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IAEA Secretariat:

Scientific Secretary: A. Meghzifene

Administrative Support: J. Ince

Symposium Coordination: M. Khaelss
D. Umgeher

TC Coordination: S. Steyskal

Exhibition Coordination: E. Posta

Location of the Symposium:

International Atomic Energy Agency
Vienna International Centre (VIC)
M Building
1400 Vienna, Austria
Tel.: (+43 1) 2600 21315
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Working Language: English

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

TIMETABLE**Monday, 08 November 2010**

16:00–18:00 Registration Gate 1

Tuesday, 09 November 2010

08:00 Registration Gate 1

09:30 – 10:30 Opening Session

10:30 – 11:00 Coffee Break

11:00 – 12:30 Plenary Session 1 Radiation Measurement Standards for Imaging and Therapy I

12:30 – 14:00 Lunch Break

14:00 – 15:00 Round Table 1 When Dosimetry Goes Wrong in Therapy and Imaging

15:00 – 15:30 Poster Highlights 1 Clinical Dosimetry in X ray Imaging

Poster Highlights 2 Radiation Measurement Standards for Imaging and Therapy/Reference Dosimetry and Comparisons in External Beam Radiotherapy

15:30 – 16:00 Coffee Break

16:00 – 17:30 Plenary Session 2 Radiation Measurement Standards for Imaging and Therapy II

17:30 – 19:30 Welcome Reception

Wednesday, 10 November 2010

08:00 – 08:50 Course 1 Nuclear Medicine: Formalism for Internal Dosimetry

09:00 – 10:30 Parallel Session 3 (a) Reference Dosimetry and Comparisons in External Beam Radiotherapy I

(b) Internal Dosimetry: Computational Phantoms and Radiobiological Modelling

10:30 – 11:00 Coffee Break

11:00 – 12:30 Parallel Session 4 (a) Small and Non-Standard Fields

(b) Internal Dosimetry: Patient Specific Methods

12:30 – 14:00 Lunch Break

14:00 – 15:00 Round Table 2 Dosimetry Challenges Associated with New Technology

15:00 – 15:30 Poster Highlights 3 External Quality Audits in Radiotherapy

15:30 – 16:00 Coffee Break

16:00 – 17:30 Plenary Session 5 External Quality Audits in Radiotherapy

Thursday, 11 November 2010

08:00 – 08:50 Course 2 Diagnostic Imaging: Clinical Dosimetry in Paediatric Imaging

09:00 – 10:30 Parallel Session 6 (a) Reference Dosimetry and Comparisons in External Beam Radiotherapy II

(b) Clinical Dosimetry in X ray Imaging I

10:30 – 11:00 Coffee Break

11:00 – 12:30 Parallel Session 7 (a) Clinical Dosimetry in Radiotherapy

(b) Clinical Dosimetry in X ray Imaging II

12:30 – 14:00 Lunch Break

14:00 – 15:00 Round Table 3 Education and Training for Radiation Dosimetry

15:00 – 15:30 Poster Highlights 4 Reference Dosimetry and Comparisons in Brachytherapy/Clinical Dosimetry in Radiotherapy

15:30 – 16:00 Coffee Break

16:00 – 17:30 Poster Viewing

Friday, 12 November 2010

08:00 – 08:50	Course 3	Brachytherapy: Beyond TG-43 to Improve Brachytherapy Dosimetry
09:00 – 10:30	Parallel Session 8	(a) Reference Dosimetry and Comparisons in Brachytherapy (b) Clinical Dosimetry in X ray Imaging III
10:30 – 11:00	Coffee Break	
11:00 – 12:30	Plenary Session 9	Radiation Protection Dosimetry
12:30 – 14:00	Lunch Break	
14:00 – 15:00	Round Table 4	Calibration Traceability: What Does This Mean To You?
15:00 – 15:30	Coffee Break	
15:30 – 17:00	Concluding Session	

Display of Posters from Tuesday to Friday, 9-12 November 2010:**A-C Building (Ground floor)**

- External Quality Audits

B Building (Ground floor)

- Reference Dosimetry and Comparisons in Brachytherapy
- Clinical Dosimetry in Radiotherapy
- Radiation Protection Dosimetry

M Building (1st floor)

- Clinical Dosimetry in X ray Imaging
- Internal Dosimetry for Diagnostic and Therapeutic Nuclear Medicine

M Building (2nd floor)

- Radiation Measurement Standards for Imaging and Therapy
- Reference Dosimetry and Comparisons in External Beam Radiotherapy

Commercial exhibits will be shown from Tuesday to Friday, 9-12 November 2010 in M Building (Ground floor) and A-Building (Ground Floor).

TUESDAY, 09 NOVEMBER 2010

09:30 – 10:30 OPENING SESSION:

Room: Conference Room M1
Press Room (via CCTV)

<i>No. of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
	M. Dondi	IAEA	Opening Address
	D. Magliani	IAEA	“
	P.J. Allisy-Roberts	BIPM	“
	D. Jones	ICRU	“
INV001	P. Andreo	Sweden	Accuracy requirements in medical radiation dosimetry

10:30 – 11:00 *Coffee Break*11:00–12:30 **PLENARY SESSION 1:
Radiation Measurement Standards for
Imaging and Therapy I**Room: Conference Room M1
Press Room (via CCTV)Chair: P. J. Allisy-Roberts, BIPM
Co-chair: A. Meghifene, IAEA

<i>No. of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV002	H.M. Kramer	Germany	What can primary standards do for you?
148	A. Sarfehnia K. Stewart C. Ross M. McEwen et al.	Canada	Primary water calorimetry for clinical electron beams, scanned proton beams and ¹⁹² Ir brachytherapy
253	A. Steurer A. Baumgartner R.P. Kapsch G. Stucki	Austria	Results of the direct comparison of primary standards for absorbed dose to water in ⁶⁰ Co and high energy photon beams (EURAMET TC-IR Project 1021)
008	B. Rapp A. Ostrowsky J. Daures	France	The LNE–LNHB water calorimeter: Measurements in a ⁶⁰ Co beam
057	D.T. Burns	BIPM	Dose conversion for the BIPM graphite calorimeter standard for absorbed dose to water

12:30 – 14:00 *Lunch Break*

TUESDAY, 09 NOVEMBER 2010

14:00 – 15:00 **ROUND TABLE DISCUSSION 1:
When Dosimetry Goes Wrong In Therapy
and Imaging**

Room: **Conference Room M1
Press Room (via CCTV)**

Chair: **G. Ibbott, AAPM**

Panel Members: **J. Izewska, IAEA
P. Ortiz López, IAEA
O. Holmberg, IAEA
K. Faulkner, EFOMP
T. Knöös, ESTRO**

15:00 – 15:30 **POSTER HIGHLIGHTS 1
(PARALLEL SESSION):
Clinical Dosimetry in X ray Imaging**

Room: **Press Room**

Chair: **C. Hourdakis, Greece**

Co-chair: **P. Toroi, Finland**

15:00 – 15:30 **POSTER HIGHLIGHTS 2:
(PARALLEL SESSION)
Radiation Measurement Standards for
Imaging and Therapy / Reference
Dosimetry and Comparisons
in External Beam Radiotherapy**

Room: **Conference Room M1**

Chair: **D.T. Burns, BIPM**

Co-chair **J. Seuntjens, AAPM**

15:30 – 16:00 *Coffee Break*

TUESDAY, 09 NOVEMBER 2010

16:00 – 17:30 **PLENARY SESSION 2:
Radiation Measurement Standards
for Imaging and Therapy II**

Room: Conference Room M1
Press Room (via CCTV)

