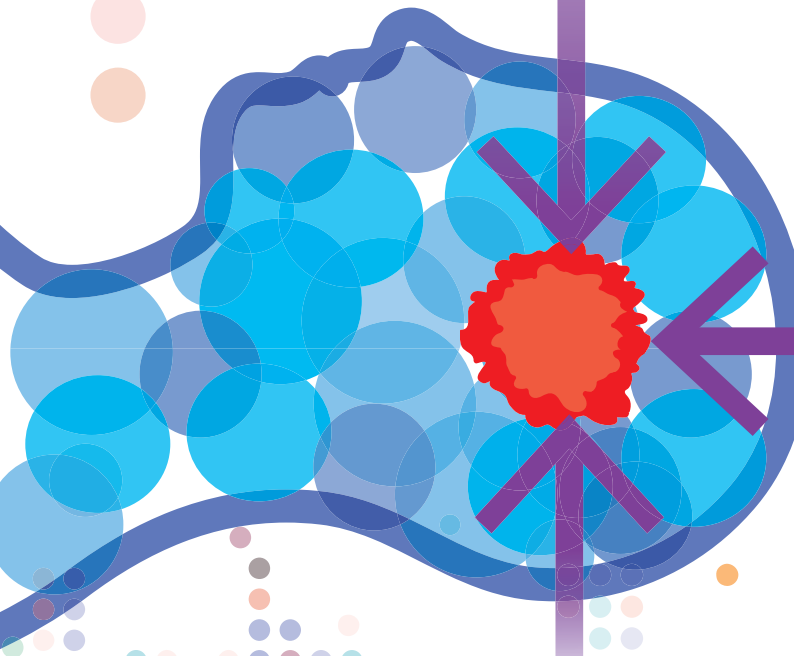
International Conference on

Advances in Radiation Oncology

Vienna, Austria
20–23 June 2017

#ICARO2



PROGRAMME

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IAEA 60 Years
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In cooperation with the

- European Society for Therapeutic Radiology and Oncology (ESTRO)
- International Cancer Expert Corps (ICEC)
- American Association of Physicists in Medicine (AAPM)
- International Organization for Medical Physics (IOMP)
- Japanese Society for Radiation Oncology (JASTRO)
- American Brachytherapy Society (ABS)
- Federation of Asian Organizations for Radiation Oncology (FARO)
- International Agency for Research on Cancer (IARC)
- International Society of Radiographers and Radiological Technologists (ISRRT)
- Medical Physicists without borders (MPWB)
- South East Asian Radiation Oncology Group (SEAROG)
- International Union Against Cancer (UICC)
- International Commission on Radiation Units and Measurements (ICRU)
- African Radiation Oncology Group (AFROG)
- American Society for Therapeutic Radiology and Oncology (ASTRO)
- Asociación Latinoamericana de Terapia Radiante Oncológica (ALATRO)
- Asociación Latinoamericana de Física Médica (ALFIM)
- European Federation of Organisations for Medical Physics (EFOMP)
- Federation of African Medical Physics Organisations (FAMPO)

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Location of the Conference:

International Atomic Energy Agency
Vienna International Centre (VIC)
Board Room B/M1 (M-Building)
Wagramer Strasse 5
1400 Vienna, Austria
Tel: +43 1 2600 0

Working Language: English

Resolutions: No resolutions may be submitted for consideration on any subject; no votes will be taken.

TIMETABLE

Monday, 19 June 2017

10.00-16:00	Collection of badges (Pass Office/Gate 1)	

Tuesday, 20 June 2017

08:00-16:00	Collection of badges (Pass Office/Gate 1)	
08:00-16:00	Distribution of conference material (M-Building)	
09:00-09:30	Session 1: Plenary	Opening Session *(Board Room B/M1)*
09:30–10:30	Session 2: Plenary, Keynote lecture	From ICARO to ICARO2. (*Board Room B/M1)*
10:30–11:00	*Coffee Break and e-Poster Presentations*	*See details of presentations at the end of this programme (outside Board Room B/M1)*
11:00–12:15	Session 3: Plenary, Panel discussion	Global cancer challenges and role of radiotherapy *(Board Room B/M1)*
12:15-12:30	Session 4: Plenary	DIrectory of RAdiotherapy Centres (DIRAC) *(Board Room B/M1)*
12.30-14.00	*Lunch*	
12:30–14:00	Session 5: Lunchtime workshop and symposia	5A: e-Contouring workshop, Lung *(registered participants only) (Conference Room M3)*
		5B: Symposium, Paediatric radiotherapy *(Board Room B/M1)*
		5C: Industry symposium (*Conference Room M7)*
14:00–15:00	Session 6: Plenary, Panel discussion	Requirements for safe and effective transition to new/appropriate technologies *(Board Room B/M1)*
15:00–15:30	Session 7: Plenary, Keynote lecture	Health economics of cancer *(Board Room B/M1)*

Tuesday, 20 June 2017 (cont'd)

15:30–16:00	*Coffee break and e-Poster presentations*	*See detail of presentations at the end of this programme*
16:00–18:00	Session 8: Plenary, Invited lectures and proffered papers	Education and training *(Board Room B/M1)*
19:00-21:00	*Welcome Reception (Kunsthistorisches Museum Wien)*	

Wednesday, 21 June 2017

08:00-16:00	Collection of badges (Pass Office/Gate 1)	
08:00-16:00	Collection of conference material (M-Building)	
07:30–09:00	Session 9: Teaching lectures and demo session	9A: Teaching lecture, From GTV to PTV (*Conference Room M3)*
		9B: Teaching lecture, Small field dosimetry (*Board Room B/M1)*
		9C: Demo session, Radiotherapy plan competition initiative. (*Conference Room M2)*
09:00–10:30	Session 10: Parallel sessions	10A: Proffered papers, Breast and cervix *(Conference Room M3)*
		10B: Proffered papers, Small field dosimetry. (*Board Room B/M1)*
10:30–11:00	*Coffee break and e-Poster presentations*	*See details of presentations at the end of this programme*
11:00–11:45	Session 11a: Parallel, Keynote lecture	Personalized medicine (*Conference Room M3)*
11:00–12:30	Session 11b: Parallel, Proffered papers	Quality in radiotherapy: various dimensions (*Board Room B/M1)*
11:45–12:30	Session 11c: Parallel, Keynote lecture	Towards a radical treatment of oligometastases. *(Conference Room M3)*
12.30-14.00	*Lunch*	
12:30–14:00	Session 12: Lunchtime workshop and symposia	12A: e-Contouring workshop, Head and neck *(registered participants only) (Conference Room M3)*
		12B: Industry symposium *(Board Room B/M1)*
		12C: Industry symposium *(Conference Room M2)*

Wednesday, 21 June 2017 (cont'd)

14:00–15:00	Session 13a: Parallel session, Panel discussion	Access to high quality care: challenges and possible solutions *(Board Room B/M1)*
14:00–15:30	Session 13b:Parallel session, Invited lectures	The role of international organizations and professional societies – Part 1 *(Conference Room M3)*
15:00–15:30	Session 13c: Parallel session	Imaging for planning and treatment delivery in EBRT – Part 1 *(Board Room B/M1)*
15:30–16:00	*Coffee break and e-Poster presentations*	*See detail of presentations at the end of this programme*
16:00–17:50	*Session 14: Parallel session*	14A: *Proffered papers* Imaging for planning and treatment delivery *(Board Room B/M1)*
		14B: Panel discussion , The role of international organizations and professional societies – Part 2 *(Conference Room M3)*

Thursday, 22 June 2017

08:00-16:00	Collection of badges (Pass Office/Gate 1)	
08:00-16:00	Collection of conference material (M-Building)	
07:30–09:00	Session 15: Teaching lectures and demo session	15A: Teaching lecture, Past, present and future of brachytherapy. *(Conference Room M3)*
		15B: Teaching lecture, QA for modern RT techniques *(Board Room B/M1)*
		15C: Demo session, Full automation in radiotherapy *(Conference Room M2)*
09:00–10:30	Session 16: Parallel session	16A: Invited lectures and proffered papers, Prostate - H&N *(Conference Room M3)*
		16B: Proffered papers, QA from simulation to delivery (*Board Room B/M1)*
10:30-11:00	*Coffee break and e-Poster presentations*	*See detail of presentations at the end of this programme*
11:00–12:00	Session 17: Plenary, Panel discussion	Practical implementation of new technologies in LMIC *(Board Room B/M1)*
12:00–13:00	Session 18: Plenary, Debate	Should IMRT be the standard of care? *(Board Room B/M1)*
13:00-14:30	*Lunch*	
13:00–14:30	Session 19: Lunchtime workshop and symposia	19A: e-Contouring workshop, Breast *(registered participants only)* *(Conference Room M3)*
		19B: Symposium, Telemedicine *(Conference Room M2)*
		19C: Industry Symposium *(Board Room B/M1)*

Thursday, 22 June 2017 (cont'd)

14:30–15:30	Session 20: Plenary, Panel discussion	Future trends in radiotherapy *(Board Room B/M1)*
15:30-16:00	*Coffee break and e-Poster presentations*	*See detail of presentations at the end of this programme*
16:00–18:00	Session 21: Plenary	Quality and safety (*Board Room B/M1)*

Friday, 23 June 2017

08:00-16:00	Collection of badges (Pass Office/Gate 1)	
08:00-16:00	Collection of conference material (M-Building)	
07:30–09:00	Session 22: Teaching lectures et al	22A: Teaching lecture, Translational radiation biology *(Conference Room M3)*
		22B: Teaching lecture, How to evaluate a treatment plan *(Conference Room M2)*
		22C: Introduction to new ICRU reports 89 and 91 (*Board Room B/M1)*
09:00–10:30	Session 23: Plenary	GIRO *(Board Room B/M1)*
10:30-11:00	*Coffee break and e-Poster presentations*	*See detail of presentations at the end of this programme*
11:00–12:00	Session 24: Parallel session, Proffered papers	24A: Combined therapies, including immunotherapy *(Board Room B/M1)*
		24B: Brachytherapy *(Conference Room M3)*
12.00-13:30	*Lunch*	
12:00–13:30	Session 25: Lunchtime workshop and symposia	25A: e-Contouring workshop, GYN *(registered participants only) (Conference Room M3)*
		25B: Symposium, Radiotherapy in the context of national cancer control strategies *(Board Room B/M1)*
		25C: Symposium, Clinical research in radiation oncology *(Conference Room M2)*

Friday, 23 June 2017

13:30–14:30	Session 26: Plenary	Poster highlights *(Board Room B/M1)*
14:30–15:30	Session 27: Plenary	Closing session *(Board Room B/M1)*

Display of e-Posters

e-Posters will be on display throughout the conference in the Poster Exhibition area outside Board Room B/M1.

e-Poster presentations will be held during **coffee breaks.**

Poster authors are requested to be at their poster during their assigned poster session (see list at the end of this programme).

Commercial exhibits

Commercial exhibits will be shown throughout the conference in the exhibition areas on the Ground Floor and 1st Floor of the M Building.

