

# IRPA13 ■ Glasgow

13th International Congress  
of the International Radiation  
Protection Association

13 - 18 May 2012



13 - 18 May 2012 ■ SECC ■ Glasgow ■ Scotland

## Final Programme



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Bradwell turbine hall  
demolition

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Monday 14 May	
08:00-08:15	RC1 Lomond
08:15-08:30	RC2 Alsh
08:30-08:45	RC3 Boisdale
08:45-09:00	RC4 Dochart
09:00-09:15	RC5 Carron
09:15-09:30	Opening Ceremony <b>Clyde Auditorium</b>
09:30-09:45	
09:45-10:00	
10:00-10:15	
10:15-10:30	
10:30-10:45	Sievert Lecture <b>Clyde Auditorium</b>
10:45-11:00	Coffee Break, Exhibition, Poster Viewing <b>Hall 4</b>
11:00-11:15	
11:15-11:30	Coffee Break, Exhibition, Poster Viewing <b>Hall 4</b>
11:30-11:45	
11:45-12:00	Underpinning Science: State of the Art <b>Clyde Auditorium</b>
12:00-12:15	
12:15-12:30	
12:30-12:45	
12:45-13:00	
13:00-13:15	Lunch, Exhibition, Poster Viewing, Commercial Sponsored Sessions <b>Hall 4</b>
13:15-13:30	
13:30-13:45	Lunch, Exhibition, Poster Viewing, Commercial Sponsored Sessions <b>Hall 4</b>
13:45-14:00	
14:00-14:15	TS2a External Dose Assessment <b>Clyde</b>
14:15-14:30	
14:30-14:45	TS3a Management and Culture <b>Alsh</b>
14:45-15:00	
15:00-15:15	TS6a Nuclear Fuel Cycle <b>Forth</b>
15:15-15:30	
15:30-15:45	TS7a RP in Radiotherapy <b>Lomond</b>
15:45-16:00	
16:00-16:15	TS8a Waste Management I <b>Dochart</b>
16:15-16:30	
16:30-16:45	TS10a Existing Exposures: NORM and Naturals <b>Boisdale</b>
16:45-17:00	
17:00-17:15	TS1a Radiation Biology <b>Forth</b>
17:15-17:30	
17:30-17:45	TS2b Internal Dose Assessment <b>Clyde</b>
17:45-18:00	
18:00-18:15	S3.1 RP Culture <b>Alsh</b>
18:15-18:30	

Tuesday 15 May	
RC6 Carron	TS1b Epidemiology <b>Forth</b>
RC7 Alsh	TS4a Experience in Stakeholder Engagement <b>Boisdale</b>
RC8 Boisdale	TS3b Education and Training <b>Alsh</b>
RC9 Dochart	TS7b RP in Nuclear Medicine <b>Lomond</b>
RC10 Lomond	TS8.1 Waste Management <b>Dochart</b>
	S12.1 JHPS Fukushima Seminar <b>Clyde</b>
Coffee Break, Exhibition, Poster Viewing <b>Hall 4</b>	
TS1c Health Effects & Risk Factors <b>Clyde</b>	TS2c Biological Dosimetry & Modelling <b>Alsh</b>
	TS5a Non-ionising Radiation <b>Dochart</b>
	S4.1 Affected Peoples Symposium <b>Boisdale</b>
	F6.1 Worker Education and Training (IAEA/LO/NEA) <b>Forth</b>
	F7.2 Global Health (IAEM/ WHO/PAHO) <b>Lomond</b>
CR Wilson and the dead chamber <b>Lomond</b>	Lunch, Exhibition, Poster Viewing, Commercial Sponsored Sessions <b>Hall 4</b>
Engaging with Society <b>Clyde</b>	
Coffee Break - Exhibition <b>Hall 4</b>	
Poster Session B <b>Hall 4</b>	
KIDS 1 Underpinning Science <b>Clyde</b>	TS4b Stakeholder Engagement Processes <b>Dochart</b>
F6.2 Role of RP Professionals in Source Security (WINS) <b>Alsh</b>	TS6b Decommissioning <b>Boisdale</b>
F7.1 Role of QE in Hospitals (IOMP) <b>Lomond</b>	F7.3 Emergency Preparedness and Response <b>Forth</b>