Chair: H.M. Kramer, Germany
Co-chair: K. Rosser, United Kingdom

<i>No of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV003	P.J. Allisy-Roberts	BIPM	What colour is 'your gray'?
209	T. Sander H. Palmans S. Duane M. Bailey et al.	United Kingdom	Design and principles of a graphite calorimeter for brachytherapy
129	I. Aubineau- Laniece P. Aviles-Lucas J. Bordy B. Chauvenet et al.	France	Development of a primary standard in terms of absorbed dose to water for ¹²⁵ I brachytherapy seeds
207	A. Malusek G. Alm Carlsson	Sweden	Analysis of the tandem calibration method for kerma–area product meters via Monte Carlo simulations
117	C.D. Cojocaru G. Stucki M.R. McEwen C.K. Ross	Canada	Determination of absorbed dose to water in megavoltage electron beams using a calorimeter–Fricke hybrid system

17:30 – 19:30 *Welcome Reception*

WEDNESDAY, 10 NOVEMBER 2010

08:00 – 08:50 **COURSE 1:**
Formalism for Internal Dosimetry

Room: **Press Room**

Lecturer: **G. Sgouros, SNM**

(REGISTERED PARTICIPANTS ONLY)

09:00 – 10:30 **PARALLEL SESSION 3a:**
**Reference Dosimetry and Comparisons
in External Beam Radiotherapy I**

Room: **Conference Room M1**

Chair: **S. Huq, AAPM**

Co-chair: **H. Palmans, United Kingdom**

<i>No of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV004	P. Andreo H. Benmakhlouf	Sweden	Ten years after: impact of recent research in photon and electron beam dosimetry on TRS-398
063	R.P. Kapsch I. Gomola	Germany	Beam quality correction factors for plane parallel chambers in photon beams
149	M.R. McEwen L. DeWerd G. Ibbott D. Rogers et al.	Canada	Updating the AAPM's TG-51 protocol for clinical reference dosimetry of high energy photon beams
285	K.E. Rosser E. Fernandez	United Kingdom	Application of a new dosimetry formalism to IMRT head and neck radiotherapy
310	M. Aspradakis J.P. Byrne H. Palmans J. Conway et al.	IPEM	IPEM report 103: Small field MV photon dosimetry

WEDNESDAY, 10 NOVEMBER 2010

09:00 – 10:30 **PARALLEL SESSION 3b:**
Internal Dosimetry: Computational
Phantoms and Radiobiological Modelling

Room: **Press Room**

Chair: **M. Ljungberg, Sweden**
Co-chair: **G. Sgouros, SNM**

<i>No of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV005	W. Bolch M. Wayson D. Pafundi	ICRP	Computational phantoms and skeletal dose models for adult and paediatric internal dosimetry
134	M. Wayson W. Bolch	United States of America	Photon and electron specific absorbed fractions for the University of Florida paediatric hybrid computational phantoms
167	J. González González C. Calderón R. Alfonso La Guardia O. Diaz Rizo et al.	Cuba	Inverse treatment planning for targeted radionuclide therapy
349	C. Calderón J. González González R. Alfonso La Guardia W. Quesada et al.	Cuba	Validating activity prescription schemes in radionuclide therapy based on TCP and NTCP indexes calculation
227	B.W. Wessels Y. Zheng A.G. Di Dia M. Cremonesi	United States of America	Isoeffective dose specification of normal liver during radioembolization using ⁹⁰ Y microspheres
10:30 – 11:00	<i>Coffee Break</i>		

WEDNESDAY, 10 NOVEMBER 2010

11:00 – 12:30 **PARALLEL SESSION 4a:**
Small and Non-Standard Fields

Room: **Conference Room M1**

Chair: **P. Andreo, Sweden**

Co-chair: **J. Seuntjens, AAPM**

<i>No of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV006	H. Palmans	United Kingdom	Small and composite field dosimetry: The problems and recent progress
012	E. Pantelis W. Kilby A. Moutsatsos K. Zourari et al.	Greece	On the implementation of a recently proposed dosimetric formalism to a robotic radiosurgery system
200	S. Junell L. DeWerd M.S. Huq J. Novotny et al.	AAPM	Small field dosimetric measurements with TLD-100, alanine and ionization chambers
217	M.C. Pressello C. De Angelis R. Rauco D. Aragno et al.	EFOMP	Application of a new formalism for dose determination in tomotherapy HiArt
146	E. Chung E. Soisson H. Bouchard J. Seuntjens	Canada	Advanced dosimetry techniques for accurate verification of non-standard beams

WEDNESDAY, 10 NOVEMBER 2010

11:00 – 12:30 **PARALLEL SESSION 4b:**
Internal Dosimetry: Patient Specific
Methods

Room: **Press Room**

Chair: **W. Bolch, ICRP**
Co-chair: **S. Palm, IAEA**

<i>No of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV007	M. Ljungberg K. Sjögreen- Gleisner	Sweden	Imaging based patient specific dosimetry
034	M. Lassmann C. Chiesa M. Bardies	Germany	Good practice of clinical dosimetry reporting
300	A.M. Fadel R.C. Cabrejas G.C. Chebel M.L. Cabrejas	Argentina	Pitfalls in patient specific dosimetry
192	A. Desbrée L. Hadid N. Grandgirard N. Pierrat et al.	France	Towards patient specific dosimetry in nuclear medicine: Associating Monte Carlo and 3-D voxel based approaches
360	G. Sgouros R.F. Hobbs R.L. Wahl P.W. Ladenson	SNM	Clinical implementation of patient specific dosimetry: Comparison with absorbed fraction based methods
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12:30 – 14:00	Lunch Break		

WEDNESDAY, 10 NOVEMBER 2010

14:00 – 15:00 **ROUND TABLE DISCUSSION 2:
Dosimetry Challenges Associated with
New Technology**

Room: **Conference Room M1
Press Room (via CCTV)**

Chair: **S. Huq, AAPM**

Panel Members **J. Van Dyk, IAEA
G. Sgouros , SNM
J. Seuntjens , AAPM
D. Followill, AAPM
J. Boone, ICRU**

15:00 – 15:30 **POSTER HIGHLIGHTS 3:
(PLENARY SESSION)
External Quality Audits in Radiotherapy**

Room: **Conference Room M1
Press Room (via CCTV)**

Chair: **D. Followill, AAPM**

Co-chair: **D. Georg, IOMP**

15:30 – 16:00 *Coffee Break*

WEDNESDAY, 10 NOVEMBER 2010

16:00 – 17:30 **PLENARY SESSION 5:**
External Quality Audits in Radiotherapy

Room: Conference Room M1
Press Room (via CCTV)

Chair: D. Thwaites, ESTRO
Co-chair: J. Izewska, IAEA

<i>No of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV008	J. Izewska P. Bera G. Azangwe S. Vatnitsky et al.	IAEA	The IAEA quality audits for radiotherapy
INV009	G. Ibbott	AAPM	Credentialing institutions for advanced technology clinical trials
141	J. Berresford E. Bradshaw M. Trainer G. Budgell et al.	United Kingdom	A dosimetric audit of IMRT in the UK
326	T. Knöös J. Medin L. Persson	ESTRO	Preliminary results from a dosimetric audit performed at Swedish radiotherapy centres
135	B. Schaeken S. Lelie R. Cuypers W. Schroeeyers et al.	Belgium	BELdART: Organization of a quality assurance audit for photon and electron beams based on alanine/EMR dosimetry
315	H. Mizuno A. Fukumura Y. Kusano S. Sakata	Japan	Dosimetry audits in radiotherapy using radiophotoluminescent glass dosimeters in Japan

THURSDAY, 11 NOVEMBER 2010

08:00 – 08:50 **COURSE 2:**
Diagnostic Imaging: Clinical Dosimetry in
Paediatric Imaging

Room: **Press Room**

Moderator: **A. Torresin, EFOMP**

Lecturers: **K. Faulkner, EFOMP**
J. Boone, ICRU
W. Bolch, ICRP

(REGISTERED PARTICIPANTS ONLY)

09:00 – 10:30 **PARALLEL SESSION 6a:**
Reference Dosimetry and Comparisons
in External Beam Radiotherapy II