MONDAY, 19 JUNE 2017

10.00-16:00 Collection of badges (Pass Office/Gate 1)

TUESDAY, 20 JUNE 2017

08:00-16:00 Collection of badges
(Pass Office/Gate 1) throughout the week

08:00-16:00 Distribution of conference material
(M-Building) – throughout the week

09:00–09:30 **SESSION 1: OPENING SESSION**

(Board Room B/M1)

Aldo Malavasi
Deputy Director General
Department of Nuclear Sciences and Applications

Dazhu Yang
Deputy Director General
Department of Technical Cooperation

May Abdel-Wahab
Director
Division of Human Health
Department of Nuclear Sciences and Applications

09:30–10:30 **SESSION 2: From ICARO to ICARO2**
Plenary; Keynote lecture

(Board Room B/M1)

Learning Objectives:
1. To know the advances in radiation oncology since ICARO1 (2009)
2. To understand the challenges in the field of radiation oncology in the near future

Chair: May Abdel-Wahab, IAEA
Co-Chairs: Geoffrey Ibbott, IOMP
Eduardo Zubizarreta, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
09:30 - 10:00	Eduardo Rosenblatt	Uruguay	From ICARO1 to ICARO2: the radiation oncologist perspective
10:00 - 10:30	Geoffrey Ibbott	IOMP	From ICARO1 to ICARO2: the medical physicist perspective

10:30–11:00 *Coffee Break and e-Poster presentations*
(outside Board Room B/M1)

TUESDAY, 20 JUNE 2017 (cont'd)

11:00–12:15 **SESSION 3: Global cancer challenges and role of radiotherapy**
Plenary; Panel discussion

(Board Room B/M1)

Learning Objectives:
1. To identify the more relevant challenges in global cancer management
2.To identify the role of radiotherapy in the global management of cancer

Chair: Mary Evans-Gospodarowicz, UICC
Co-Chairs: Eduardo Zubizarreta, IAEA
Brendan Healy, IAEA

Time	*Name*	*Designating Member State/Organization*	
11:00 - 11:05	Mary Evans-Gospodarowicz	UICC	Challenges in cancer control
11:05 - 11:10	Alfredo Polo	IAEA	Sustainability of radiotherapy in LMIC
11:10 - 11:15	David Jaffray	Canada	Innovating to meet the demand for RT
11:15 - 11:20	Yolande Lievens	ESTRO	Reimbursement in HIC
11:20 - 11:25	David Followill	AAPM	Auditing advanced technologies
11:25-12:15	Discussion		

12:15–12:30 **SESSION 4: DIrectory of RAdiotherapy Centres, DIRAC**
Plenary

(Board Room B/M1)

Learning Objectives:
1.To understand the role of DIRAC in global radiotherapy
2.To understand the mechanisms of data entry into DIRAC

Chair: Eduardo Zubizarreta, IAEA

Presenter: Joanna Izewska, IAEA

12:30-14:00 *Lunch*

TUESDAY, 20 JUNE 2017 (cont'd)

12:30–14:00 **SESSION 5: Lunchtime workshops and Symposia**
Parallel sessions

12:30–14:00 **SESSION 5A: e-Contouring workshop, Lung** *(for registered participants only)*

(Conference Room M3)

Learning Objectives:
1. To learn how to contour the GTV and CTV in lung cancer
2. To learn how to contour OAR in lung cancer

Trainer: Billy W. Loo, ASTRO

12:30–14:00 **SESSION 5B: Symposium: Paediatric radiotherapy**

(Board Room B/M1)

Learning Objectives:
1. To understand the particularities of paediatric radiotherapy
2. To learn how to implement a paediatric radiotherapy programme

Chair: Yavuz Anacak, Turkey

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
12:30 - 12:55	Mohamed Zaghloul	Egypt	Paediatric medulloblastoma
12:55 - 13:20	Rosangela Correa Villar	Brazil	Benefits of High Technology applied to Paediatric Radiation Oncology
13:20 - 13:45	Felipe Calvo	ESTRO	Paediatric intraoperative electron radiotherapy: results and innovations
13:45 - 14:00	Discussion		

12:30–14:00 **SESSION 5C: Industry Symposium**

(Conference Room M7)

TUESDAY, 20 JUNE 2017 (cont'd)

14:00–15:00 **SESSION 6: Requirements for safe and effective transition to new/appropriate technologies**
Plenary, Panel discussion

(Board Room B/M1)

Learning Objectives:
1. To discuss the need for a transition to new technologies
2. To identify the basic requirements to make this transition safe and effective

Chairs: Pierre Scalliet, ESTRO
Belal Moftah, Saudi Arabia
Co-Chairs: Debbie Gilley, IAEA
Debbie van der Merwe, South Africa

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
14:00 - 14:05	Pierre Scalliet	ESTRO	
14:05 - 14:10	Jacob Van Dyk	MPWB	
14:10-14:15	Debbie Van Der Merwe	South Africa	
14:15 - 14:20	Mary Coffey	ESTRO	
14:20-15:00	Discussion		

15:00–15:30 **SESSION 7: Health economics of cancer**
Plenary, Keynote lecture
(Board Room B/M1)

Learning Objectives:
1. To understand the basics of health economics of cancer

Chair: David Jaffray, Canada
Co-Chair: Eduardo Zubizarreta, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
15:00 - 15:25	Yolande Lievens	ESTRO	Health economics of cancer
15:25 - 15:30	Discussion		

15:30–16:00 *Coffee Break and e-Poster presentations (outside Board Room B/M1)*

TUESDAY, 20 JUNE 2017 (cont'd)

16:00–18:00 **SESSION 8: Education and training**
Plenary, Invited lectures and proffered papers

(Board Room B/M1)

Chairs: Mary Coffey, ESTRO
Richard Poetter, ESTRO

Co-Chairs: Giorgia Loreti, IAEA
Oleg Belyakov, IAEA

Learning Objectives:
1. Compare national and international challenges in education and training of radiotherapy professionals
2. Discuss solutions and perspectives of education and training of radiotherapy professionals
3. Analyse the role of technology in education and training and professional development

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
16:00 - 16:15	Giorgia Loreti	IAEA	IAEA Education and Training activities in Radiotherapy
16:15 - 16:25	Richard Poetter	ESTRO	ESTRO School
16:25 - 16:35	Renato Padovani	ICTP	Abstract 140: ICTP, Trieste University, Italian and Croatian Medical Physics: A training opportunity for young physicists from Developing Countries (Proffered Paper)
16:35 – 16:45	Kin Yin Cheung	IOMP	Abstract 142: Accreditation of Education and Professional Standards of Medical Physicists (Proffered Paper)
16:45 - 16:55	Meredith Giuliani	Canada	Abstract 125: Addressing Global Radiation Medicine Human Resource Gaps Through Educational Innovation (Proffered Paper)
16:55 - 17:05	Tania Furquim	ALFIM	Abstract 308: Implementation of the Brazil's National Training Program for Radiotherapy Technicians - Preliminary Results (Proffered Paper)
17:05 - 17:15	Ioan Valentin Cernea	Romania	Abstract 112: Competency-based Education of RTT's in Romania: Changing the Paradigm to Prepare the Future (Proffered Paper)
17:15 - 17:25	Daniel Scanderbeg	USA	Abstract 100: Competency based education and training in radiation oncology (Proffered Paper)
17:25 - 17:35	Ahmad Nobah	Saudi Arabia	Abstract 226: International Radiotherapy Plan Competition: A step towards better planning and global transfer of knowledge (Proffered Paper)
17:35 - 18:00	Discussion		
19:00-21:00	*Welcome Reception (Kunsthistorisches Museum Wien)*		

WEDNESDAY, 21 JUNE 2017

07:30–09:00 **SESSION 9A: From GTV to PTV**
Parallel session, Teaching lecture

(Conference Room M3)

Chair: Nuria Jornet, ESTRO
Co-Chair: Alfredo Polo, IAEA

Learning Objectives:
1. To understand the basic ICRU concepts in volume definition
2. To learn about the various methods for volume delineation

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
07:30 – 07:50	Eduardo Rosenblatt	Uruguay	Revisiting ICRU volume definitions
07:50 – 08:10	Kenneth Hu	USA	How to incorporate clinical information and natural tumour history in CTV definition
08:10 – 08:30	Joep Stroom	ESTRO	ITV and PTV margins for IGRT
08:30 – 08:50	Ben Heijmen	ESTRO	Autoplanning in the IGRT era
08:50 – 09:00	Discussion		

07:30–09:00 **SESSION 9B: Small field dosimetry**
Parallel session, Teaching lecture

(Board Room B/M1)

Chair: Jan Seuntjens, ICRU
Co-Chair: Karen Christaki, IAEA

Learning Objectives:
1. Learn about the new IAEA/AAPM code of practice for the dosimetry of small field static fields used in external beam radiotherapy.

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
07:30 - 08:10	Pedro Andreo	Sweden	Physics of small fields
08:10 - 08:50	Hugo Palmans	UK	IAEA/AAPM code of practice for the dosimetry of small field static fields used in external beam radiotherapy
08:50 - 09:00	Discussion		

WEDNESDAY, 21 JUNE 2017 (cont'd)

07:30–09:00 **SESSION 9C:Radiotherapy plan competition initiative**
Parallel session, Demo session

(Conference Room M2)

Chair: Ahmad Nobah, Saudi Arabia
Co-Chair: Giorgia Loreti, IAEA

Learning Objectives:
1. Synthesize the Radiation Knowledge initiative as a cloud based knowledge sharing platform
2. Examine the 2017 Plan Competition in details
3. Summarize the best plans (per TPS) and learn about the winners of the 2017 plan competition who will be announced
4. Examine the planning methodology of the top planners, for every TPS

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
07:30 - 08:45	Ahmad Nobah	Saudi Arabia	Radiation Knowledge Initiative
			2017 Radiotherapy Plan Competition
			Winners Announcements
			Radiation Knowledge ... What's Next
08:45 – 09:00	Discussion		

WEDNESDAY, 21 JUNE 2017 (cont'd)

09:00–10:30 **SESSION 10A: Breast and cervix cancer**
Parallel session, Proffered papers

(Conference Room M3)

Chairs: Gerard Hanna, UK
Richard Poetter, ESTRO
Co-Chairs: Brendan Healy, IAEA
Elena Fidarova, IAEA

Learning Objectives:
1. To identify the latest techniques and advances in radiotherapy for breast cancer and cervix cancer

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
09:00 - 09:20	Gerard Hanna	UK	Recent advances and current status of radiotherapy for breast cancer
09:20 - 09:28	Borislava Petrovic	Serbia	Abstract 105: Left breast radiation therapy - institutional analysis of doses to heart and LAD (Proffered Paper)
09:28 - 09:36	C Maria Kalil Haddad	Brazil	Abstract 80: "Hybrid" 3D/VMAT technique for irradiation of patients with breast cancer and unfavorable anatomy. Preliminary dosimetric study (Proffered Paper)
09:36 - 09:56	Richard Poetter	ESTRO	Recent advances and current status of radiotherapy for cervix cancer
09:56 - 10:04	Warren Bacorro	Philippines	Abstract 25: Nodal doses during image-guided adaptive brachytherapy for cervical cancer and implication to simultaneous integrated boost (Proffered Paper)
10:04 - 10:12	Shingo Kato	Japan	Abstract 328: Multi-institutional clinical studies of chemoradiotherapy for cervical cancer among Asian countries under the framework of Forum for Nuclear Cooperation in Asia (FNCA)
10:12 – 10:20	Warren Bacorro	Philippines	Abstract 158: Dose-volume effects in pathologic lymph nodes in cervical cancer (Proffered Paper)
10:20 - 10:30	Discussion		

WEDNESDAY, 21 JUNE 2017 (cont'd)

09:00–10:30 **SESSION 10B: Small field dosimetry**
Parallel session, Proffered papers

(Board Room B/M1)

Learning Objectives:
1. Review the ICRU small field dosimetry activities.
2. Implementation of small field dosimetry in the clinic.