Wednesday 16 May	
RC11 Carron	F2.1 Dosimetry and Measurement (ICRU) <b>Forth</b>
RC12 Alsh	S4.2 Teaching RP in Schools <b>Boisdale</b>
RC13 Boisdale	TS6c NORM <b>Alsh</b>
RC14 Dochart	TS7c Diagnostic Radiology: QA, Audit, Shielding <b>Lomond</b>
RC15 Lomond	TS11a Protection of the Environment <b>Dochart</b>
	TS12a Fukushima I <b>Clyde</b>
Poster Session C <b>Hall 4</b>	
TS2d Instrumentation and Measurement <b>Lomond</b>	TS3c Regulation <b>Clyde</b>
	KIDS 4 Stakeholder Engagement <b>Alsh</b>
	TS7d Justification of Medical Exposures <b>Boisdale</b>
	TS9b Accident Consequence Management <b>Dochart</b>
Lunch and Exhibition <b>Hall 4</b>	
IRPA General Assembly <b>Lomond</b>	Public/Schools Lecture <b>Clyde</b>
Technical Visits	Medical Workshop W7.1 <b>Alsh</b>
	Medical Workshop W7.2 <b>Alsh</b>

Thursday 17 May	
RC16 Carron	TS2e Instrumentation and Measurement II <b>Lomond</b>
RC17 Alsh	F3.1 Ethics and Values <b>Dochart</b>
RC18 Boisdale	TS6d Non-nuclear Industry Transport, Security <b>Alsh</b>
RC19 Dochart	TS7e RP in Interventional and Paediatric Radiology <b>Boisdale</b>
RC20 Lomond	TS10c Radon <b>Forth</b>
	TS12b Fukushima II <b>Clyde</b>
Coffee Break, Exhibition, Poster Viewing <b>Hall 4</b>	
TS2f Metrology and Dosimetry <b>Alsh</b>	TS3d RP System Evolution and Implementation <b>Clyde</b>
	F6.3 Nuclear Industry Forum (WNA) <b>Lomond</b>
	S7.1 Medical Risk and the Public <b>Boisdale</b>
	S10.1 Radon <b>Forth</b>
	TS12c Fukushima III <b>Dochart</b>
Lunch, Exhibition, Poster Viewing, Commercial Sponsored Sessions	
Poster Session D <b>Hall 4</b>	
TS2g Numerical and Computational Dosimetry <b>Forth</b>	F3.2 Legal <b>Boisdale</b>
	KIDS 6 Nuclear Fuel Cycle <b>Clyde</b>
	KIDS 7 Medical <b>Lomond</b>
	TS9c Lessons Learned & New Threats <b>Dochart</b>
	S11.1 Environmental Protection <b>Alsh</b>
Coffee Break - Exhibition	
The System of Protection: Current and Future Developments followed by Key Issues Discussion	

Friday 18 May	
RC 21 Firths Bar	Lessons and Challenges following the Fukushima Accident <b>Clyde</b>
RC 22 Gala	
RC 23 Clyde	
RC 24 Leven	
RC 25 Forth	
Coffee break <b>Clyde</b>	
Congress Conclusions <b>Clyde</b>	
Closing Ceremony <b>Clyde</b>	

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13:45-14:00

### Technical sessions and poster sessions

Session No.	Session Title	Session time	Poster Session
Area 1. Biological and Health Effects of Ionising Radiation			
TS1a	Radiation Biology	Monday 17:00-18:30	A and B
TS1b	Epidemiology	Tuesday 9:00-10:30	A and B
TS1c	Health Effects and Risk Factors	Tuesday 11:00-12:30	A and B
Area 2. Measurements and Dosimetry			
TS2a	External Exposure Assessment	Monday 14:00-15:30	A and B
TS2b	Internal Exposure Assessment	Monday 17:00-18:30	A and B
TS2c	Biological Dosimetry and Modelling	Tuesday 11:00-12:30	A and B
TS2d	Instrumentation and Modelling I	Wednesday 11:30-13:00	C and D
TS2e	Instrumentation and Modelling II	Thursday 9:00-10:30	C and D
TS2f	Metrology and Dosimetry Standards	Thursday 11:00-12:30	C and D
TS2g	Numerical and Computational Dosimetry	Thursday 14:15-15:45	C and D