Room: **Conference Room M1**

Chair: **J. Medin, Sweden**

Co-chair: **D. Jones, ICRU**

<i>No of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV010	S. Vatnitsky P. Andreo D.T.L. Jones	Austria	Recent advances in dosimetry in reference conditions for proton and light-ion beams
325	J. Medin	Sweden	Experimental determination of the kQ factor for a Farmer chamber in a high energy scanned pulsed proton beam
061	A. Krauss	Germany	Calorimetric determination of kQ factors for an NE2561 ionization chamber in 3 cm x 3 cm beams of 6 MV and 10 MV photons
277	H. Palmans L. Al-Sulaiti R.A.S. Thomas D.R. Shipley et al.	United Kingdom	Conversion of dose-to-graphite to dose-to-water in clinical proton beams
268	G. Kragl S. af Wetterstedt B. Knäusl F. Baier et al.	Austria	Flattening filter free beams: Dosimetric characterization, beam quality and peripheral doses

THURSDAY, 11 NOVEMBER 2010

09:00 – 10:30 **PARALLEL SESSION 6b:**
Clinical Dosimetry in X ray Imaging I

Room: **Press Room**

Chairs: **A. Torresin, EFOMP**

Co-chair: **D. Dance, EFOMP**

<i>No of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV011	J. Boone	ICRU	New advances in CT dosimetry
003	R.S. Livingstone P.M. Dinakaran	India	Regional diagnostic reference levels and collective effective doses from CT scanners in India
028	R. Schmidt J. Wulff L. Castra K. Zink	EFOMP	Variations of dose to the lung during computed tomography (CT) thorax examinations: A Monte Carlo study
206	A. Malusek E. Helmrot G. Alm Carlsson	Sweden	Patient specific kerma-area product as an exposure estimator in computed tomography: The concept and typical values
226	L.V. Canevaro M.M. Nunes C.D. Almeida	Brazil	Application of dosimetric methods for obtaining diagnostic reference levels in panoramic dental radiography
10:30 – 11:00	<i>Coffee Break</i>		

THURSDAY, 11 NOVEMBER 2010

11:00 – 12:30 **PARALLEL SESSION 7a:**
Clinical Dosimetry in Radiotherapy

Room: **Conference Room M1**

Chairs: **G. Ibbott, AAPM**
Co-chair: **J. Van Dyk, IAEA**

<i>No of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV012	J. Van Dyk	IAEA	Verification of the radiation treatment planning process: Did we get it right?
INV013	D. Followill S. Davidson P. Alvarez G. Ibbott	AAPM	Assessing heterogeneity correction algorithms using the Radiological Physics Center's anthropomorphic thorax phantom
122	S. Lelie T. Lennertz B. Schaeken B. Bogdanov et al.	Belgium	LiFo-film dosimeters in skin dose measurements
249	A. Muring	Norway	A dosimetric protocol for the use of radiochromic film in radiotherapy quality assurance in Norway
160	E. D'Agostino G. Defraene L. de Freitas R. Bogaerts et al.	Belgium	Peripheral doses in modern radiotherapy techniques: A comparison between IMRT, Tomotherapy and Cyberknife

THURSDAY, 11 NOVEMBER 2010

11:00 – 12:30 **PARALLEL SESSION 7b:**
Clinical Dosimetry in X ray Imaging II

Room: **Press Room**

Chair: **K. Faulkner, EFOMP**

Co-chair: **F. Shannoun, WHO**

<i>No of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV014	D. R. Dance K.C. Young R.E. van Engen	EFOMP	A proposed European protocol for dosimetry in breast tomosynthesis
272	A. Trianni D. Gasparini R. Padovani	EFOMP	Assessment of trigger levels to prevent tissue reaction in interventional radiology procedures
155	L. Cockmartin D. Dance A.J. Jacobs H. Bosmans	Belgium	Digital breast tomosynthesis: Comparison of two methods to calculate patient doses
180	D.H. Temperton P.J. Barnes	IPEM	Compliance of full field digital mammography systems with the European protocol for image quality and dose
289	R. Kramer V.F. Cassola	Brazil	On the influence of the patient's posture on organ and tissue absorbed doses caused by radiodiagnostic examinations
12:30 – 14:00	<i>Lunch Break</i>		

THURSDAY, 11 NOVEMBER 2010

14:00 – 15:00 **ROUND TABLE DISCUSSION 3:**
Education and Training for Radiation
Dosimetry

Room: **Conference Room M1**
Press Room (via CCTV)

Chair: **F. Nuesslin, IOMP**

Panel Members: **H. Amols, AAPM**
S. Christofides, EFOMP
D. Thwaites, ESTRO
H. Khoury, ALFIM

15:00 – 15:30 **POSTER HIGHLIGHTS 4:**
(PLENARY SESSION)
Reference Dosimetry and Comparisons
in Brachytherapy / Clinical Dosimetry in
Radiotherapy

Room: **Conference Room M1**
Press Room (via CCTV)

Chair: **D. Georg, IOMP**
Co-Chair: **J. Venselaar, ESTRO**

15:30 – 16:00 *Coffee Break*

16:00 – 17:30 **POSTER VIEWING**

Location:	A-C Building	(Ground Floor)	• External Quality Audits
	B Building	(Ground Floor)	• Reference Dosimetry and Comparisons in Brachytherapy
			• Clinical Dosimetry in Radiotherapy
			• Radiation Protection Dosimetry
	M Building	(1 st Floor)	• Clinical Dosimetry in X ray Imaging
			• Internal Dosimetry for Diagnostic and Therapeutic Nuclear Medicine
	M Building	(2 nd Floor)	• Radiation Measurement Standards for Imaging and Therapy
			• Reference Dosimetry and Comparisons in External Beam Radiotherapy

FRIDAY, 12 NOVEMBER 2010

08:00 – 08:50 **COURSE 3:**
Brachytherapy: Beyond TG-43 to Improve
Brachytherapy Dosimetry

Room: **Press Room**

Lecturer: **F. Mourtada, United States of America**

(REGISTERED PARTICIPANTS ONLY)

09:00 – 10:30 **PARALLEL SESSION 8a:**
Reference Dosimetry and
Comparisons in Brachytherapy

Room: **Conference Room M1**

Chair: **J. Venselaar, ESTRO**

Co-chair: **D. van der Merwe, South Africa**

<i>No of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV015	M. P. Toni	Italy	New brachytherapy standards paradigm shift
016	U. Quast T.W. Kaulich A. Ahnesjö J.T. Alvarez-Romero et al.	Germany	From reference air kerma rate to nominal absorbed dose-rate to water paradigm shift in photon brachytherapy: ISO new work item proposal
081	H.J. Selbach M. Meier	Germany	Calibrations of high dose and low dose rate brachytherapy sources
157	A. Aalbers M. de Brabandere C. Koedooder M. Moerland et al.	Netherlands	On the quality control of low energy photon brachytherapy sources: Current practice in Belgium and the Netherlands
018	G. Walwyn Salas M. Bambynek S. Gutierrez Loes H.J. Selbach et al.	Cuba	Cuban laboratory proficiency test for calibration of well type chambers using two types of HDR ¹⁹² Ir sources

FRIDAY, 12 NOVEMBER 2010

09:00 – 10:30 **PARALLEL SESSION 8b:**
Clinical Dosimetry in X ray Imaging III

Room: **Press Room**

Chair: **J. Boone, ICRU**
Co-chair: **D. McLean, IAEA**

<i>No of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV016	P. Toroi A. Kosunen	Finland	Calibration of kerma-area product meters with a patient dose calibrator
080	L. Büermann R. Böttcher	Germany	Performance test of multi parameter measuring devices used for quality assurance in diagnostic radiology
086	C. J. Hourdakis A. Boziari E. Koumbouli	Greece	Calibration of pencil type ionization chambers at various irradiation lengths and beam qualities
137	A. Sulieman F. Abd-Alrahman B. Hussain M. Hamadelneel	Sudan	Radiation dose measurements for paediatrics and co-patients during micturating cystourethrography
143	M. T. Bahreyni Toossi M. Malekzadeh	Islamic Republic of Iran	Diagnostic reference levels in neonatal units
<i>10:30 – 11:00</i>	<i>Coffee Break</i>		