Chairs: Jan Seuntjens, ICRU
Co-Chair: Karen Christaki, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
09:00 - 09:30	M. Saiful Huq	AAPM	Implementation of the IAEA/AAPM code of practice for the dosimetry of small field static fields used in external beam radiotherapy.
09:30 - 09:40	Wolfgang Lechner	Austria	Abstract 144, 'Initial Experiences in Testing The IAEA/AAPM Code of Practice on Small Field Dosimetry' (Proffered Paper)
09:40 - 09:50	Jose Manuel Larraga-Gutierrez	Mexico	Abstract 84, 'Application of output correction factors for three small beam radiation detectors: comparison of results for a TrueBeam Stx linac.' (Proffered Paper)
9:50 - 10:00	Maria Pimpinella	Italy	Abstract 301, 'Application of the PTW microDiamond in small field dosimetry on different accelerators: Comparative measurements and Monte Carlo calculations' (Proffered Paper)
10:00 - 10:10	Lalageh Mirzakhanian	Iran	Abstract 296, 'Monte Carlo calculated correction factors for nine detectors in Leksell Gamma Knife Perfexion unit' (Proffered Paper)
10:10 - 10:20	Olivia Amanda Garcia Garduño	Mexico	Abstract 86, 'Influence of detector specific correction factors in dose distributions for small photon beams' (Proffered Paper)
10:20 - 10:30	Wojciech Bulski	Poland	Abstract 45: 'Nationwide audit of small fields output calculations in Poland' (Proffered Paper)

10:30–11:00 *Coffee Break and E-Poster presentations (outside Board Room B/M1)*

WEDNESDAY, 21 JUNE 2017 (cont'd)

11:00–11:45 **SESSION 11A: Personalized medicine**
Parallel, Keynote lecture

(Conference Room M3)

Learning Objectives:
1. To understand the concept and limits of personalized radiotherapy
2. To learn the components of personalized radiotherapy

Chair: Pedro Lara, ESTRO
Co-Chair: Kirsten Hopkins, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
11:00 - 11:30	Søren Bentzen	Denmark	Personalized medicine
11:30 - 11:45	Discussion		

WEDNESDAY, 21 JUNE 2017 (cont'd)

11:00–12:30 **SESSION 11B: Quality in radiotherapy: various dimensions**
Parallel, Invited lectures and proffered papers

(Board Room B/M1)

Chair: Nuria Jornet, ESTRO
Co-Chair: Joanna Izewska, IAEA

Learning Objectives:
1. To review various quality dimensions in radiotherapy
2. To discuss the role of quality audits in radiotherapy.

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
11:00 - 11:15	Stephen F. Kry	USA	The critical importance of high quality radiation therapy
11:15 - 11:30	Joanna Izewska	IAEA	IAEA experiences with QUATRO audits
11:30 - 11:40	A. C. Shulman	Qatar	Abstract 242: Quality Assurance Team for Radiation Oncology (QUATRO): The National Center for Cancer Care & Research (NCCCR) experience (Proffered Paper)
11:40 - 11:50	Suzana Stojanovic-Rundic	Serbia	Abstract 238: Quality Assurance Team for Radiation Oncology (QUATRO) audit to the Institute of Oncology and Radiology of Serbia: example of good impact on the development of radiotherapy in the institution (Proffered Paper)
11:50 - 12:00	Tomas Kron	Australia	Abstract 277: Moving a large and complex radiotherapy department: a medical physics perspective (Proffered Paper)
12:00 – 12:10	Maxime Coevoet	France	Abstract 274: IT safety requirements in the Radiation Therapy field: risks and solutions all over the process (Proffered Paper)
12:10 - 12:20	Bozidar Casar	Slovenia	Abstract 109: Cost-effective public procurements of equipment for radiotherapy: starting point of patient's safety (Proffered Paper)
12:20 - 12:30	Eduardo Rosenblatt	Uruguay	Abstract 325: Quality of Radiotherapy Services in post-Soviet countries: an IAEA survey (Proffered Paper)

11:45–12:30 **SESSION 11C: Towards a radical treatment of oligometastases**
Parallel, Invited lectures

(Conference Room M3)

Learning Objectives:
1.Discuss the clinical evidence for treating oligometastases in lung.
2. Examine the challenges faced in the target definition and treatment of oligometastases

Chair: Felipe Calvo, ESTRO
Co-Chairs: Karen Christaki, IAEA
Kirsten Hopkins, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
11:45 - 11:50	Felipe Calvo	ESTRO	Introduction to the treatment of Oligometastases
11:50 – 12:10	M. Saiful Huq	AAPM	Imaging and treatment delivery from a Medical Physics perspective
12:10 - 12:30	Gerard Hanna	UK	Treatment delivery and clinical evidence for the treatment of oligometastasis

12:30-14:00 *Lunch*

12:30–14:00 **SESSION 12: Lunchtime workshops and symposia**
Parallel sessions

12:30–14:00 **SESSION 12A: e-Contouring workshop, Head and neck**
(registered participants only)

(Conference Room M3)

Learning Objectives:
1. To learn how to contour the GTV and CTV in head and neck cancer
2. To learn how to contour OAR in head and neck cancer

Trainer: Kenneth Hu, USA

12:30–14:00 **SESSION 12B: Industry symposium**

(Board Room B/M1)

12:30–14:00 **SESSION 12C: Industry symposium**

(Conference Room M2)

WEDNESDAY, 21 JUNE 2017 (cont'd)

14:00–15:00 **SESSION 13A: Access to high quality care: challenges and possible solutions**
Parallel session, Panel Discussion

(Board Room B/M1)

Chair: William Mackillop, Canada
Co-Chairs: Elena Fidarova, IAEA
Karen Christaki, IAEA

Learning Objectives:
1. To identify the problems to access high quality care
2. To learn about the possible solutions to the problem of access

Time	*Name*	*Designating Member State/Organization*
14:00 – 14:10	William Mackillop	Canada
14:10 – 14:20	Kennedy Lishimpi	Zambia
14:20 – 14:30	Yavuz Anacak	Turkey
14:30 – 14:40	Karen Christaki	IAEA
14:40 – 15:00	Discussion	

WEDNESDAY, 21 JUNE 2017 (cont'd)

14:00–15:30 **SESSION 13B: The role of international organizations and professional societies – Part 1**
Parallel session, Invited lectures

(Conference Room M3)

Chair: Takashi Nakano, Japan
Co-Chairs: Eduardo Zubizarreta, IAEA
Alfredo Polo, IAEA

Learning Objectives:
1. To understand the role of international organizations and professional societies in the global health agenda
2. To identify opportunities for professional development

Time	*Name*	*Designating Member State/Organization*
14:00 – 15:25	Yolande Lievens	ESTRO
	Takashi Nakano	Japan
	Mary Evans-Gospodarowicz	UICC
	Surbhi Grover	ABS
	Soehartati Gondhowiardjo	FARO
	Francis Chin	SEAROG
	Lotfi Kochbati	Tunisia
	Kenneth Hu	USA
	Hugo Marsiglia	Chile
	Tomas Cobo Castro	Spain
15:25 – 15:30	Discussion	

WEDNESDAY, 21 JUNE 2017 (cont'd)

15:00–15:30 **SESSION 13C: Imaging for planning and treatment delivery in external beam radiotherapy – Part 1**
Parallel session

(Board Room B/M1)

Chair: Dietmar Georg, Austria
Co-Chairs: Rajiv Prasad, IAEA
Brendan Healy, IAEA

Learning Objectives:
1.To identify the latest technologies and techniques in patient imaging for radiotherapy

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
15:00 - 15:25	Tomas Kron	Australia	Imaging for planning and treatment delivery in EBRT
15:25 - 15:30	Discussion		

15:30–16:00 *Coffee Break and E-Poster presentations (outside Board Room B/M1)*

WEDNESDAY, 21 JUNE 2017 (cont'd)

16:00–17:30 **SESSION 14A: Imaging for planning and treatment delivery in external beam radiotherapy – Part 2**
Parallel session, Proffered papers

(Board Room B/M1)

Learning Objectives:
1.To identify the latest technologies and techniques in patient imaging for radiotherapy

Chair: Dietmar Georg, Austria
Co-Chairs: Rajiv Prasad, IAEA
Brendan Healy, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
16:00 - 16:25	Gerard Hanna	UK	PET-CT for radiotherapy planning in lung cancer: current recommendations and future directions
16:25 - 16:50	Michelle Leech	ESTRO	The role of the radiation therapist (RTT) in image guided radiotherapy (IGRT)
16:50 - 17:00	Graciela Velez	Argentina	Abstract 320: IMAGE REGISTRATION METHODOLOGY TO QUANTIFY ROIs' VOLUME TRANSFORM ACCURACY (Proffered Paper)
17:00 - 17:10	Jeyasingam Jeyasugiththan	Sri Lanka	Abstract 180: Feasibility of prompt gamma imaging for passive-scatter proton radiotherapy treatments" (Proffered Paper)
17:10 - 17:20	John Schreiner	Canada	Abstract 101: Digital Portal Imaging in Cobalt-60 Radiation Therapy (Proffered Paper)
17:20 - 17:30	Discussion		

WEDNESDAY, 21 JUNE 2017 (cont'd)

16:00–17:50 **SESSION 14B: The role of international organizations and professional societies – Part 2**
Parallel session, Panel discussion

(Conference Room M3)

Chair: Jake van Dyk, MPWB
Co-Chairs: Brendan Healy, IAEA
Alfredo Polo, IAEA

Learning Objectives:
1. To understand the role of international organizations and professional societies in the global health agenda
2. To identify opportunities for professional development

Time	*Name*	*Designating Member State/Organization*
16:00 – 17:45	Norman Coleman	ICEC
	Rengaswamy Sankaranarayanan	IARC
	Nuria Jornet	ESTRO
	M. Saiful Huq	AAPM
	Tomas Kron	Australia
	Kin Yin Cheung	IOMP
	Stefano Gianolini	EFOMP
	Jacob van Dyk	MPWB
	Francis Hasford	Ghana
	Rodolfo Alfonso-Laguardia	Cuba
17:45 – 17:50	Discussion	

THURSDAY, 22 JUNE 2017

07:30–09:00 **SESSION 15A: Past, present and future of brachytherapy**
Parallel session, Teaching lecture

(Conference Room M3)

Chair: Christine Haie-Meder, ESTRO
Co-Chairs: Alfredo Polo, IAEA
Tomislav Bokulic, IAEA

Learning Objectives:
1. To learn the basic clinical indications for brachytherapy, and its role in modern radiation oncology

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
07:30 - 07:55	Christine Haie-Meder	ESTRO	Introduction to brachytherapy, history, and indications
07:55 - 08:25	Richard Poetter	ESTRO	Image-guided brachytherapy in cervical cancer – Clinical aspects
08:25 - 08:50	Christian Kirisits	ICRU	Image guided adaptive brachytherapy (in cervix cancer) – Physics aspects
08:50 - 09:00	Discussion		

07:30–09:00 **SESSION 15B: QA for modern RT techniques**
Parallel session, Teaching lecture

(Board Room B/M1)

Chair: Dietmar Georg, Austria
M. Saiful Huq
Co-Chairs: Karen Christaki, IAEA
Rajiv Prasad, IAEA

Learning Objectives:
1. To review the Quality management for modern technologies.
2. To discuss the role of RO, MP and RTT in QA.

