localized prostate cancer. Radioth Oncol** 2000 Dec;57(3):315-21

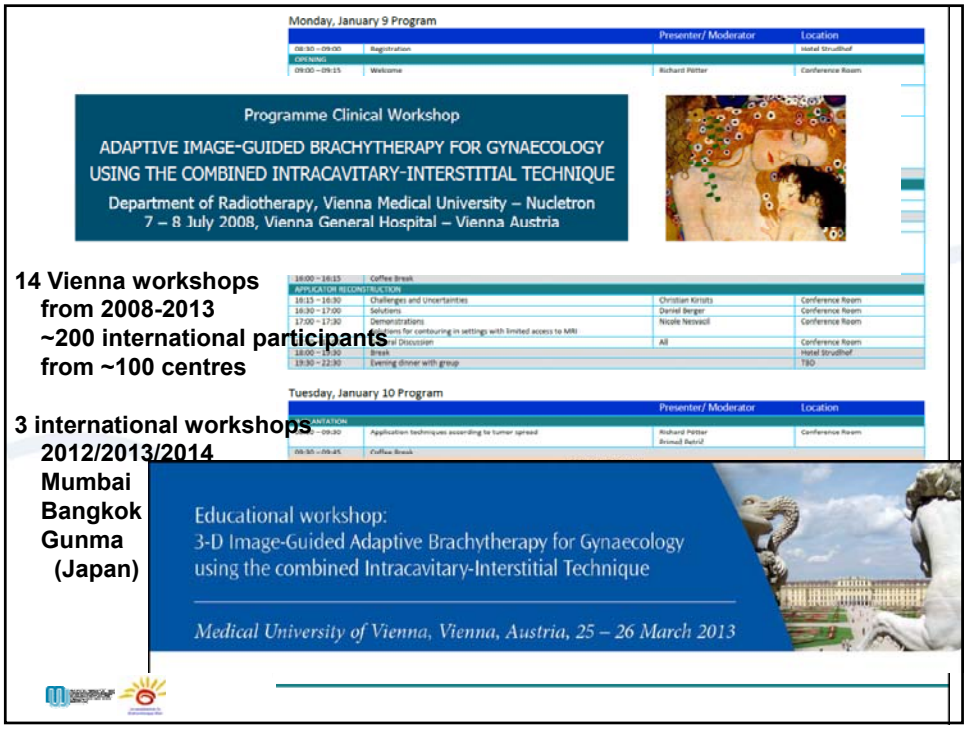
Kovács, G., et al. **GEC/ESTRO-EAU recommendations on temporary brachytherapy** using stepping sources for **local. prostate cancer**. ***Radiother Oncol.*** 2005, 74; 137-148.

Hoskin, P.J., et al. GEC/ESTRO recommendations on **high dose rate afterloading brachytherapy for localised prostate ca**.: **an update. *Radiother Oncol.*** 3, 2013, 325-32.

Mazeron JJ et al. **GEC-ESTRO recommendations for brachytherpy for head and neck squamous cell carcinomas. Radiother Oncol.** 2009 May;91(2):150-6.

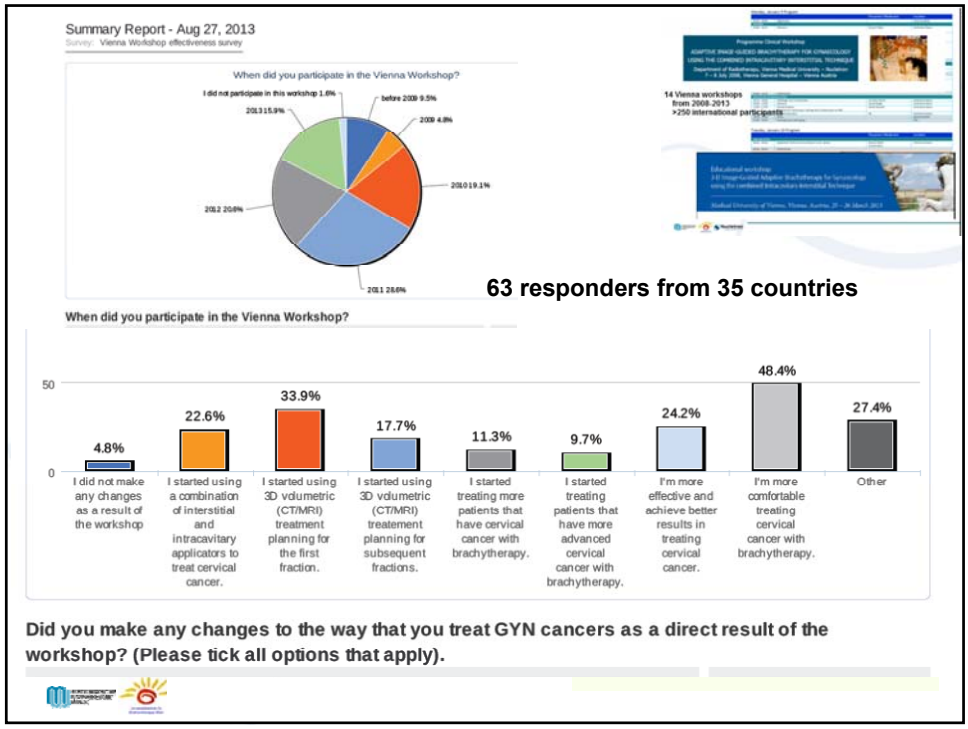
Polgár C et al. GEC-ESTRO cancer working group. Patient selection for **APBI after breast conserving surgery**. **Recommendations of the GEC ESTRO breast cancer working group** based on clinical evidence. Radioth.Oncol. 2010 Mar;94(3):264-73.