FRIDAY, 12 NOVEMBER 2010

11:00 – 12:30 **PLENARY SESSION 9:
Radiation Protection Dosimetry**

Room: Conference Room M1
Press Room (via CCTV)

Chair: Z. Knezevic, Croatia
Co-chair: R. Cruz-Suárez, IAEA

<i>No of Paper IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
INV117	F. Vanhavere	Belgium	Occupational exposure of medical staff: An overview
296	J. Le Heron R. Padovani A. Duran D. Miller et al.	IAEA	Occupational doses in interventional cardiology: Experiences in obtaining worldwide data as part of the ISEMIR project
198	M. Fülöp I. Makaiová P. Povinec D. Bacek et al.	Slovakia	Estimation of hand doses from positrons during FDG manipulation
159	N. Ruiz López M. Sans Merce I. Barth E. Carinou et al.	Switzerland	The ORAMED project: Optimization of radiation protection for medical staff in interventional radiology, cardiology and nuclear medicine
12:30 – 14:00	<i>Lunch Break</i>		

FRIDAY, 12 NOVEMBER 2010

14:00 – 15:00 **ROUND TABLE DISCUSSION 4:
Calibration Traceability: What Does
This Mean to You?**

Room: **Conference Room M1
Press Room (via CCTV)**

Chair: **P.J. Allisy-Roberts, BIPM**

Panel Members: **M. Lassmann, Germany
M. Kramer, Germany
P. Andreo, Sweden
P. Toroi, Finland
A. Torresin, EFOMP**

15:00 – 15:30 *Coffee Break*

15:30 – 17:00 **CONCLUDING SESSION AND
DISCUSSION**

Room: **Conference Room M1
Press Room (via CCTV)**

Chair: **P.J. Allisy-Roberts, BIPM**

Co-chair: **A. Meghizifene, IAEA**

Rapporteur: **G. Ibbott, AAPM**

POSTERS

Radiation Measurement Standards for Imaging and Therapy

Location: M Building (2nd Floor)

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
032	C. Kasige S.A. Ravindra Abeyasinghe L.P. Jayasinghe	Sri Lanka	Quality management system of secondary standards dosimetry laboratory in Sri Lanka
050	H. Prasetyo R. Andika S. Wijanarko A. Rahmi	Indonesia	Evaluation of RQR beam quality at SSDL Jakarta, Indonesia
054	S. Picard D.T. Burns P. Roger	BIPM	The BIPM graphite calorimeter standard for absorbed dose to water
056	C. Kessler D.T. Burns P. Roger P.J. Allisy-Roberts	BIPM	Establishment of reference radiation qualities for mammography at the BIPM
095	T. Siiskonen H. Kettunen K. Peräjärvi A. Javanainen et al.	Finland	Stopping of 5-20 MeV protons in liquid water: Basic data for radiotherapy dosimetry
097	R. Pirchio	Argentina	Brachytherapy calibration service at secondary standard dosimetry laboratory in Argentina
101	T. Schneider H.J. Selbach	Germany	Determination of the absorbed dose to water for ¹²⁵ I interstitial brachytherapy sources
103	Z. Msimang	South Africa	AFRIMETS working together with AFRA and the IAEA promoting quality dosimetry and sustainability in the region
100	I. Aubineau-Laniece J.M. Bordy B. Chauvenet D. Cutarella et al.	France	Development of a primary standard in terms of reference air kerma rate for ¹²⁵ I brachytherapy seeds
131	S. Gutiérrez Lores G. Walwyn Salas M. López Rodriguez	Cuba	Improved calibration and measurement capabilities in terms of absorbed dose to water for ⁶⁰ Co gamma rays at Cuban SSDL

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
150	G. Ramanathan P. Harty J. Lye C. Oliver et al.	Australia	Establishment of calorimetry based absorbed dose standard for newly installed Elekta Synergy accelerator at ARPANSA
158	F. Gabris A. Steurer R. Brettner-Messler	Austria	Absorbed dose to water secondary standard for brachytherapy sources in Austria
161	L.C. Mihailescu A.L. Lebacqz H. Thierens F. Vanhavere	Belgium	The Belgian laboratory for standard dosimetry calibrations used in radiotherapy
162	I. Csete C.K. Ross L. Büermann J.H. Lee	Hungary	Recent regional key comparison results for air kerma and absorbed dose to water in X rays and ⁶⁰ Co radiation
169	L. Franco L.S. Gavazzi C.E. deAlmeida	ALFIM	Determination of the G value for HDR ¹⁹² Ir sources using ionometric measurements
194	W. Bulski P. Ulkowski B. Gwiazdowska	Poland	Analysis of long term stability of radiotherapy dosimeters calibrated in the Polish SSDL
196	M. Saravi A. Zaretsky A. Stefanic G. Montañó et.al	Argentina	Quality system of the Argentine SSDL
199	T.A da Silva P.M.C. de Oliveira J.V. Pereira M. S. Nogueira Tavares et al.	Brazil	Implementation of a metrological framework for dosimetry of X ray beams used in diagnostic radiology in Minas Gerais, Brazil
221	S. Duane M. Bailey S. Galer F. Graber	United Kingdom	Development of an absorbed dose calorimeter for use in IMRT and small field external beam radiotherapy
224	D. Shipley J. Pearce S. Duane R. Nutbrown	United Kingdom	Re-establishing the photon absorbed dose primary standard on the new NPL clinical linac

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
236	E.L. Corr3a P.C. Franciscato L.V.E. Caldas M.P.A. Potiens et al.	Brazil	Implementation of RQR–M qualities in standard X ray beam used for calibration of mammography ionization chambers
238	W.B. Damatto G.P. Santos M.P.A. Potiens V. Vivolo et al.	Brazil	Operational tests of the standard reference system used for gamma radiation calibration, therapy level, at calibration laboratory of IPEN-CNEN/SP
253	A. Steurer A. Baumgartner R.P. Kapsch G. Stucki	Austria	Results of the direct comparison of primary standards for absorbed dose to water in ⁶⁰ Co and high energy photon beams (EURAMET TC-IR Project 1021)
265	L. Judas J. Dobesova I. Horakova L. Novak	Czech Republic	Re-establishing the dosimetry laboratory in NRPI Prague
267	J.A. de Pooter L.A. de Prez	Netherlands	Development of a water calorimeter as a primary standard for absorbed dose to water measurements for HDR brachytherapy sources
274	G. Walwyn Salas C.J. Hourdakis A. Martinez N. Gonzalez et al.	Cuba	Assuring the quality of the mammography calibrations in Cuban laboratory by comparison with Greek dosimetry standard
313	A.F. Fukumura H. Mizuno Y. Kusano H. Saitoh	Japan	Present status of SSDL and dosimetry protocol for external radiotherapy in Japan

Reference Dosimetry and Comparisons in External Beam Radiotherapy
Location: M Building (2nd floor)