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
07:30 - 08:05	Pierre Scalliet	ESTRO	Organising QA management in a radiotherapy department- Involvement of different professions
08:05 - 08:40	Eric Ford	AAPM	Looking at whole department workflows and evaluate potential issues
08:40 - 08:50	Geoffrey Ibbott	IOMP	QA developments with examples to modern techniques
08:50 - 09:00	Discussion		

THURSDAY, 22 JUNE 2017 (cont'd)

07:30–09:00 **SESSION 15C: Full automation in radiotherapy**
Parallel session, Demo session

(Conference Room M2)

Learning Objectives:
1.To discuss the full automation of radiation therapy treatment planning
2. To compare workflow in radiotherapy clinical practice

Chairs: Laurence E. Court, USA
Beth Beadle, USA
Co-Chair: Giorgia Loreti, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
07:30 – 7:45	Beth Beadle	USA	Clinical background
07:45 – 08:15	Laurence Court	USA	Automated treatment planning
08:15 - 08:45	Beth Beadle / Laurence Court	USA	Evaluation of workflow & plan quality (feedback)
08:45 – 09:00	Discussion		

THURSDAY, 22 JUNE 2017 (cont'd)

09:00–10:30 **SESSION 16A: Prostate and head and neck cancer**
Parallel session, Invited lectures and proffered papers

(Conference Room M3)

Chair: May Abdel-Wahab, IAEA
Co-Chairs: Rajiv Prasad, IAEA
Brendan Healy, IAEA

Learning Objectives:
1. To identify the latest techniques in radiotherapy for prostate cancers and head and neck cancers

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
09:00 - 09:25	Mack Roach	USA	Overview of radiotherapy for prostate cancer
09:25 -09:35	Hidemasa Kawamura	Japan	Abstract 187: Carbon Ion Radiotherapy for Prostate Cancer; a nationwide survey of the Japan Carbon-ion Radiation Oncology Study Group (J-CROS 1501) (Proffered Paper)
09:35 - 10:00	Kenneth Hu	USA	Overview of radiotherapy for head and neck cancer
10:00 - 10:10	Tejinder Kataria	India	Abstract 65: Treatment of Head and Neck cancers with modulated radiation at an Indian Centre (Proffered Paper)
10:10 - 10:20	Jerickson Abbie Flores	Philippines	Abstract 23 Matrix Metalloproteinaise I (MMP-1) Levels as a Predictive Marker of Oral Mucositis Severity Among Head And Neck Carcinoma Patients Undergoing Radiotherapy (Proffered Paper)
10:20 - 10:30	Discussion		

THURSDAY, 22 JUNE 2017 (cont'd)

09:00–10:30 **SESSION 16B: QA from simulation to delivery**
Parallel session, Invited lectures and proffered papers

(Board Room B/M1)

Chair: David Followill, AAPM
Co-Chair: Joanna Izewska, IAEA

Learning Objectives:
1. To review quality assurance in radiotherapy physics.
2. To discuss the role of dosimetry audits.

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
09:00 - 09:15	Joanna Izewska	IAEA	Dosimetry audits in radiotherapy: IAEA perspective
09:15 - 09:30	David Followill	AAPM	Credentialling of Advanced Radiotherapy Technology: An Independent Peer Review Process
09:30 - 09:45	Catharine Clark	ESTRO	Effective and efficient radiotherapy dosimetry audit: Where to next?
09:45 - 10:00	Nuria Jornet	ESTRO	Plan quality monitoring: treatment planning and delivery
10:00 - 10:15	Yvonne Roed	USA	Abstract 315: Polymer gel dosimetry: a promising 3D quality assurance tool for magnetic resonance-image guided radiotherapy
10:15 - 10:30	Maria do Carmo Lopes	Portugal	Abstract 118: SRS in Tomotherapy: What we gain, what we lose comparing to Linac based SRS? (Proffered Paper)

10:30–11:00 Coffee Break and E-Poster presentations
(*outside Board Room B/M1)*

THURSDAY, 22 JUNE 2017 (cont'd)

11:00–12:00 **SESSION 17: Practical implementation of new technologies in LMIC**
Plenary, Panel Discussion

(Board Room B/M1)

Learning Objectives:
1. To identify the steps required in implementing new radiotherapy services in LMIC
2. To learn possible solutions to the problem of implementation

Chair: Jacob van Dyk, MPWB
Co-Chairs: Elena Fidarova, IAEA
Brendan Healy, IAEA

Time	*Name*	*Designating Member State/Organization*
11:00 - 11:10	Jacob Van Dyk	MPWB
11:10 - 11:20	Paul Ravindran Babu Rao	India
11:20 - 11:30	George F. Acquah	Ghana
11:30 - 11:40	Soehartati Gondhowiardjo	FARO
11:40 - 12:00	Discussion	

THURSDAY, 22 JUNE 2017 (cont'd)

12:00–13:00 **SESSION 18: Should IMRT be the standard of care?**
Plenary, Debate

(Board Room B/M1)

Learning Objectives:
1. To understand the benefits and limitations of IMRT
2. To learn the challenges for the practical implementation of IMRT

Chair: May Abdel-Wahab, IAEA
Co-Chairs: Brendan Healy, IAEA
Eduardo Zubizarreta, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
12:00 - 12:10	Pierre Scalliet	ESTRO	In favour: Radiation oncologist perspectives
12:10 - 12:20	Bhadrasain Vikram	USA	Against: Radiation oncologist perspectives
12:20 - 12:30	Ben Heijmen	ESTRO	In favour: Medical physicists perspectives
12:30 - 12:40	Debbie van der Merwe	South Africa	Against: Medical physicists perspectives
12:40 - 13:00	Discussion		
13:00-14:30	*Lunch*		

13:00–14:30 **SESSION 19: Lunchtime workshops and symposia**
Parallel sessions

13:00 – 14:30 **SESSION 19A: e-Contouring workshop, Breast**
Parallel session

(Conference Room M3)

Learning Objectives:
1. To learn how to contour the GTV and CTV in breastcancer
2. To learn how to contour OAR in breast cancer

Trainer: Sofia Rivera, ESTRO

THURSDAY, 22 JUNE 2017 (cont'd)

13:00 – 14:30 **SESSION 19B: Telemedicine**
Parallel session, Symposium

(Conference Room M2)

Learning Objectives:
1. To review the scope of telemedicine in radiotherapy
2. To discuss feasibility of telemedicine in the field of radiotherapy in low and middle income countries.

Chair: Ed Rosenblatt, Uruguay
Co-Chair: Rajiv Prasad, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
13:00 - 13:15	Norman Coleman	ICEC	Telemedicine applications in ICEC
13:15 - 13:30	Patricia Hardenbergh	USA	Chartrounds: improving cancer care
13:30 - 13:45	Kirsten Hopkins	IAEA	Web-based contouring and plan evaluation within the framework of IAEA's Coordinated Research Projects
13:45 - 14:00	Lotfi Kochbati	Tunisia	AFRONET: a network of consultation in radiation oncology for Africa
14:00 - 14:30	Discussion		

13:00 – 14:30 **SESSION 19C: Industry symposium**
Parallel session

(Board Room B/M1)

THURSDAY, 22 JUNE 2017 (cont'd)

14:30–15:30 **SESSION 20: Future trends in radiotherapy**
Plenary, Panel discussion

(Board Room B/M1)

Learning Objectives:
1. To learn the latest developments in radiotherapy
2. To understand the context for the implementation of new developments

Chair: David Jaffray, Canada
Co-Chairs: Rajiv Prasad, IAEA
Debbie van der Merwe, South Africa

Time	*Name*	*Designating Member State/Organization*
14:30 - 14:40	Francesco Cellini	Italy
14:40 - 14:50	Debbie van der Merwe	South Africa
14:50 - 15:00	Eugen Hug	Austria
15:00 - 15:10	Tadashi Kamada	Japan
15:10 - 15:30	Discussion	

15:30–16:00 *Coffee Break and e-Poster presentations (outside Board Room B/M1)*

THURSDAY, 22 JUNE 2017 (cont'd)

16:00–18:00 **SESSION 21: Quality and safety**
Plenary, Invited lectures

(Board Room B/M1)

Learning Objectives:
1. To review radiotherapy safety prospective and retrospective risk management approaches
2. To discuss the comprehensiveness of current radiotherapy safety approaches in practice

Chair: Mary Coffey, ESTRO
Co-Chair: Debbie Gilley, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
16:00 - 16:20	M. Saiful Huq	USA	Improving quality and safety using the TG100 approach
16:20 - 16:40	Eric Ford	AAPM	What can we learn from incident learning in the U.S.?
16:40 - 17:00	Debbie Gilley	IAEA	The Bonn Call for Action and International perspective on patient safety - the good and the bad
17:00 - 17:20	Peter Dunscombe	AAPM	What more do we need to do in radiotherapy safety?
17:20 - 18:00	Discussion		

FRIDAY, 23 JUNE 2017

07:30–09:00 **SESSION 22A: Translational radiation biology**
Parallel session, Teaching lecture

(Conference Room M3)

Learning Objectives:
1. To review advances in translational radiation biology.
2. To discuss the role of radiobiological techniques, applied in radiation oncology.
3. To update on Radiobiological Modelling, Risk and Mechanisms in radiation oncology.

Chair: Jan Wondergem, Netherlands
Co-Chair: Oleg Belyakov, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
07:30 - 08:00	Wolfgang Doerr	Austria	The mechanism of deterministic radiation effects
08:00 - 08:30	Jan Wondergem	Netherlands	Radiation related effects on the heart
08:30 - 08:50	Søren Bentzen	Denmark	Radiogenomics
08:50 - 09:00	Discussion		

07:30–09:00 **SESSION 22B: How to evaluate a treatment plan**
Parallel session, Teaching lecture

(Conference Room M2)

Learning Objectives:
1. Discuss different methods and parameters in treatment planning evaluation
2. Compare treatment plan results

Chair: Ben Heijmen, ESTRO
Co-Chairs: Kirsten Hopkins, IAEA
Brendan Healy, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
07:30 - 07:55	Kenneth Hu	USA	Interactive case presentation
07:55 - 08:20	M. Saiful Huq	AAPM	
08:20 – 08:45	Michelle Leech	ESTRO	
08:45 – 09:00	Discussion		

FRIDAY, 23 JUNE 2017 (cont'd)

07:30–09:00 **SESSION 22C: Introduction to new ICRU reports 89 and 91**
Parallel session, Teaching lecture

(Board Room B/M1)

Learning Objectives:
1. To discuss the new ICRU report 89 and 91
2. To understand the physics behind the reports

Chairs: Christian Kirisits, ICRU
Jan Seuntjens, ICRU
Co-Chair: Karen Christaki, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
07:30 – 08:00	Christian Kirisits	ICRU	ICRU Report 89: prescribing, recording, and reporting brachytherapy for cancer of the cervix
08:00 – 08:30	Jan Seuntjens	ICRU	ICRU Report 91: prescribing, recording, and reporting stereotactic treatments with small photon beams
08:30 – 09:00	Discussion		

09:00–10:30 **SESSION 23:Global impact of radiation in oncology (GIRO)**
Plenary session

(Board Room B/M1)

Learning Objectives:
1- To understand the GIRO initiative

Chair: Yolande Lievens, ESTRO
Co-Chair: Eduardo Zubizarreta, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
09:00 - 09:15	Tracey Lui	Canada	Global Gap in Access to Radiotherapy
09:15 – 09:30	Yolande Lievens	ESTRO	GTFRCC: where to go from here?
09:30 – 09:45	Eduardo Zubizarreta	IAEA	Costs and needs of radiotherapy: a regional perspective
09:45 – 10:00	Surbhi Grover	ABS	'From the ground up' – tackling challenges at the country level
10:00 – 10:15	Danielle Rodin	IAEA	Access to radiotherapy: cancer-specific approaches to a global problem
10:15 – 10:30	Discussion		
10:30–11:00	*Coffee Break and E-Poster presentations (outside Board Room B/M1)*		

FRIDAY, 23 JUNE 2017 (cont'd)

11:00–12:00 **SESSION 24A: Combined therapies, including immunotherapy**
Parallel session, Proffered papers

(Board Room B/M1)

Chair: Felipe Calvo, ESTRO
Co-Chair: Kirsten Hopkins, IAEA

Learning Objectives:
1 – To learn about the use of combined therapies in a practical setting

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
11:00 - 11:20	Felipe Calvo	ESTRO	Introduction to combined therapies
11:20 - 11:30	Albert Nyamhunga	Zimbabwe	Abstract 143: Chemoradiation in hiv positive patients with figo stage IIIB cancer of the uterine cervix (Proffered Paper)
11:30 - 11:40	Primoz Strojan	Slovenia	Abstract 260: Skin reaction to cetuksimab (CMb) as a criterion for treatment selection in patients with locally advanced squamous cell carcinoma of the head and neck (LASCCHN): results of prospective study (Proffered Paper)
11:40 - 11:50	Shiro Obata	Japan	Abstract 236: A new multidisciplinary treatment strategy for advanced rectal cancer: a chemo-radiotherapy with a new radio-sensitizer infusion by endoscopic guide (Proffered Paper)
11:50 – 12:00	Discussion		