Kirisits C. et al. Review of **clinical brachytherapy uncertainties: Analysis guidelines of GEC-ESTRO and the AAPM** Radiother Oncol 2014



14 Vienna workshops
from 2008-2013
~200 international participants
from ~100 centres

3 international workshops
2012/2013/2014
Mumbai
Bangkok
Gunma
(Japan)



FALCON

FALCON (Fellowship in Anatomic deLineation and CONtouring) is an educational ESTRO project that was started in 2010. FALCON is aimed at improving the contouring skills of the radiation oncology community and at contributing to better treatment planning of cancer patients treated with radiotherapy.

An online educational contouring tool was acquired and integrated into the portfolio of educational ESTRO activities such as live courses, workshops at ESTRO meetings, online virtual workshops and for the database of contouring cases accessible for the ESTRO members.

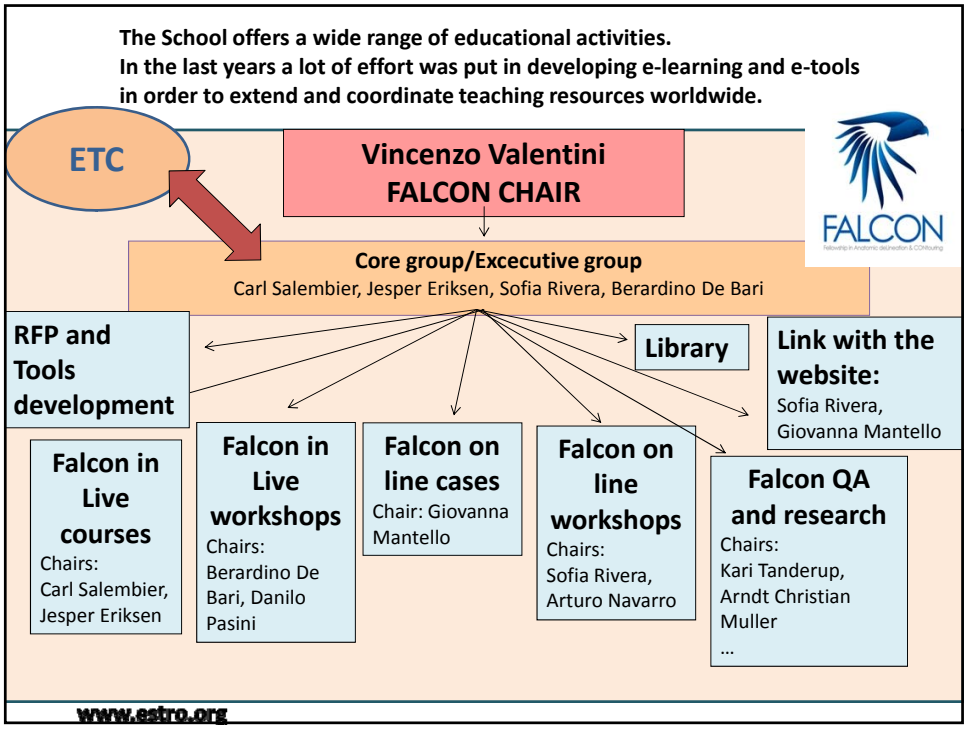
In the coming years ESTRO will continue to:

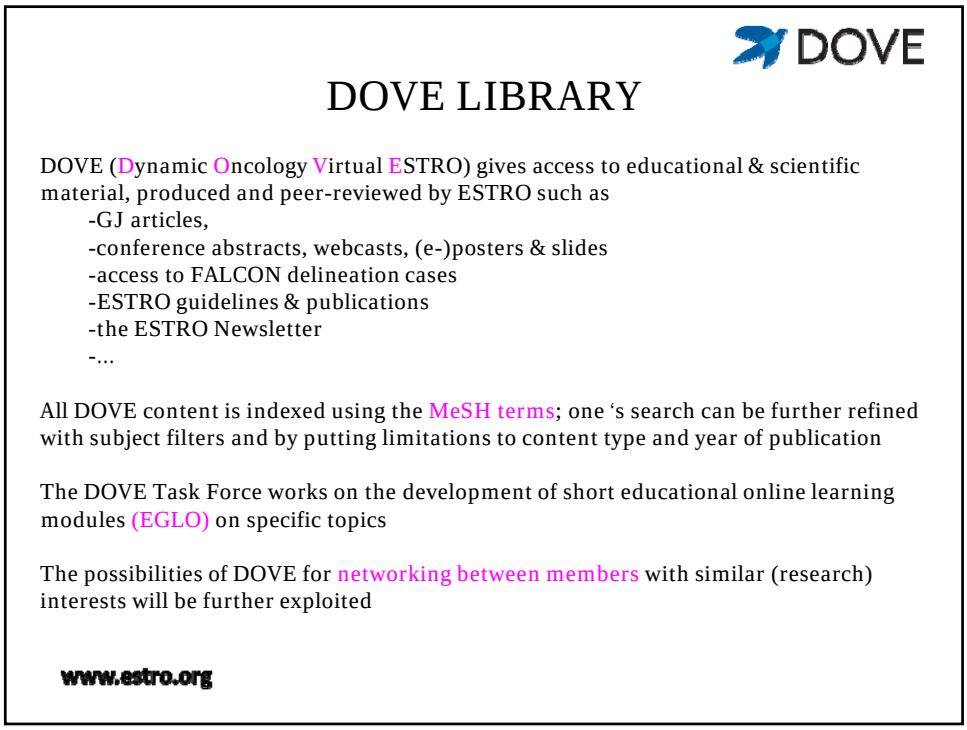
- use the contouring tool in about half of the ESTRO live courses and in dedicated contouring workshops to train the delineation skills of the participants before, during and /or after the course or workshop.
- organise online contouring workshops for different tumour sites such as breast, head and neck, rectum, gynae.... These workshops can take maximum 20 participants and are conducted through webconferences over a time span of three weeks. The sessions are very interactive and offer the opportunity to compare delineations from participants and experts and discuss the interobserver variability and the available guidelines. (dates of these online workshops are published on the website in the calendar of the School - www.estro.org/school/courses/FirstLevel/Live+courses).
- expand its database of cases delineated by experts, accessible to the ESTRO membership and community; a limited number of cases is available for free at all time to ESTRO members, access to the full database can be purchased online.
- develop guidelines for delineation of the different tumour sites.

www.estro.org

Programme

- FRIDAY 4 APRIL 2014 | 08:00-10:00 / SATURDAY 5 APRIL 2014 | 08:00-10:0
  Joint ESTRO – ILROG on Lympho
  Chair: L. Specht (DK)
- FRIDAY 4 APRIL 2014 | 10:30-12:30 / SUNDAY 6 APRIL 2014 | 08:00-10:00
  Organs at risk
  Chair: M. Guckenberger (DE)
- FRIDAY 4 APRIL 2014 | 13:30-15:30 / MONDAY 7 APRIL 2014 | 08:00-10:00
  Oesophagus
  Chair: O. Matzinger (CH)
- FRIDAY 4 APRIL 2014 | 16:00-18:00 / TUESDAY 8 APRIL 2014 | 08:30-10:30
  Rectum
  Chair: C. Marijnen (NL)


The School offers a wide range of educational activities.
In the last years a lot of effort was put in developing e-learning and e-tools in order to extend and coordinate teaching resources worldwide.
ETC
Vincenzo Valentini
FALCON CHAIR
FALCON
Core group/Excecutive group
Carl Salembier, Jesper Eriksen, Sofia Rivera, Berardino De Bari
RFP and Tools development
Library
Link with the website:
Sofia Rivera, Giovanna Mantello
Falcon in Live courses
Chairs:
Carl Salembier, Jesper Eriksen
Falcon in Live workshops
Chairs:
Berardino De Bari, Danilo Pasini
Falcon on line cases
Chair: Giovanna Mantello
Falcon on line workshops
Chairs:
Sofia Rivera, Arturo Navarro
Falcon QA and research
Chairs:
Kari Tanderup, Arndt Christian Muller
...
www.estro.org