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
009	T. Garcia P. Francois N. Perichon V. Lourenço et al.	France	Calibration of helical tomotherapy using ESR/alanine dosimetry
015	P. Francescon W. Kilby N. Satariano S. Cora	EFOMP	Measurement corrections for output factor measurements of small robotic radiosurgery beams formed by a variable aperture collimator
025	O. Moussous T. Medjaje M. Benguerba	Algeria	Ferrous ammonium sulphate dosimeter chemical yield determination for dose measurement standardization in high energy photons
027	M. Klingebiel K. Zink J. Wulff	Germany	Testing the accuracy of electron transport in the Monte Carlo code FLUKA for calculation of ion chamber wall perturbation factors
030	H. Bouchard I. Kawrakow J.F. Carrier J. Seuntjens	Canada	Conceptual improvements and limitations in non-standard beam reference dosimetry
040	R. Alfonso-Laguardia E. Larrinaga-Cortina L. de la Fuente I. Silvestre-Patallo	Cuba	Experimental evaluation of reference dosimetry for non-standard fields in an aperture based IMRT system
058	M. Anton A. Krauss` R.P. Kapsch T. Hackel	Germany	Response of alanine dosimeters in small photon fields
059	J. Wulff K. Zink	Germany	Chamber quality factors for the NACP-02 chamber in ⁶⁰ Co beams: Comparison of EGSnrc and PENELOPE Monte Carlo simulations
073	I. Jokelainen A. Kosunen	Finland	Comparison of calibration methods of plane parallel ionization chambers for electron beam dosimetry
074	L. Karsch C. Richter J. Pawelke	Germany	Influence of pulse length and high pulse dose on saturation correction of ionization chamber

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
084	T. Gorjiara R. Hill Z. Kuncic C. Baldock	Australia	The dosimetry of electron beams using the PRESAGE dosimeter
091	P.V. Kazantsev V.A. Klimanov	Russian Federation	A Monte Carlo investigation of 31010 ionization chamber perturbation factor for small field dosimetry
093	I. Horakova I. Koniarova V. Dufek	Czech Republic	Comparison of calibration factors of plane parallel chambers used for high energy electron beams in the Czech Republic
112	J. Novotny, Jr J.P. Bhatnagar M.S. Huq	AAPM	Assessment of different detectors for relative output factor measurements in small radiosurgery fields of the Leksell Gamma Knife
113	J. Novotny, Jr J.P. Bhatnagar M.F. Desrosiers J. Novotny et al.	AAPM	Current worldwide practice in calibration of small Leksell Gamma Knife radiosurgery fields: Initial results from the International Calibration Survey
119	T. Sabino L.N. Rodrigues	Brazil	Validation of experimental results in small field dosimetry
120	M. Sakama T. Kanai A. Fukumura Y. Kase	Japan	Experimental determination of beam quality correction factors in therapeutic carbon ion beams
147	F. Tessier	Canada	Accurate dose distributions: The implications of new effective point of measurement values for thimble ionization chambers
168	L.A. de Prez	Netherlands	Small field dosimetry in high energy photon beams based on water calorimetry
176	D.I. Thwaites C.J. Evans G. Granmer- Sargison N.P. Sidhu	ESTRO	Monte Carlo modelling of dosimetric parameters for small field MV X ray beams
195	W. Bulski P. Ulkowski B. Gwiazdowska	Poland	Results of calibration coefficients of plane parallel Markus type ionization chambers calibrated in ⁶⁰ Co and electron beams
214	U. Chica Villegas A. Lallena M. Anguiano	Colombia	Study of the formalism used to determine the absorbed dose for X ray beams
219	A. E. Nahum V. Panettieri	United Kingdom	A critical examination of Spencer-Attix cavity theory

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
220	C.E. Andersen S.M.S. Damkjær M.C. Aznar	Denmark	Optical fiber guided Al ₂ O ₃ :C radioluminescence dosimetry for external beam radiotherapy
222	S. Duane F. Graber R.A.S. Thomas	United Kingdom	Application of dose area product and DAP ratio to dosimetry in IMRT and small field external beam radiotherapy
223	M. Bailey D. R. Shipley F. Graber	United Kingdom	Measurement and modelling of electron beam profiles and calculation of graphite calorimeter gap corrections and ion chamber wall perturbation factors for the NPL Elekta Synergy linear accelerator
229	S. Duane F. Graber M. Luzzara H. Palmans	United Kingdom	Measurement and modelling of beam profiles in small fields produced by a 2.5 mm microMLC
230	H. Palmans	United Kingdom	Secondary electron perturbations in Farmer type ion chambers for clinical proton beams
243	J. L. Silva R.S. Cardoso J.G.P. Peixoto	Brazil	Ionization chamber of variable volume and the uncertainties in the chamber positioning
252	K. Zink J. Wulff	Germany	Contributions of the different ion chamber walls to the fluence perturbation in clinical electron beams: A Monte Carlo study of the NACP-02 parallel plate chamber
264	A. Ostrowsky J.M. Bordy J. Daures L. de Carlan et al.	France	Dosimetry for small sized beams such as IMRT and stereotactic radiotherapy: Is the concept of the dose at a point still relevant? Proposal for a new methodology
312	S. Derremaux G. Boisserie G. Brunet I. Buchheit et al.	France	Concerns in France about the dose delivered to the patients in stereotactic radiation therapy
321	T. Öhrman U. Isacson A. Montelius P. Andreo	Sweden	Analytical determination of a plan class specific reference (PCSR) field for reference dosimetry of IMRT fields

Reference Dosimetry and Comparisons in Brachytherapy

Location: B Building (Ground floor)			
<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
007	M. Asghar S. Fatmi H. Mota S.A. Buzdar et al.	Pakistan	Calibration of ^{192}Ir sources used for high dose rate remote afterloading brachytherapy
020	E. Nani P. Francescon S. Cora J.H. Amuas et al.	Ghana	Fast Fourier transform algorithm for dose computations in heterogeneous brachytherapy geometries
038	T. Kaulich M. Bamberg	Germany	Internal clinical acceptance test of the dose rate of $^{106}\text{Ru}/^{106}\text{Rh}$ ophthalmic applicators
046	I. Jokelainen P. Sipilä H. Järvinen	Finland	Detectors for brachytherapy dosimetry: Response as a function of photon energy
067	Y. Unno T. Kurosawa A. Yunoki T. Yamada et al.	Japan	Measurement of low level ionization current in a new standard free air chamber derived from an ^{125}I brachytherapy source
210	T. Sander D. Shipley R. Nutbrown H. Palmans et al.	United Kingdom	Source geometry correction factors for HDR ^{192}Ir brachytherapy secondary standard well chamber calibrations
239	V. Lourenço D. Vermesse D. Cutarella M.P. Avilés-Lucas et al.	France	3-D distribution measurement of the absorbed dose to water around ^{192}Ir brachytherapy source by thermoluminescent dosimeters
240	P.L. Antonio L.V.E. Caldas	Brazil	Characterization of a parallel plate ionization chamber for the quality control of clinical applicators
297	T. Pidlubna O. Galias I. Magdych	Ukraine	The first experience of implementation of HDR afterloader with ^{60}Co source into clinical practice at National Cancer Institute
323	G. Batista Hernández G.R. Vélez C. Schürerer	Argentina	Gel dosimetry for HDR brachytherapy 3-D distribution through MRI

Clinical Dosimetry in X ray Imaging

Location: M Building (1st floor)

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
010	M. Perez Diaz A.E. Carvalho-Filho H. Khoury M.C. Casas et al.	Brazil	Detecting small lesions with low dose in head CT: A phantom study
035	A. Zaman M. Ali A. Ahmed M. Zaman	Pakistan	Dose assessment in interventional radiological procedures in children with gafchromic films: Results of IAEA project RAS/9/055.TSA3
044	T. Tanaka T. Kurosawa R. Nouda T. Matsumoto et al.	Japan	Mammography reference field in Japan
053	S. Esmaili M.T. Bahreyni Toossi	Islamic Republic of Iran	Estimation of entrance surface doses (ESDs) for common medical X ray diagnostic examinations in radiological departments in Mashhad, Islamic Republic of Iran
066	M.A.S. Lacerda T.A. da Silva H.J. Khoury	Brazil	Patient dosimetry in conventional X ray examinations of children
069	A.N. Al-Haj	Saudi Arabia	Variation of radiation doses from CT paediatric procedures in large medical centres in Riyadh, Saudi Arabia
078	V. Ravaglia M. Quattrocchi S. Mazzocchi B. Lazzari et al.	EFOMP	Risk/benefit ratio of the breast screening programme in Tuscany (Italy) for the years 2004–2008
079	M. Quattrocchi V. Ravaglia S. Mazzocchi B. Lazzari et al.	EFOMP	Survey of dose after the introduction of digital mammographic system in Tuscany (Italy)
087	C.J. Hourdakis	Greece	Can a non-invasive X ray tube voltage measuring device (kV meter) that reads the peak voltage be used for the measurement of the practical peak voltage (PPV)?
092	W.E. Muhogora J.B. Ngatunga U.S. Lema L. Meza et al.	United Republic of Tanzania	Entrance surface air kerma to patients during chest computed radiography in the United Republic of Tanzania