FRIDAY, 23 JUNE 2017 (cont'd)

11:00–12:00 **SESSION 24B: Brachytherapy**
Parallel session, Proffered papers

(Conference Room M3)

Chair: Eduardo Rosenblatt, Uruguay
Co-Chairs: Elena Fidarova, IAEA
Tomislav Bokulic, IAEA

Learning Objectives:
1. To learn about the use of brachytherapy in a practical setting

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
11:00 - 11:15	Umesh Mahantshetty	India	Implementation and clinical results of IGBT for cervical cancer: TMH experience
11:15 - 11:23	Iryna Horot	Ukraine	Abstract 15: High doses regimes of HDR brachytherapy at squamous cell carcinoma of the lip (Proffered Paper)
11:23 - 11:31	Tyler Meyer	Canada	Abstract 154: The use of phantom simulation for brachytherapy training and education (Proffered Paper)
11:31 - 11:39	Ritu Raj Upreti	India	Abstract 245: Interfraction variation in the target volume for accelerated partial breast irradiation (APBI) using intraoperative multicatheter interstitial brachytherapy and its dosimetric impact (Proffered Paper)
11:39 - 11:47	Thorsten Schneider	Germany	Abstract 275: Realization of the absorbed dose to water for Electronic Brachytherapy X-ray Sources (Proffered Paper)
11:47 - 11:54	Egor Titovich	Belarus	Abstract 169: The results from the ultrasound and IBU-guided brachytherapy planning in locally advanced cervical carcinoma (Proffered Paper)
11:54 - 12:00	Discussion		
12:00-13:30	*Lunch*		

12:00–13:30 **SESSION 25: Lunchtime workshops and symposia**
Parallel sessions

12:00–13:30 **SESSION 25A: e-Contouring workshop GYN** (registered participants only)
Parallel session

(Conference Room M3)

Trainer: Christine Haie-Meder, ESTRO

Learning Objectives:
1. To learn how to contour the GTV and CTV in head and neck cancer
2. To learn how to contour OAR in head and neck cancer

FRIDAY, 23 JUNE 2017 (cont'd)

12:00–13:30 **SESSION 25B: Radiotherapy in the context of national cancer control strategies**
Parallel session, Symposium

(Board Room B/M1)

Learning Objectives:
1. To highlight the benefits of integrating radiotherapy within national cancer control plans
2. To empower oncologists in LMI countries to mobilise political action

Chair: Mary Evans-Gospodarowicz, UICC
Co-chair: Luca Li Bassi, IAEA
Kirsten Hopkins, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
12:00 - 12:05	Luca Li Bassi/ Kirsten Hopkins	IAEA	Welcome and introduction
12:05 - 12:25	Luca Li Bassi	IAEA	Financing radiotherapy in the context of national cancer control plan
12:25 - 12:45	Marina Darakhvelidze	Georgia	Expanding radiotherapy access as part of the Cancer Control Action Plan in Georgia
12:45 - 13:05	Kennedy Lishimpi	Zambia	Establishing radiotherapy in Zambia: mobilizing political action
13:05 - 13:30	Discussion		

12:00–13:30 **SESSION 25C: Clinical research in radiation oncology**
Parallel session, Lunchtime Symposium

(Conference Room M2)

Learning Objectives:
1. To understand the different aspects of clinical research
2. To learn how to implement a clinical research programme

Chairs: Mack Roach III, USA
May Abdel-Wahab, IAEA
Co-Chairs: Elena Fidarova, IAEA
Karen Christaki, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
12:00 – 12:15	Søren Bentzen	Denmark	Why research in radiation oncology is important?
12:15 – 12:30	Mack Roach III	USA	What are the benefits if clinical research in radiation oncology?
12:30 – 12:45	Catharine Clark	ESTRO	Quality in clinical research
12:45 – 13:00	Umesh Mahantshetty	India	Challenges in LMIC
13:00 – 13:15	Shyam Shrivastava	India	How to develop your clinical research pogramme
13:15 – 13:30	Discussion		

FRIDAY, 23 JUNE 2017 (cont'd)

13:30–14:30 **SESSION 26: Poster highlights**
Plenary

(Board Room B/M1)

Rapporteurs: Pierre Scalliet, ESTRO
M. Saiful Huq, USA
Co-Chair: Oleg Belyakov, IAEA

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
13:30 – 13:45	Surbhi Grover	ABS	Clinical Poster Highlights
13:45 - 14:00	M. Saiful Huq	AAPM	Physics Poster Highlights
14:00 - 14:15	Jan Wondergem	Netherlands	Radiobiology Poster Highlights

14:30–15:30 **SESSION 27: Closing**
Plenary

(Board Room B/M1)

Chair: May Abdel-Wahab, IAEA
Co-Chair: Eduardo Zubizarreta, IAEA
Rapporteurs: David Followill, AAPM
Tomoaki Tamaki, Japan

Time	*Name*	*Designating Member State/Organization*	*Title of Presentation*
14:30 - 14:45	Tomoaki Tamaki	Japan	Clinical Highlights
14:45 – 15:00	David Followill	AAPM	Physics Highlights
15:15 - 15:30	May Abdel-Wahab	IAEA	Closing

E-POSTERS

Poster authors are requested to be at their screen during their e-Poster Sessions

TUESDAY, 20 June 2017, 10:30-11:00

SCREEN 1

No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
20	J. Aliyev **I. Isayev** K. Akbarov A. Asadova E. Rosenblatt	Azerbaijan	A centralized model of effective radiation oncology service development:the Azerbaijan Republic experience
39	**C. Said** D.A. Aquilina D. Marmara' S. Laspina	Malta	Audit of the Radiotherapy Waiting Times for Patients in Malta
43	**P. Pattaranutaporn** M. Dhanachai S. Dangprasert	Thailand	Trend of availability and use of Intensity-Modulated Radiotherapy(IMRT) in Thailand, statistical report from 2008 to 2015.
50	**E. Fiagbedzi** C. Ahadzi	Ghana	Radiotherapy in cancer treatment in Ghana: from the past to present
55	**M. Chirila** Z. Fekete	Romania	The risk for developing a second primary tumor in long surviving cancer patients

TUESDAY, 20 June 2017, 10:30-11:00

SCREEN 2

No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
147	**R.V. Kumar** S. Bhasker	India	Cost of radiotherapeutic management of patients with cancer in regional cancer center in India
161	**M.A. Hussain** K. Shehzad	Pakistan	Photon Boost after Lumpectomy in Breast Cancer and Acute Toxicities in NwGH & RC.
171	**L. Souhami** S. Shakir K. Petrecca G. Shenouda V. Panet-Raymond J.J. Mnasure B. Abdulkarim M. Guiot	Canada	Atypical meningiomas: is there a role for post-operative radiotherapy?
243	**R. Buecker** E. Okonkwo L. Grossheim R. Samba A. Ali D. Palmer W. Ngwa	Germany	Roadmap for setting up a comprehensive state of the art radiation oncology facility at Mbingo Baptist Hospital (MBH) Cameroon
329	**N.T. Pham** N.H. Pham	Vietnam	Radiotherapy in Hue: journey and effort

SCREEN 3

No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
269	**P.C. Guerrero-Leon**r J. Ferrandiz F. Solis E. Alvarado	Peru	Radiotherapy in Peru: shortage and inequities in access and solution proposal
13	**E. Figueroa Medina** M.C. Tenorio Tellez M.D. de la Mata Moya A. Herrera Gomez Abelardo Meneses Garcia	Mexico	Clinical outcomes and beam quality correlations on skin cancer radiotherapy management in Mexico: A national institute experience: 2000-2013
57	**M.J. Calaguas** A. Gaerlan-Tagle J.A. Flores	Philippines	The Past, Present and Future Directions of Radiotherapy in Asia: Linking Technology and the Fight Against Cancer

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
131	**A.Wexler** B.Cai S. Mutic S.M.Goddu S.Yaddanapudi B.Gu C.Noel L.Olsen T.Harry	USA	Automated Treatment Planning System Commissioning: Error Reduction and Improved Efficiency for Low and Middle Income Countries
183	L.Stadnyk O.Shalopa **T.Pidlubna**	Ukraine	Status of Radiotherapy and results of TLD postal dose quality audit in Ukraine
188	S.Wadi-Ramahi **B.Moftah** J.Khader L.Y.Mula-Hussain Z.Alhaddad Z.Hassan	Saudi Arabia	Challenges and solutions of establishing advanced radiation oncology services in low and middle income (LMI) countries
241	**A.Kavuma** J.Kigula-Mugambe	Uganda	Broken Machines or Broken Systems – The Ugandan Experience, on Accessing / Maintaining Radiotherapy Services, in Low and Middle-Income Countries
254	**E.Rosenblatt** E.Fidarova V.Cernea S.Stojanovic-Rundic P.Strojan L.Kochbati A.Quarneti E.Zubizarreta M.Barton G.W.Jones W.Mackillop L.Cordero J.Yarney G.Lim J.V.Gan	Austria	Radiotherapy utilization in developing countries: an IAEA study.

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
271	**H.O.Ghafour** L.Y.Mula-Hussain S.Wadi-Ramahi N.Othman A.Wahbi I.Jaradat	Iraq	Challenges and solutions, advantages and disadvantages of launching 1st 3-Dimensional brachytherapy in a developing war-torn country (Iraq) using Co-60 High Dose Rate (HDR) source
292	**E.Zubizarreta** A.Polo	IAEA	Availability of radiotherapy in Africa: past and present of an unsolved problem
299	**P.Hill** A.Flavin J.Barrett D.Ritchie	Ireland	Radiotherapy in Nepal: A view from Medical Physics
317	**H.Kammoun**	Tunisia	Small cell lung cancer: A retrospective study of 70 cases
258	**R.Correa Villar** R.A.Rubo R.M.Seraide P.J.Cecilio S.S.Aguiar S.R.Brandalise	Brazil	Two Dimensional (2D) vsThree dimensional (3D) treatment planning in Paediatric Radiation Oncology. Less technology can be acceptable?