DOVE
DOVE LIBRARY
DOVE (Dynamic Oncology Virtual ESTRO) gives access to educational & scientific material, produced and peer-reviewed by ESTRO such as
-GJ articles,
-conference abstracts, webcasts, (e-)posters & slides
-access to FALCON delineation cases
-ESTRO guidelines & publications
-the ESTRO Newsletter
-...
All DOVE content is indexed using the MeSH terms; one 's search can be further refined with subject filters and by putting limitations to content type and year of publication
The DOVE Task Force works on the development of short educational online learning modules (EGLO) on specific topics
The possibilities of DOVE for networking between members with similar (research) interests will be further exploited
www.estro.org

ESTRO SCHOOL TODAY – ONLINE LEARNING 2013

FALCON

11 ESTRO live courses used FALCON for contouring exercises in 2013 for a total number of 982 participants

8 FALCON WS were organised @ ESTRO FORUM II (2x OAR, 2x GYN, 2x CNS, 2x BREAST)

Learning Object

DOVE

EGLO

EaGle Learning Objects
Using the existing ESTRO content in **DOVE** as the core study material for **EAGLE** (ESTRO Global Learning), which will likely be a mix of different types of content.

www.estro.org

ESTRO MOBILITY GRANTS (TTG)

This is for you: you want to visit another institute to learn about or gain experience with a technique, equipment or its application that is not easily available in your own institute and which would be useful to you and your department in future studies or clinical treatments.

Year	RO	Phy	RTT	RB	Total
2008(1X)	14	9	5	3	31
2009(2X)	1	22	8	0	43
2010(2X)	22	21	6	0	49
2011(2X)	17	11	3	2	33
2012(2X)	21	15	8	0	44
2013(2X)	33	22	6	0	61
TOTAL	118	100	36	5	259
%	45,5	38,5	14	2	100

Year	# Proposals	# Funded	% Funded
2008	27	19	70
2009	42	22	52
2010	46	25	54
2011	28	21	75
2012	40	33	82
2013	40	29	73
TOTAL	223	149	66

ESTRO School

ESTRO SCHOOL for Radiotherapy and Oncology 2014

- About 33.000 ESTRO live course participants (~3000/y)
- 220 teachers
- 45-50 course directors in 35 courses per year
- 20 ETC members with specific tasks
- 15 Task Force members (e.g. on-line education)
- 8 liaison persons (from Teaching Faculties for Live courses)
- 8 staff members (ESTRO office)
- 14 ESTRO Fellows

> School symposia at ESTRO meetings since 2008 – biennial

> Teachers' retreat since 2011 – biennial (ESTRO Forum)

03/01/13

ESTRO School

VISION FOR 2020 AND EDUCATION FUTURE OF THE ESTRO SCHOOL/ETC


Radiotherapy and Oncology 103 (2012) 99–102

Contents lists available at SciVerse ScienceDirect

Radiotherapy and Oncology

journal homepage: www.thegreenjournal.com

ESTRO Vision 2012

ESTRO 2012 Strategy Meeting: Vision for Radiation Oncology

Vincenzo Valentini *[,1,4,5], Jean Bourhis [2,4,5], Donal Hollywood [3,4,5]

Vision 1.3: Access to **continuing medical education and continuing professional and personal development** ...

Vision 1.5: ESTRO will take all reasonable measures to further develop as **the preeminent educational and scientific society** ... unique strategic responsibility for the future development ... **within Europe and at a global level**.

4 April 2014

ESTRO School

VISION FOR 2020 AND EDUCATION
FUTURE OF THE ESTRO SCHOOL/ETC

ESTRO acknowledges that access to modern radiation oncology treatment is an essential component of high-quality cancer treatment and central to optimal patient care.

Further development of our discipline will therefore be critically important to the future strategic development of multidisciplinary cancer care.

In that perspective, access to continued medical education and continued professional and personal development will be crucial to empower professionals in radiation oncology to fully participate in all decisions regarding treatment.

In order to achieve this vision, ESTRO wishes

*to support the permanent development of basic and advanced educational courses through the established ESTRO School, also including brachytherapy
*to further extend this offer with online educational tools and its newly created web-based educational platform DOVE (Dynamic Oncology Virtual ESTRO including BT)
*to continue to invest in quality assurance and improvement of its educational offer.

GEC ESTRO committee

ESTRO School