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
114	W. Nyakodzwe G. Mukwada	Zimbabwe	Dose assessment in CT examinations
121	J. Fazakerley E. Ofori D. Scutt M. Ward et al.	United Kingdom	Patient dose audit of radiology departments across Ghana
128	P. Lime de C. Oliveira J. Cardoso L. Santos	Portugal	Characterization of diagnostic radiation qualities according to the IEC 61267 at LMRI-ITN
130	M.A. Bero M. Zahili	Syrian Arab Republic	Applications of the IAEA code of practice TRS-457 for establishing radiation qualities at the Syrian National Radiation Metrology Laboratory
132	N. Oberhofer A. Fracchetti E. Moroder	EFOMP	A comparison of full field digital mammography systems: Physical characteristics and image quality/dose performance in optimized clinical environment
138	A. Elnour A. Sulieman A. Gabir	Sudan	Optimization of radiation dose in abdominal computerized tomography
151	I.V. Brasileiro H. Khoury R. Kramer M.E. Andrade et al.	Brazil	Image quality and patient dose in digital panoramic radiography
156	W. Skrzynski W. Slusarczyk- Kacprzyk W. Bulski	Poland	Influence of TRS-457 on dosimetric measurements in computed tomography
164	A. Jacobs J. Nens R. Jacobs B. Vandenberghe et al.	Belgium	Quality assurance protocol for digital intra-oral X ray systems
179	D. H. Temperton J.E. Palethorope P.R. Austin D.E. Delahunty	IPEM	Commissioning two constant potential X ray sets for the calibration of diagnostic dose and dose rate instruments by achieving IEC 61267-2005 beam qualities using end point photon spectrometry
189	M.B. Freitas R.H.C. Alves E.M. Yoshimura	Brazil	Calibration of OSL dosimeters according to the IAEA code of practice for diagnostic radiology dosimetry TRS-457

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
193	J. Nens A. Jacobs N. Marshall BHPA working group et al.	Belgium	Quality assurance of automatic exposure control devices for digital radiography: Belgian approach
205	A. Beganović I. Sefić-Pašić M. Gazdić-Šantić A. Drjević et al.	Bosnia and Herzegovina	Skin doses to patients during CT perfusion of the liver
228	F. Bentayeb K. Nfaoui O. El Bassraoui A.C. Pedrosa Azevedo	Morocco	Dose survey in Moroccan paediatric university hospitals: Impact of a preliminary work in diagnostic radiology
233	M. Pylypenko L. Stadnyk O. Shalyopa O. Gur	Ukraine	Patient dosimetry in radiography examinations and establishment of national diagnostic reference levels in Ukraine
241	J.O. Silva L.V.E. Caldas	Brazil	A tandem system for quality control in mammography beams
242	F.A. Mecca S. Kodlulovich L. Conceição	Brazil	Evaluation of radiation dose and image quality in computed tomography in Rio de Janeiro, Brazil
259	V.S. Barros M.P.A. Potiens M. Xavier L.V.E. Caldas et al.	Brazil	Test and calibration of a home-made ionization chamber for dose measurement in computed tomography
263	M.J. Ramanandraibe T. Randriamora R. Andriambololona E. Rakotoson	Madagascar	Patient doses in simple radiographic examinations in Madagascar: Results from IAEA project
266	P.O. Hetland	Norway	Humidity dependence in kerma area product meter used in diagnostic X ray examinations
269	A. Ramirez-Muñoz A. Dominguez- Folgueras M.L. Chapel-Gómez	Spain	Patient dose in a breast screening programme: Digital versus film mammography
275	R. Borisova J. Vassileva	Bulgaria	Influence of detector type and position on KAP meter calibration on fluoroscopy and angiography units

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
287	S. Avramova- Cholakova J. Vassileva	Bulgaria	Dependence of mean glandular dose on compression plate position
288	E. Hiswara H. Prasitio	Indonesia	Evaluation of diagnostic X ray devices and patient doses in Indonesia: Preliminary results
293	P. Colombo A. Moscato A. Pierelli A. Torresin et al.	Italy	Image quality and radiation dose assessment in 3-D imaging: Cone beam CT versus CT
337	S.K. Dias A. Damasio F.A. Mecca L. Conceição et al.	Brazil	Design and construction of a Brazilian phantom for CT image quality evaluation
340	C.M.C. Coutinho C.D. Almeida J.E. Peixoto R.T. Lopes	Brazil	A new dosimetric phantom for evaluation of glandular dose in conventional and digital mammography systems
342	C.D. de Almeida C.M.C. Coutinho J.E. Peixoto B.M. Dantas	Brazil	Characterization of a mammography dosimetric phantom
345	A. Maidment S. Christofides D. Dance K. H. Ng et al.	United States of America	A new IAEA handbook for teachers and students: Diagnostic radiology physics

Clinical Dosimetry in Radiotherapy

Location: B Building (Ground floor)

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
001	K. Muralidhar B.K. Rout A. Mallik Poornima	India	Newer approaches and developments of quality assurance procedures for intrabeam intra operative radiotherapy unit
011	B. Petrovic L. Rutojnjski M. Baucal M. Teodorovic et al.	Serbia	Verification of newly upgraded radiation therapy treatment planning system XIO CMS at the Institute of Oncology, Vojvodina
021	C. Castellanos G. Castillo	Dominican Republic	Practical use of diode array to help determine small field data in order to commission an IMRT TPS with MLC
022	E. Gershkevitch A. Peraticou D. Dimitriadis A.V. Artikan et al.	Estonia	The choice of detector for linear accelerator and TPS commissioning
039	M. Ravikumar S. Sathiyam C. Varatharaj	India	Quality assurance of IMRT plan evaluation and dosimetric comparison using AAPM Task Group 119
043	C. Varatharaj S. Stathakis M. Ravikumar C. Esquivel et al.	India	Comparison of four different commercial devices for RapidArc and sliding window IMRT QA
048	J. Niemelä M. Tenhunen J. Keyriläinen	Finland	Isocentric electron treatments with shortened applicators
060	A. Toussaint J. Wulff H.O. Neidel F. Ubrich et al.	Germany	A virtual Monte Carlo based model of an IORT electron accelerator
062	M. Rouijaa R.P. Kapsch	Germany	Experimental investigation of a computed radiography system as detector for dosimetry
064	H.E. Hietala	Finland	Analysis of portal dose prediction verification results: Small clinic practical view
075	M. Prusova	Russian Federation	Experience of quality assurance procedures for dose calculation verification in external radiotherapy treatment planning