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
42	**H.Bakkali** S.Boutayeb N.Benjaafar	Morocco	High dose rate surface Brachytherapy for skin with Flap applicator. Technique and discussion of a case
47	**M.Zaghloul**	Egypt	Hypofractionated radiation for pediatric diffuse intrinsic pontine glioma (DIPG) is non-inferior to conventional fractionation: A prospective randomized trial including 222 children.
51	**G.K.Jain** A.Chougule S.Hooda	India	Dosimetric comparison of dose to contralateral breast in postmestectomy patients treated using different treatment techniques
52	**A.Abaza** H.El-Shanshoury	Egypt	Role of radiotherapy in multiple myeloma; a multicentric experience

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
56	**G.K.Jain** A.Chougule D.Mangal	India	Measurement of testicular dose during the treatment of Ewing Sarcoma patient underwent External Beam Radiotherapy
63	**N.Khataniar** A.Munshi B.K.Mohanti	India	Early results and toxicity profile of Glioblastoma multiforme patients treated with hypofractionated Radiotherapy along with concurrent Temozolomide.
83	**M.Napoles Morales**	Cuba	Biomarker Predictors of Radiotherapy Response in Head and Neck Tumor
90	**A.Froebe** J.Murgic M.Budanec B.Jaksic I.Kruljac M.Prpic I.Mrcela M.Gregov D.Kust M.Mlinaric B.Spajic A.Bolanca Z.Kusic A.Prgomet E.Fidarova E.Rosenblatt	Croatia	Treatment options in resource sparing setting for post-prostatectomy salvage radiotherapy: biochemical nadir and toxicity results from a non-randomized observational study
95	**O.Solodyannikova**	Ukraine	Features of 18-FDG PET/CT application for recurrence detection, radiation therapy planning and its effectiveness monitoring in patients with tumors of the anorectal localization

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
99	**C.Pessoa de Sales** H.A.Carvalho L.N.Rodrigues	Brazil	Comparison of points and volumetric doses using CT and MR images for 3D planning brachytherapy: A Brazilian experience
106	**A.Mahmoud** K.Bakheit	Sudan	Age and Insulin levels in breast cancer women and healthy women
108	**A.Mahmoud**	Sudan	Breast Cancer Recurrence Monitoring a corroding to Tumor Subtypes: Role of Serum Tumor Markers CA 15-3 and CEA using Radioimmunoassay
113	**D.M.Cernea** V.Bogdan N.Todor	Romania	Hypofractionated conformal radiotherapy and chemotheapy in treatment of malignant gliomas
133	**B.Mukherjee** C.Fuentes V.Mares	Germany	Neutron-Gamma Mixed field Dosimetry on a Child phantom under Therapeutic Proton Irradiation using TL Dosimeters

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
145	**S.Zarraa** T.Messai	Tunisia	Survival and prognostic factors in non metastatic breast cancer
155	**M.Sereno** **V.Ferreira**	Brazil	Comparative Study of two techniques for Spinalcord irradiation with 3D conformational planning
159	**N.Karamyan** A.Tananyan S.Karamyan	Armenia	Prevention and treatment of acute radiation injuries of the head and neck region
175	**I.Zergoug** A.Boukerche	Algeria	Evaluation of BEBIG HDR+® dose optimization methods: A case study of HDR brachytherapy cervical plans
186	**O.Safronova** T.Udatova Y.Kmetyuk T.Pidlubna	Ukraine	Evaluation of radiation doses to organs at risk and comparison the toxicity with application of modern techniques radiotherapy of treatment patients for prostate cancer

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
227	**I.Stojkovski** B.Petreska G.Petkovska D.Poposka	Macedonia	Impact on dose and volume on irradiated brain on recurrence and survival of patients with glioblastoma multiformae
231	**M.Aly** **M.Al-Shanqity** L.Stanciu M.Mousli M.Hamadeh R.Elgendy A.Iqbal Y.Bayoumi H.Al-Hussain A.Balbaid	Saudi Arabia	An Audit of Nasopharyngeal RapidArc Radiotherapy Planning Against ICRU 83 Target Volume Homogeneity and Conformity Guidelines: A Single Center Study
235	A.Gonzalez **M.Cotes** J.Rugeles A.Valdelamar	Colombia	Conformal and intensity modulated radiotherapy in head and neck cancer in South America
252	**P.Moreno-Acosta** S.Carrillo A.Romero-Rojas O.Gamboa M.Molano A.Huertas J.Acosta D.Mayorga C.Rancoule A.Vallard M.Cotes N.Magne	Colombia	Potential biomarkers for personalized oncology radiation in uterine cervical cancer
272	L.Y.Mula-Hussain **K.A.Mohammad**	Iraq	Feasibility of 27 Gray in 5 daily fractions adjuvant radiotherapy in breast cancer ladies – 1st report from an Iraqi institution

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
10	**S.Y.Fazaeli Hoseini Nezhad**	Iran	Novel aspects of application of Cadmium Telluride Quantum Dots Nanostructures in Radiation Oncology
307	**E.Kozma** O.Dhima A.Sallaku	Albania	The use of hypofractionated radiotherapy after breast conservative surgery or mastectomy in Albanian women with breast cancer
314	**E.Slobina** A.Shmak A.Kotov	Russia	Adjuvant chemoradiotherapy (ACHR) for gastric cancer
324	**K.Karasawa**	Japan	A study on safety and efficacy of hypofractionated radiotherapy in post-operative breast cancer patients

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
21	**K.Akbarov** E.Quliyev R.Huseynov O.Dunyamaliyev N.Aliyeva	Azerbaijan	Use of volumetric arc therapy for nodal boosting in cervical cancer radiotherapy.
33	**I.Chon Rivas** J.Alert R.Diaz R.Alfonso Laguardia	Cuba	Clinical Implementation of Intracranial Stereotactic Radiotherapy with Non Dedicated Linear Accelerator in a developing country: The Cuban Experience.
36	**K.Bergaoui** N.Reguigui C.Gary C.Brown M.Piestrup	Tunisia	Development of a BNCT facility based on axial Deuterium–Deuterium (D–D) neutron generator using MCNP code
40	V.Ivanov Y.Mardynsky **A.Menyaylo** V.Kashcheev V.Galkin A.Kaprin	Russia	Mathematical modeling and optimization of radiation therapy dose-time treatment scheme
46	**H.Daoud** L.Farhat W.Mnejja N.Fourati W.Siala J.Daoud	Tunisia	Intensity modulated radiotherapy benefits comparing to conventional radiotherapy for locally recurrent nasopharyngeal carcinoma
61	**N.Kodaloglu** G.Kodaloglu	Turkey	An Investigation of Partial Volumetric Arc Therapy versus 3D-Conformal Radiation Therapy for Early Stage Larynx Cancer

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
68	**M.Elashmawy** H.Amer	Egypt	Tunable Compact Monochromatic X-ray Synchrotron Radiation Source Based On Inverse Compton Scattering for Advanced Radiological Applications
88	**G. Neue** M.Hejtmanek V.Vrba M.Marcisovsky M.Semmler P.Voles	Czech Republic	Novel hybrid pixel detector design for the use in continuous on-line dose monitoring in radiotherapy
102	C.Jechel T.Bulenga **C.Joshi** L.J.Schreiner	Canada	Characterization of a Cobalt-60 Radiotherapy Unit Upgrade: BEST Theratronics T780C to Equinox100
124	B.Sarkar A.Munshi B.K.Mohanti **T.Ganesh** U.Giri S.Rathinamuthu	India	Standardisation of treatment planning in frameless stereotactic radiosurgery and radiotherapy using volumetric modulated arc therapy (VMAT) beams

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
148	V.A.Ribeiro M.Vasques **C.Pessoa de Sales**	Brazil	Analysis of setup incertanties generated in 6D ExacTrac X-Ray system for patients in hypofractionated treatments of intracranial radiosurgery
162	**J.Marcassa** F.Gabrielli L.Rodrigues K.Vasconcelos A.Chen B.Salvajoli E.Leite G.Santos B.Colenci V.Ferrari A.Chiara G.Menegussi	Brazil	Stereotactic Body Radiation Therapy in a Public Oncologic Hospital in Brazil: a five years experience
165	**M.C.Lopes** T.Ventura C.Miranda J.Gaspar E.Gerardo A.Carvalho C.Baptista G.Melo	Portugal	On the way to paperless – a multi-professional project in radiation therapy
176	**R.C.Chumbimuni** B.Garcia D.A.Martinez R.Cabello	Peru	Quality control, dosimetric measurement and clinical experience with intraoperative radiation therapy (IORT) - intrabeam device
230	**U.Mahantshetty** A.Sasidharan N.Kalyani	India	Para-Aortic Lymph Nodal Staging and Evaluation of Treatment Outcome by 18F-fluorodeoxyglucose Positron Emission Tomography (FDG-PET) in Advanced Cancer Cervix

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
234	**M.Anand** R.K.Vyas S.Goyal J.Bhattacharya	India	Comparison of CT and PET-CT based Gross Tumor Volume (GTV) and Organs at risk)OAR) in IMRT of Head and Neck Cancers : INSTITUTIONAL EXPERIENCE
244	**J.Gupta** S.Biplab T.Ganesh A.Munshi B.K.Mohanti	India	Dosimetric Influence of translational and rotational motion correction using a robotic couch in the linear accelerator based stereotactic radio surgery and radiotherapy dose delivery
250	**S.Ngcezu** M.Bug D.van der Merwe H.Rabus	South Africa	Enhancement of the biological effectiveness in the Bragg peak: a nanodosimetric perspective
253	**I.Stojkovski** D.Poposka M.Risteski D.Lukarski B.Petreska G.Petrovska	Macedonia	Planning study of comparison of dose in target volumes and volumes of organs at risk in patients with high grade glioma. Intensity Modulated Radiotherapy versus Three-dimensional Conformal radiotherapy (3D-CRT).
256	**M.Bolsa Ferruz** R.Hirayama N.Usami M.Obara D.Salado Leza L.Stefancikova S.Roux G.Jimenez Sanchez S.Lacombe	France	New insights into metallic nanoparticles for enhancement of particle therapy in hypoxic tumors
268	A.Paredes Vargas D.A. Martinez Perez B.Garcia **G.Sarria Bardales** L.Pinillos Ashton	Peru	Dosimetric optimization of BATD-3D interstitial prostate treatments with 60Co and Multi-image technique

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
276	**C.Minnaar** J.Kotzen A.Baeyens	South Africa	Electro-hyperthermia as a radiosensitiser for locally advanced HIV positive and negative cervical cancer patients in South Africa
289	**K.Karasawa** Y.Machitori T.Okano S.Hayakawa Y.Shibata K.Nihei	Japan	Dose distribution characteristics and initial clinical results of two different dynamic tracking techniques for stereotactic body radiation therapy for solitary lung tumors
294	**H.Wiedner** **F.J.Maringer**	Austria	MRTDosimetry - Metrology for clinical implementation of dosimetry in molecular radiotherapy
295	**P.Watson** M.Popovic J.Seuntjens	Canada	Uncertainties in measuring absorbed dose from a low-energy miniature X-ray source
303	**A.Nobah** S.Devic B.Moftah	Saudi Arabia	Can desktop 3D printers be used to build patient specific heterogeneous phantoms for QA purposes?
310	**B.Bencsik** G.Stelczer K.Jorgo C.Peszniak T.Major P.Agoston C.Polgar	Hungary	Evaluation of IGRT techniques in prostate cancer patients with registration of bony anatomy and implanted gold markers

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
73	**N.Gesheva-Atanasova** **D.Stoeva**	Bulgaria	Comparison of two techniques for irradiation of the breast and the regional lymphatics - helical tomotherapy and 3D conformal radiotherapy
170	**D.A.Martinez** **G.Sarria Bardales** B.Garcia Gutierrez L.Pinillos Ashton B.Vizcarra J.Ayala G.D.Luyo Pinglo C.M.Rau Vargas R.C.Chumbimuni R.Cabello A.Paredes M.Zaharia Bazan A.Moscol Ledesma A.Lachos Davila	Peru	Multiple brain metastases treatment, dosimetric comparison of IMRT vs VMAT, is there any gain?
184	**C.Trauernicht** E.Hering F.Du Plessis G.Maree	South Africa	The “CLAWS” – an applicator for whole-eye radiotherapy
228	**B.Garcia** R.C.Chumbimuni R.Cabello P.Puicon D.A.Martinez G.Sarria	Peru	Planning implementation of a hybrid vmat (H-VMAT) in radiation therapy treatments of head and neck cancer cases; a dosimetric comparison with IMRT and VMAT; should we move on?
313	N.Fourati W.Mnejja L.Farhat T.Sahnoun **H.Daoud** M.Kallel W.Siala J.Daoud	Tunisia	Implementation of IMRT technique in treatment of prostate cancer Experience of oncology radiotherapy department of Habib Bourguiba Hospital
316	**P.Caprile** J.Grasmann D.Venencia	Chile	Dosimetric evaluation of dose distributions delivered to an in-house developed respiratory chest phantom

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
9	**S.Saminathan** H.Finlay Godson R.Ponmalar R.Manickam J.Mazarello	India	Dosimetric evaluation of newly developed Well-type ionization chamber for use in the calibration of Brachytherapy sources
75	**G.F.Acquah** P.O.Kyeremeh F.Hasford M.B.Boadu S.Inkoom E.Sosu A.Cofie P.Ahiagbenyo C.Doudoo	Ghana	Evaluation of Metallic Implant Artifact on Photon Beam Calculation Algorithms: A study Using CIRS Thorax Phantom
93	**D.Jaffray** M.Dosanjh C.Norman Coleman S.Myer D.A.Pistenmaa	Canada	Workshop Summary - Design Characteristics of Novel Radiotherapy Technology for Challenging Environments: Improving Access to Radiotherapy
177	**B.Garcia** R.C.Chumbimuni D.A.Martinez Perez G.Sarria R.Cabello	Peru	Frameless volumetric intracraneal stereotactic radiosurgery with non coplanar arcs: clinical experience, accuracy and dosimetric evaluation
255	**W.Nyakodzwe**	Bahamas	Evaluation and validation of the Fast Superposition, Superposition and FFT Convolution algorithms for IMRT of low density treatment sites on CMS XiO Treatment Planning System.
265	**L.J.Schreiner** M.Marsh S.Dhanesar A.Kerr C.Joshi	Canada	Is There a Role for Cobalt-60 Radiation Therapy in the World

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
19	**S.Saminathan** H.Finlay Godson R.Ponmalar R.Manickam J.Mazarello	Thailand	Radiobiological effects of cisplatin in carbon-irradiated cancer and bystander normal cells: the involvement of gap junction communication and NRF2 antioxidant system
29	**F.Akbari** M.Mohammadi M.Akbari	Iran	Leakage Radiation of ARTISTE LINAC Machine
44	**B.Mukherjee** C.Fuentes	Germany	A novel technique for postal intercomparison of beam Quality Assurance criterion of Proton Therapy facilities using radiochromic film EBT3
62	**N.Kodaloglu** P.Arican B.Tekin	Turkey	The effect of high energy photons emitted from cobalt - 57 source on extrinsic uniformity test
74	**O.Szasz** A.Szasz	Hungary	Abscopal effects with non-ionizing radiation

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
69	**A.Sarvari** T.Pernek N.Cuk U.Zdesar	Slovenia	Electrometers intercomparison using ionization chamber and radioactive check source
79	**C.M.Haddad** J.L.Silva E.Pelosi E.Leite	Brazil	Low dose-rate prostate brachytherapy: do different seeds manufacturers matters?
81	**E.Gershkevitsh** G.Boka J.Venius D.Burdulis	Estonia	Audit of VMAT delivery techniques in the Baltic States
87	**H.V.Maselesele** Z.Msimang	South Africa	Establishment of National Radiotherapy audit program at NMISA.
104	U.Giri K.Jassal A.Munshi B.Sarkar B.Mohanti **T.Ganesh**	India	Image comparison of 3 different known geometrical shapes contoured on different imaging modalities on a phantom for stereotactic frameless procedure of AVM
107	**G.F.Acquah** P.O.Kyeremeh W.M.Egadwa F.Harris E.K.Sosu	Ghana	Clinical Implementation from the Regional (AFRA) Training Course on Quality Assurance of Record and Verify Systems.

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
126	**A.Rule** D.van der Merwe	South Africa	Quality control procedure forlinear accelerator multileaf collimators in radiotherapy
152	**F.Ebrahimi** C.Moustakis U.Haverkamp H.T.Eich	Germany	Evaluation of tumor motion interplay effect on dose distribution in stereotactic radiotherapy
156	**F.Hasford** E. Addison O.K.Acheamfour P.O.Kyeremeh E.Sasu E.K.Sosu S.Inkoom M.Boadu G.F.Acquah S.N.A.Tagoe F.Doughan T.B.Dery M.Pokoo-Aikins	Ghana	Medical physics audit of radiotherapy centres in Ghana
173	**M.Van Dycke** V.Bernard	Belgium	Proposal of a simplified procedure for the commissioning of AAA and Acuros photons calculations algorithms for Varian accelerators.
181	L.Ghorbal **T.Sahnoun** L.Farhat **J.Daoud**	Tunisia	The implementation of CREX in the department of radiotherapy
182	W.Vargas Segura **A.Cordero Ramirez**	Costa Rica	Validation of a novel dosimetry application for measuring the calibration curve of Gafchromic Films

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
185	**V.G.Leandro Alves**	Brazil	Film2Dose: an research intended tool to access the combined standard uncertainty on radiochromic film dosimetry using multi-channel optimization.
190	**R.D.Phurailatpam** S.V.Jamema S.Nojin Paul K.Joshi J.Sastri D.Deshpande	India	Commissioning and Validation of Total Skin Electron Therapy (TSET)
233	**M.Bodale**	Romania	An evaluation of the Portal Dosimetry and ArcCheck systems for VMAT pre-treatment patient QA plan verification
237	**S.Nojin Paul** R.D.Phurailatpam K.Joshi J.Sastri D.Deshpande	India	Commissioning and validation of Total Body Irradiation (TBI) in Varian True Beam linear accelerator (LA).
263	**T.Krylova** S.Khromov I.Lebedenko	Russia	End-to-end test and TPS QA using heterogeneous anthropomorphic phantom
264	**J.L.Alonso Samper** E.Larrinaga Cortina **D.Alonso** A.Garcia Andino	Cuba	Quality Audit of IMRT treatment using EBT3 film and RPL Glass Dosimetry System

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
290	**A.Demuru** A.Stefanic	Argentina	Project to implement an OSL Dosimetry System in Argentina
291	**P.Kazantsev** P.Wesolowska W.Lechner E.Gershkevitsh C.Clark D.Venencia J.van Dyk T.Bokulic D.Georg J.Izewska	IAEA	New IAEA end-to-end on-site IMRT audit methodology: Pilot test results
302	**E.Pappas** C.Hourdakis K.Zourari Z.Thrapsanioti E.Pantelis C.Antypas P.Pantelakos E.Zoros D.Makris E.P.Pappas	Greece	End-to-end audit tests for advanced radiotherapy treatment modalities involving patient-specific 3D dosimetry phantoms
305	**T.Sahnoun** L.Farhat W.Mnejja J.Daoud	Tunisia	Evaluation of dosimetric controls for patients treated with IMRT for a prostate cancer
311	H.Lee M.Alqathami **G.Ibbott**	IOMP	UV versus MV irradiation response of 3D dosimeters
318	**K.Chelminski** W.Bulski	Poland	Multileaf collimator testing – a nationwide audit in Poland

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
85	**O.Galvan** A.Garcia	Mexico	Measurement of the percentage dose at surface with radiochromic films
130	**C.F.Calderon** M.Napoles Morales R.Alfonso Laguardia E.Larrinaga Cortina J. Gonzalez	Cuba	Normal tissue complication probability calculation in normal and hypo-fractionated radiotherapy of head & neck tumors
132	**C.F.Calderon** J.Gonzalez R.Alfonso Laguardia	Cuba	Radiobiological modeling and treatment planning for sequential and concurrent combination of internal and external radiotherapy modalities
248	O.McArdle M.Dunne **J.B.M.Kigula**	Uganda	Toxicity of radical radiotherapy with or without chemotherapy in HIV positive and negative women treated for locally advanced cervical cancer
304	**A.Nobah** S.Alshammary S.Wadi-Ramahi W.Alnajjar B.Moftah	Saudi Arabia	Implementation of the IAEA-TECDOC-1583 with IMRT and VMAT test plans as a dosimetric verification for AAA and Acuros XB algorithms using heterogeneous phantom
321	**J.Kildea** C.Angers B.Liszewski E.Brown J.Hunt M.Milosevic L.Montgomery K.Moran S.Ross A.Walker	Canada	Development and Refinement of the Canadian National System for Incident Reporting in Radiation Treatment (NSIR-RT)

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
160	**M.A.Hussain** K.Shehzad T.Mahmood	Pakistan	Comparison of the equivalent uniform dose (EUD) in prostate cancer for target and organ at risk (OARs) between 3D+IMRT and IMRT treatment techniques
179	**G.Farkas** S.Z.Kocsis G.Szekely D.Bela C.Pesznyak A.Zongor T.Major Z.Juranyi C.Polgar	Hungary	Biological dose estimation for different photon beam qualities used in radiation oncology
239	**T.Huelber** E.Kis Z.Kocsis G.Safrany C.Pesznyak	Hungary	First conclusions regarding the validation of an automated micronucleus counting microscope based on samples from prostate tumorous patients
247	**R.Astaburuaga** I.Espinoza B.Sanchez-Nieto **D.Fabri** J.Pardo Montero C.P.Karger T.Guerrero-Urbano A.Lopez-Medina A.Gago-Arias	Chile	In silico model of radiotherapy treatment outcome for different fractionation schemes considering dynamic biological processes
312	**D.Fabri** A.Gago-Arias B.Sanchez-Nieto A.Lopez-Medina T.Guerrero-Urbano	Chile	A Delta TCP tool, based on biological parameters of tumor voxels, to quantify effectiveness of different dose distributions in tumor control.
323	**O.Belyakov** E.Fidarova K.Hopkins R.Prasad E.Zubizarreta	IAEA	Applied Radiation Biology and Radiotherapy Coordinated Research Projects of the International Atomic Energy Agency (IAEA)

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17	**T.Sanghangthum** S.Suriyapee S.Oonsiri P.Oonsiri S.Maknitikul	Thailand	Patient-specific quality assurance evaluation for stereotactic volumetric modulated arc delivery using 6FFF beams
30	**M.T.Bahreyni Toossi** B.Khajetash M.Ghorbani	Iran	Measurement of fast neutron contamination caused by presence of wedge and block by CR-39 detector
37	**P.R.Babu Rao** W.A.Woon	India	Dosimetric measurements for small circular cones of a Stereotactic linear accelerator
41	**E.W.Fiagbedzi**	Ghana	Dose Evaluation of the AAA for small, Large and Asymmetric fields with a 6MV Photon Energy
232	**E.Okonkwo** R.Buecker R.Samba L.Asana W.Ngwa	Germany	Harambee: Tuning African Brain drain to gain in Global Radiation Oncology using Information and Communication Technology
293	**R.Prasad** E.Rosenblatt A.Polo E.Zubizarreta K.Hopkins N.Ndlovu G.Paris M.S.Zaghloul V.Sharma M.Abdel-Wahab	IAEA	Africa radiation oncology network (afronet): an IAEA pilot telemedicine project for anglophone Africa

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
59	**S.Odreitz-Stark** P.Winkler K.Passler E.Haas	Austria	Saturation correction for ionisation chambers at different DPP
64	**E.Attalla** R.Elawady S.Shoer	Egypt	Conversion of measured percentage depth dose to Tissue maximum ratio values in the small fields: Is it worth?
71	S.Wadi-Ramahi **S.Atawneh** S.Dababneh	Saudi Arabia	Empirical model for phantom scatter for small beam dosimetry in different density media
94	**Z.L.M.Msimang** D.Van der Merwe N.Maphumulo	South Africa	Accuracy in clinical small field data
97	**T.Konrad** S.Odreitz-Stark	Austria	Evaluation of treatment planning systems using in-house software “EAT PIE”
111	**S.Pawiro** V.Arif A.Nainggolan M.Mukhlisin D.Soejoko	Indonesia	Peripheral Dose of Moving Target Simulation using In-House Dynamic Thorax Phantom

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
115	**A.Maachou** A.Toutaoui N.khelassi-Toutaoui Z.Brahimi	Algeria	Characterization of a portal imager Amorphous Silicon Portal Vision aS 1000 for in vivo dosimetry for IMRT
167	**E.Titovich** M.Piatkevich	Belarus	Treatment plan stability to geometric uncertainties. PTV and CTV related dose-volume statistics comparison for 3D CRT, IMRT and VMAT irradiation of the «average» prostate patient in N.N. Alexandrov National Cancer Centre of Belarus.
172	D.A.Brito **A.F.Monti** M.B.Ferrari M.G.Brambilla C.Carbonini D.Zanni A.Torresin	EFOMP	Analysis of dose deposition in lung lesions: a modified PTV for a more robust optimization.