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
076	A.V. Zvereva L. Ya. Klepper O.P. Trofimova Presented by D. Kostylev	Russian Federation	Application of NTCP models for quality assurance in radiation therapy
090	S. M. Palaniappan S.S. Supe M. Ravikumar	India	Dosimetric comparison of intensity modulated radiotherapy treatments with step and shoot and sliding window techniques
098	P. Sipilä H. Järvinen A. Kosunen J. Ojala et al.	Finland	Multipurpose, semi-anatomical water phantom for TPS verification
105	M. Hegazy W. Patterson W. Ding	Australia	On-board imaging commissioning and quality assurance programme: ROV experience
108	Ä. Palm M. Stock E. Steiner D. Georg	Austria	Imaging dose to various organs at risk during image guided radiotherapy in the pelvic region
110	V. Kostylev M. Kisliakova	Russian Federation	Problems of clinical dosimetry in Russian radiotherapy centres
115	E. Larrinaga-Cortina R. Alfonso-Laguardia S. Karnas	Cuba	Sensitivity study of an EPID for real time patient specific IMRT QA
118	A. Torresin N. Bertolino F. Cappucci M.G. Brambilla et al.	Italy	FLUKA Monte Carlo simulation for the Leksell Gamma Knife PERFEXION: Preliminary results
125	L. Farhat M. Besbes A. Bridier J. Daoud	Tunisia	In vivo dosimetry for head and neck carcinoma: Determination of target absorbed dose from entrance and exit absorbed dose measurements
126	T. Antropova	Kazakhstan	Use of 2-D ARRAY seven29 in QC of photon beams
127	M.S. Rahman M. Shamsuzzaman Z. Alam S. Sharmin	Bangladesh	Dose distribution in critical organs for radiotherapy treatment with ⁶⁰ Co beams of some common cancers

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
139	B. Mukherjee J. Lambert R. Hentschel J. Farr	Germany	Measurement of the out-of-field neutron and gamma dose equivalents from a 230 MeV proton pencil beam
145	R. Hälg J. Besserer S. Mayer U. Schneider	Switzerland	Comparison of different radiotherapy treatment techniques, radiation qualities and therapy machines with respect to neutron dose
153	K. Chelminski W. Bulski D. Georg Z. Maniakowski et al.	Poland	Energy dependence of radiochromic dosimetry films for use in radiotherapy verification
175	R. Lindsay J. Sykes R. Dickinson D.I. Thwaites	ESTRO	Performance evaluation and dosimetry of CT IGRT systems
177	S.J. Derbyshire J. Lilley V.P. Cosgrove D.I. Thwaites	ESTRO	VMAT planning and verification of delivery and dosimetry using the 3-D Delta ⁴ dosimetry system
178	C. Viegas A. Viamonte A. M. Campos	Brazil	OSL detector for invivo dosimetry in pelvis and head and neck cancer treatment
197	F. Garcia Yip F. Padilla Cabal I. Silvestre Patallo M. Perez Liva et al.	Cuba	Evaluation of the dosimetric perturbation introduced by an oesophageal nitinol stent
201	N. Sahoo X.R. Zhu A. Anand G.O. Sawakuchi et al.	AAPM	Dosimetry of proton spot beam profiles of the scanning beam nozzle at the Proton Therapy Center in Houston
218	E. Cagni M. Paiusco A. Botti M. Iori	EFOMP	Treatment delivery reproducibility of a helical tomotherapy system evaluated by using 2-D ionization chamber and imaging detector arrays
245	P. Alvarez A. Molineu D. Followill G. Ibbott	AAPM	Quality assurance in radiotherapy with anthropomorphic phantoms

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
248	S. Agostinelli S. Garelli F. Foppiano G. Taccini	Italy	Nemo X: Freeware independent monitor units calculation for external beam radiotherapy
250	D. Venencia E. Garrigo C. Descamps E. Gomez et al.	Argentina	Beam matching of Primus linacs for step and shoot IMRT
251	R. Diaz Moreno D. Venencia E. Garrigo Y. Pipman	Argentina	A method to enhance spatial resolution of a 2-D ion chamber array as a filmless tool for quality control of MLC
254	R. Alfonso P. Andreo M. Brunetto M. Castllanos et al.	Argentina	Physical aspects of radiotherapy quality assurance: Quality control protocol — update of IAEA-TECDOC-1151
258	J. Schreiner T. Olding J. Darko	Canada	A proposal for process QA in modern radiation therapy
261	C.C. Cavinato R. K. Sakuraba J.C. Cruz L.L. Campos	Brazil	Comparative study of spectrophotometric response of the 270 Bloom Fricke gel dosimeter to clinical photon and electron beams
262	D.R. McGowan R. Francis R.W. Roberts P. Dvorak	United Kingdom	Simulated clinical effect of in vivo diode perturbation in megavoltage photon beam radiotherapy
270	M. Pimpinella V. De Coste G. Conte A.S. Guerra et al.	Italy	Performance of a CVD diamond detector for dosimetry in radiotherapy photon beams
271	O.V. Kozlov N.E. Mukhina	Russian Federation	Comparison of dose distributions for various applicators for treatment of rectal cancer
273	E. Moretti M.R. Malisan M. Crespi C. Foti et al.	EFOMP	Patient specific quality assurance of whole pelvic intensity modulated radiotherapy (WP-IMRT) with hypofractionated simultaneous integrated boost (SIB) to prostate for high risk prostate cancer

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
278	M. Lavrova O. Kuzina I. Vakhrushin E. Lomteva et al.	Russian Federation	The application of GAFCHROMIC® EBT films for abutted half-beam mono-isocentric fields matching quality control
279	N. Muhina O. Kozlov O. Kravetz	Russian Federation	Comparison of doses on organs at risk for patients with cervix cancer for 2-D and 3-D methods of treatment planning
280	A. Cordero-Ramirez	Costa Rica	Dosimetric evaluation of a 2-D ion chamber array for verification of big gradient areas in small segments of IMRT plans
282	M. Zeverino G. Giovannini G. Taccini	Italy	Evaluation of a commercial 4-D diode array for helical tomotherapy plan verification
290	T. Sanghangthum T. Pawlicki S. Suriyapee S. Srisatit	Thailand	The comparison of different control charts to analyse patient specific IMRT QA
298	L. G. Aldrovandi M. L. Mairal S.G. Paidon E.C. Raslawski	Argentina	Clinical implementation of entrance in vivo dosimetry with a diode system in MV photon beam radiotherapy
299	L. G. Aldrovandi M. L. Mairal S.G. Paidon E.C. Raslawski	Argentina	Response characterization of a diode system for in vivo dosimetry during megavoltage photon beam radiotherapy
306	D. Venencia E. Garrigo C. Descamps A. Vieira et al.	Argentina	Experience on total plan dose verification in step and shoot and sliding window IMRT
318	O. O. Galván de la Cruz J. M. Lárraga-Gutiérrez S. Moreno-Jiménez O.A. Garcia-Garduño et al.	Mexico	Assessment of the dosimetry effect of the embolization material in stereotactic radiosurgery
322	M. Pérez-Liva F. Padilla-Cabal E. Lara R. Alfonso Laguardia et al.	Cuba	A Monte Carlo based model for the photoneutron field evaluation in an Elekta Precise linear accelerator

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
324	A. Bruna L. Ojeda G. Vélez	Argentina	Dosimetric evaluation of the BlueFrame-FiMe treatment planning system: Results of IAEA-TECDOC-1540
353	M. Besbes H. Mahjoub L. Kochbati A. Ben Abdennabi et al.	Tunisia	In vivo dosimetry study in total body irradiation performed for 54 patients

**Internal Dosimetry for Diagnostic and Therapeutic Nuclear
Medicine**
Location: M Building (1st floor)

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
019	G. Rossi M. Camarda P. D'Avenia E. Di Nicola et al.	Italy	Dosimetric evaluation in a patient with metastatic differentiated thyroid cancer by the use of ¹²⁴ I and ¹³¹ I
037	P. Tandon B.S. Gill M. Venkatesh	India	Estimation of internal dose to patients undergoing myocardial perfusion scintigraphy
077	S. Jovanovic A. Diabac	Montenegro	Applicability of semiconductor detectors and related ANGLE software for QA in medical radiation dosimetry
082	P. Saletti V. Berti P. Panichelli G. Valentini et al.	EFOMP	PET with ¹²⁴ I-beta-CIT: Imaging based dosimetry for a new radiopharmaceutical
116	P.L. Roberson S.J. Wilderman A.M. Avram M.S. Kaminski et al.	AAPM	Equivalent therapy model for non-Hodgkin's lymphoma: Uncertainty analysis for radiobiological parameters
186	S.J. Wilderman P.L. Roberson A.M. Avram M.S. Kaminski et al.	United States of America	Equivalent therapeutic response model for non-Hodgkin's lymphoma: tumour specific cell proliferation and analysis of follow-up studies

External Quality Audits

Location: A-C Building (Ground floor)

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
005	S.D. Sharma V. Shrivastava A. Philomina G. Chourasia et al.	India	A TLD based postal audit method for source strength verification of high dose rate ¹⁹² Ir brachytherapy sources
024	J. Alvarez Romero V. M. Tovar-Munoz	Mexico	The SSDL-ININ experience in TLD postal pilot programme for radiotherapy external beam audit at Mexican hospitals
041	R. Alfonso-Laguardia Y. Sola-Rodriguez J. L. Alonso-Samper E. Larrinaga-Cortina et al.	Cuba	External quality audit of IMRT planning and delivery: Preliminary results
042	S. Bolton	IPEM	Development of national radiotherapy audit in the UK
085	C.J. Hourdakis A. Boziari	Greece	The role of dosimetry audits in radiotherapy quality assurance: The 8 year experience in Greek radiotherapy and brachytherapy centres
088	R. Bly H. Järvinen H. Korpela	Finland	Good practice for QA of nuclear medicine equipment: National guidance in Finland
096	K. Sergieva Z. Bouchakliev	Bulgaria	Dose quality audits activity via mailed TLDs in the last five years (2005–2009)
099	T. A Krylova	Russian Federation	The IAEA/WHO TLD postal dose audit programme for radiotherapy in the Russian Federation
102	P. Charnock R. Wilde J. Fazakerley R. Jones et al.	United Kingdom	General audit strategy using large scale diagnostic radiology examination data
152	C.P. Oliver D. J. Butler D.V. Webb	Australia	Mailed megavoltage photon TLD audit programme for radiotherapy providers in Australia
171	T. Perik A. Aalbers L. de Prez M. Dwarswaard et al.	Netherlands	Dosimetry audits based on NCS report 18: Assessment of absorbed dose to water in external beam therapy
188	M. Alnassar M. Hammudi M.A. Bero	Syrian Arab Republic	Independent dosimetry audits for radiotherapy practices in the Syrian Arab Republic using standard instrumentation kit

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
190	J.F. Aguirre P. Alvarez G. Ibbott D. Followill	AAPM	Testing, commissioning and validating an optically stimulated luminescence (OSL) dosimetry system for mailed dosimetry at the Radiological Physics Center
191	S. Olsson Z. Malke P. Larsson A. Carlsson Tedgren	Sweden	A system for mailed dose revision in radiotherapy using lithium formate EPR dosimetry
204	T. Kron A. Haworth D. Cornes M. Grand	Australia	Development of guidelines for the use of IMRT and IGRT in clinical trials
211	S. Guitiérrez Lores G. Walwyn Salas	Cuba	TLD postal quality audits for radiotherapy dosimetry in Cuba: Past, present and future developments
231	S. Luo Z. He J. Yuan B. Yang et al.	China	Development of methodology for TLD quality audits of MLC shaped photon beams in radiotherapy
232	M. Pylypenko L. Stadnyk O. Shalyopa	Ukraine	Development of national TLD audit network in Ukraine for postal quality control of radiotherapy dosimetry
247	A.M. Stefanic G. Moniaño L. Molina M. Saravi	Argentina	Development of TLD audits for radiotherapy dosimetry in Argentina
304	J.L. Alonso-Samper R. Alfonso-Laguardia F. Garcia Yip E. Larrinaga-Cortina et al.	Cuba	Use of an anthropomorphic phantom to improve the external beam audits in radiotherapy
309	G. Azangwe P. Bera J. Izewska	IAEA	The status of dosimetry practices in radiotherapy hospitals in developing countries in 2000-2009: An evaluation using the IAEA/WHO TLD postal dose audits
344	J. Izewska G. Azangwe P. Bera	IAEA	IAEA support to national TLD audit networks for radiotherapy dosimetry
348	J. Rostkowska M. Kania W. Bulski B. Gwiazdowska	Poland	TLD audits for symmetric and asymmetric photon beams and electron beams in radiotherapy centres in Poland

Radiation Protection Dosimetry

Location : B Building

<i>No of Poster IAEA-CN-182-</i>	<i>Name</i>	<i>Designating Member State/Organization</i>	<i>Title of Paper</i>
031	S. Kiti B. Kaboro R. Kinyua K.A. Shadrack	Kenya	Personnel monitoring services in Kenya
033	K. Polaczek-Grelak B. Karaczyn A. Orlef A. Konefal et al.	Poland	Characterization of secondary radiation field in radiotherapy facilities with reference to a staff
045	A. Konefal W. Zipper	Poland	Determination of the optimum frame of an entrance door to a treatment room with a linear accelerator generating high energy X rays
070	A.N. Al-Haj I. Al-Gain	Saudi Arabia	A 10 year statistical review of occupational doses of cardiology and angiography staff: Strengthening the radiation protection programme
089	I.I. Suliman M.K. Bashir E.G. Elnour I. Salih	Sudan	Staff dosimetry in interventional cardiology using electronic personal dosimeters
136	A. Sulieman S. Khalifa M. Elfadil	Sudan	Evaluation of radiation protection status in some health centres in the Sudan
203	S. Saïdou S. Baechler J. Guilherme	Cameroon	Uncertainty assessment in biokinetic and dosimetric models of ^{210}Po : New ingestion dose coefficients
216	M. Fülöp P. Povinec I. Makaiová J. Vesly et al.	Slovakia	Optimization of position of skin dose monitor on hands of nuclear medicine staff
235	F.B.C. Nonato V. Vivolo L.V.E. Caldas	Brazil	Comparing calibration factors for gamma and beta radiations of portable detectors
331	P. Costa L. Taniguti T.A.C. Furquim	Brazil	Comparative study of Brazilian and North American unshielded primary air kerma of radiological equipment
333	P. Costa E.M. Yoshimura	Brazil	Determination of transmission properties of baryte concretes
355	B. Kaboro J. Keter	Kenya	Medical workers' dosimetry comparisons in Kenya, 2005–2009

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- http://www-pub.iaea.org/MTCD/publications/PDF/P1424_S_web.pdf
- 2010 Comprehensive Clinical Audits of Diagnostic Radiology Practices: A Tool for Quality Improvement — Quality Assurance Audit for Diagnostic Radiology Improvement and Learning (QUAADRIL) (**Human Health Series No. 4**) (STI/PUB/1425).
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http://www-pub.iaea.org/MTCD/publications/PDF/Pub1393_web.pdf
- 2009 Calibration of Reference Dosimeters for External Beam Radiotherapy (**Technical Reports Series No. 469**) (STI/DOC/010/469).
http://www-pub.iaea.org/MTCD/publications/PDF/trs469_web.pdf
- 2008 Transition from 2-D Radiotherapy to 3-D Conformal and Intensity Modulated Radiotherapy (**TECDOC-1588**).
http://www-pub.iaea.org/MTCD/publications/PDF/TE_1588_web.pdf
- 2008 Setting up a Radiotherapy Programme: Clinical, Medical Physics, Radiation Protection and Safety Aspects (STI/PUB/1296).
http://www-pub.iaea.org/MTCD/publications/PDF/pub1296_web.pdf
- 2008 Commissioning of Radiotherapy Treatment Planning Systems: Testing for Typical External Beam Treatment Techniques. Report of the Coordinated Research Project (CRP) on Development of Procedures for Quality Assurance of Dosimetry Calculations in Radiotherapy (**TECDOC-1583**).
http://www-pub.iaea.org/MTCD/publications/PDF/te_1583_web.pdf

2011

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27 March – 1 April, Monaco

International Conference on Transport Safety and Security: the Next Years of Transport - Creating a Safe, Secure and Sustainable Framework
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