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
174	**O.Noor** M.Arib B.Moftah F.Mayhoub W.Alnajjar F.Alzorkany A.Alkafi	Saudi Arabia	Establishment of Radiotherapy Calibration Facility at the SSDL of KFSH&RC
178	**M.Arib** A.Nobah U.Mwidu F.Mayhoub W.Al-Najar B.Moftah S.Wadi-Ramahi O.Noor F.Alzorkani S.Aldelaijan M.Shehadeh A.Alkafi	Saudi Arabia	Testing the IAEA/AAPM Code of Practice on Small Field Dosimetry at KFSHRC: preliminary results
251	**D.Alonso** R.Alfonso-Laguardia J.L.Alonso Samper **A.Garcia Andino**	Cuba	In vivo dosimetry for kilovoltage X-ray Radiotherapy
266	M.Carroll **G.Ibbott** M.Alqathami	IOMP	Reduction of signal quenching in PRESAGE® dosimeters irradiated with protons
288	**Y.Krutman** J.Lizar O.Baffa J.Pavoni	Israel	The use of MAGIC-f gel to perform RTP clinical checks, a first approach

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31	**M. T. Bahreyni Toossi** S. Soleymanifard A. Farkhari	Iran	Comparison of various radiation therapy techniques in breast cancer with inclusion of internal mammary nodes by use of a RANDO phantom and thermoluminescent dosimeter
67	**H. Ndagire**	Uganda	Optimisation of protection in breast mamamography
298	R. Louelh H. S. Kidar S. Bencheikh M. Belmessaoud **A. Toutaoui**	Algeria	Dosimetric verification of the small field dose calculation using Acuros XB dose algorithm for heterogeneous media
300	S. Bencheikh B. Metchat R. Louelh M. Belmessaoud **A. Toutaoui**	Algeria	Dosimetric verification of the small field calculation using Acuros XB dose algorithm for homogeneous and heterogeneous media
309	**Y. Kirpichev** T. Krylova	Russia	Beam quality index for arbitrary reference fields
330	O. Bawazeer **S. Sarasanandarajah** S. Herath T. Kron L. Dunn P. Deb	Australia	A simplified approach of measuring beam attenuation through treatment couch and immobilization devices using electronic portal imaging devices

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
53	**J.Van Dyk**	MPWB	Expertise Mobilization: Addressing the Medical Physics Gap
58	**M.J.Calaguas** A.Gaerlan-Tagle L.Rodriguez J.A.Flores J.Canedo	Philippines	Education and Training of Professionals in Radiation Oncologists in Asia: The Challenge in Diversity
60	**K.P.Adhikari**	Nepal	Issues & Challenges of Medical Physicist in Nepal
117	**K.Y.Cheung**	IOMP	Methodology for Acquisition of Appropriate Technology for Radiation Therapy in Developing Countries
146	**L.Kochbati** S.Zarra	Tunisia	Workload patterns in the department of radiotherapy in Salah Azaiez Institute : year 2012

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
78	**C.Haddad** H.Carvalho L.Rodrigues W.Neves JR	Brazil	Evaluation and quantification of long-term results of the Technical Cooperation Project - BRA/6/023 – IAEA
89	**F.Hasford** A.Ibn Seddik T.A.Ige D.Van der Merwe E.M.Attalla R.Nakatude S.Odette M.Besbes B.Van Wyk K.Christaki G.Loreti A.Toutaoui	Ghana	Accreditation of medical physics clinical training programmes in Africa: survey by the Federation of African Medical Physics Organizations and the International Atomic Energy Agency
98	**A.Gaerlan (Tagle)** M.Calaguas	Philippines	Accessibility of Radiotherapy in 16 Asian Countries: Current Update on the Existing Scenario
110	**N.Hossain** H.Rashid T.A.Biman K.A.Quadir	Bangladesh	Medical Physics Education and Training in Bangladesh - An Overview
270	**L.Y.Mula-Hussain** A.H.Gendari B.M.Muhsin K.A.Mohammad **S.Ali** S.Majid J.S.Ali Z.Saeed H.O.Ghafour H.Hassan	Iraq	Three years of practicing Intensity Modulated Radiation Therapy (IMRT) in a war-torn country – 1st report from an Iraqi institution

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54	**M.E.Chirila** Z.Fekete	Romania	Metachronous cancers in patients with survival greater than 5 years
129	N.Karmaker **Md Akhtaruzzaman**	Bangladesh	Present Status of Medical Physics Education in Bangladesh
137	**A.Kamal Uddin** M.Aziz S.Afroz	Bangladesh	National Training program for Radiation Oncology with the technical support of IAEA: Encouraging experience of Bangladesh
141	**L.Y.Mula-Hussain** S.Wadi-Ramahi M.Al-Ghazi I.Jaradat S.S.Tahir A.Alhasso M.Chelfi M.D.Hughson A.N.Shamsaldin	Iraq	Impact of international networking on advancing radiation oncology training in a war-torn country – experience from Iraq

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96	**T.A.Olasinde**	Nigeria	The role of Low Dose Rate Brachytherapy for Carcinoma of the Cervix at Zaria, Nigeria.
168	**E.Titovich** M.Piatkevich D.Kazlouski Y.Mishkevich A.Bialetski V.Hertsyk P.Patsiapalau T.Bohdan K.Zinovenko	Belarus	Improving of the training programs for medical physicists and engineers in N.N. Alexandrov National Cancer Centre of Belarus
189	**T.Mizukami** H.Sato H.Kawamura N.Kubo A.Adachi H.Katoh H.Matsui K.Ito K.Suzuki T.Ohno T.Nakano	Japan	Carbon-ion radiotherapy for prostate cancer with bladder invasion
249	**E.Rosenblatt** G.B.Prajogi M.Barton E.Fidarova J.G.Eriksen B.Haffty B.A.Millar A.Bustam E.Zubizarreta M.Abdel-Wahab	Uruguay	Need for competency-based radiation oncology education from a global health perspective
267	**C.Pesznyak** T.Major D.Legrady S.Czifrus	Hungary	The role of radiation therapy in the schedule of the medical physics MSc course of BME University

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No. of Poster IAEA-CN-250 -	*Name*	*Designating Member State/Organization*	*Title of Paper*
11	**O.Kozak** A.Shvedov O.Morus	Ukraine	Specificity of fast neutron therapy. Is it necessary to restore projects in fast neutron irradiation
139	**V.Sharma** A.Morganti A.Awad T.Chingonzoh Y.Ndibalema H.Lakhdar A.Nyamhunga H.Makwani B.Abdel Halim A.Legesse W.Tigeneh L.Banda J.Yarney V.Okwor C.Ikechukwu M.Maham R.Mounitile A.Aissoa R.Prasad T.Olasinde M.Mustapha R.Harilalao A.Abiola O.Fakolade B.Likonda A.Shanof	South Africa	Patterns of Practice of Radiation Therapy and /or Chemotherapy in Africa for Gastrointestinal Cancers- An Audit
287	**K.R.Britton** J.Lio Y.Villareal V.Fisher	Panama	High-Dose-Rate Interstitial Brachytherapy With iridium-192 for Localized Stage Prostate Cancer Treated at a Panamanian Single-center: Treatment Description and Preliminary Results
319	C.E.Almeida **A.Varela**	Brazil	Implementation of the Brazilian National Education Program on Radiotherapy – Professional Master Degree on Medical Physics.
322	**T.Nakano**	Japan	International cooperation of radiation oncology in RCA Asia

IAEA PUBLICATIONS RELATED TO THE SUBJECT OF THE CONFERENCE

STI/PUB/1638	Non-serial Publications: Radiotherapy in Cancer Care: Facing the Global Challenge
STI/PUB/1196	Non-serial Publications: Radiation Oncology Physics
STI/PUB/1564	Non-serial Publications: Diagnostic Radiology Physics
STI/PUB/1617	Non-serial Publications: Nuclear Medicine Physics
STI/PUB/1679	IAEA Human Health Series No. 31: Accuracy Requirements and Uncertainties in Radiotherapy
STI/PUB/1753	IAEA Human Health Series No. 23 (Rev. 1): Nuclear Cardiology: Guidance on the Implementation of SPECT Myocardial Perfusion Imaging
STI/PUB/1748	IAEA Human Health Series No. 34: Atlas of Skeletal SPECT/CT Clinical Images
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STI/PUB/1642	IAEA Human Health Series No. 27: PET/CT Atlas on Quality Control and Image Artefacts
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STI/PUB/1663	Proceedings Series - International Atomic Energy Agency: Radiation Protection in Medicine: Setting the Scene for the Next Decade
STI/PUB/1705	IAEA Human Health Reports (CD-Rom) No. 13: Staffing in Radiotherapy: An Activity Based Approach
STI/PUB/1647	IAEA Human Health Series No. 28: Worldwide Implementation of Digital Imaging in Radiology
STI/PUB/1680	IAEA Human Health Series No. 32: Clinical PET/CT Atlas: A Casebook of Imaging in Oncology
STI/PUB/1681	IAEA Human Health Reports No. 12: The Transition from 2-D Brachytherapy to 3-D High Dose Rate Brachytherapy
STI/PUB/1670	IAEA Human Health Series No. 30: Implementation of High Dose Rate Brachytherapy in Limited Resource Settings
STI/PUB/1648	IAEA Human Health Series No. 29: Guided Intraoperative Scintigraphic Tumour Targeting (GOSTT)
STI/PUB/1393	IAEA Human Health Series No. 1: Quality Assurance for PET and PET/CT Systems
STI/PUB/1381	IAEA Human Health Series No. 2: Quality Assurance Programme for Screen Film Mammography
STI/PUB/1370	IAEA Human Health Series No. 3: Assessment of Body Composition and Total Energy Expenditure in Humans Using Stable Isotope Techniques
STI/PUB/1425	IAEA Human Health Series No. 4: Comprehensive Clinical Audits of Diagnostic Radiology Practices: A Tool for Quality Improvement
STI/PUB/1437	IAEA Human Health Series No. 5: Radiolabelled Autologous Cells: Methods and Standardization for Clinical Use
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19-20 September 2017, Vienna, Austria

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23-27 October 2017, Lyon, France

International Ministerial Conference on Nuclear Power in the 21st Century
30 October-1 November 2017, Abu Dhabi, UAE

International Conference on Physical Protection of Nuclear Material and Nuclear Facilities
13-17 November 2017, Vienna, Austria

International Conference on Radiation Protection in Medicine: Achieving Change in Practice
11-15 December 2017, Vienna, Austria

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Third International Conference on Human Resource Development for Nuclear Power Programmes: Meeting Challenges to Ensure the Future Nuclear Workforce Capability
28-31 May 2018, Gyeongju, Republic of Korea

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25-29 June 2018, Vienna, Austria

International Symposium on Plant Mutation Breeding and Biotechnology
6-10 August 2018, Vienna, Austria

International Symposium on Communicating Nuclear and Radiological Emergencies to the Public
1-5 October 2018 Vienna, Austria

International Conference on Challenges Faced by Technical and Scientific Support Organizations (TSOs) in Enhancing Nuclear Safety and Security
15-19 October 2018, Brussels, Belgium

27th IAEA Fusion Energy Conference (FEC-2018)
22-27 October 2018, Ahmedabad, India

Symposium on International Safeguards
5-9 November 2018, Vienna, Austria

Ministerial Conference on Nuclear Science, Technology and Applications for Peaceful Uses
27-29 November 2018, Vienna, Austria

International Conference on Global Radioactive Material Security Governance: Prevention and detection in action
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International Symposium on Understanding the Double Burden of Malnutrition for Effective Interventions
10-14 December 2018, Vienna, Austria

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Conference website:
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