Programme at a glance

Session No.	Session Title	Session time	Poster Session
<b>Area 3. Radiation Protection System Development and Implementation</b>			
TS3a	RP System: Management and Culture	Monday 14:00-15:30	A and B
TS3b	RP System: Education and Training	Tuesday 9:00-10:30	A and B
TS3c	RP System: Regulation	Wednesday 11:30-13:00	C and D
TS3d	RP System: Evolution and Implementation	Thursday 11:00-12:30	C and D
<b>Area 4. Stakeholder Engagement and Involvement</b>			
TS4a	Experience in Stakeholder Engagement and Decision Making	Tuesday 9:00-10:30	A and B
TS4b	Processes, Methodologies and Tools in Stakeholder Engagement	Tuesday 17:00-18:30	A and B
<b>Area 5. Non-Ionising Radiation</b>			
TS5a	Non-ionising Radiation	Tuesday 11:00-12:30	A and B
<b>Area 6. Planned Exposure Situations: Industry and Research</b>			
TS6a	RP Issues in the nuclear fuel cycle	Monday 14:00-15:30	A and B
TS6b	Decommissioning	Tuesday 17:00-18:30	A and B
TS6c	NORM	Wednesday 9:00-10:30	C and D
TS6d	Non-Nuclear Industry, Research, Transport and Security	Thursday 9:00-10:30	C and D
<b>Area 7. Planned Exposure Situations: Medical</b>			
TS7a	Radiation Protection in Radiotherapy	Monday 14:00-15:30	A and B
TS7b	Radiation Safety Issues in Nuclear Medicine	Tuesday 9:00-10:30	A and B
TS7c	QA, Audit & Shielding in Diagnostic Radiology	Wednesday 9:00-10:30	C and D
TS7d	Justification of Medical Exposures	Wednesday 11:30-13:00	C and D
TS7e	Radiation Protection Challenges in Interventional & Paediatric Radiology	Thursday 9:00-10:30	C and D
<b>Area 8. Waste Management</b>			
TS8a	Waste Management: Policy, Standards and Pre-disposal Management	Monday 14:00-15:30	A and B
TS8b	Waste Management: Public Exposure Assessments and Safety Cases	Monday 17:00-18:30	A and B
<b>Area 9. Emergency Exposure Situations</b>			
TS9a	Emergency Preparedness and Response	Tuesday 17:00-18:30	A and B
TS9b	Consequence Management	Wednesday 11:30-13:00	C and D
TS9c	Lessons Learned and New Threats	Thursday 14:15-15:45	C and D
<b>Area 10. Existing Exposure Situations</b>			
TS10a	Existing exposure situations due to NORM and natural radiation	Monday 14:00-15:30	A and B
TS10b	Existing exposure situations due to accidental contamination and nuclear legacy	Monday 17:00-18:30	A and B
TS10c	Radon	Thursday 9:00-10:30	C and D
<b>Area 11. Protection of the Environment</b>			
TS11a	Protection of the Environment	Wednesday 9:00-10:30	C and D
<b>Area 12. Fukushima</b>			
TS12a	Fukushima I: Atmospheric Dispersion	Wednesday 9:00-10:30	C and D
TS12b	Fukushima II: Impact and Public Reaction	Thursday 9:00-10:30	C and D
TS12c	Fukushima III: RP and Risk Issues	Thursday 11:00-12:30	C and D

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# Welcome from the President of IRPA



On behalf of IRPA it is my great pleasure to welcome you all to the 13th International Congress. The primary purpose of this Congress is the exchange of information, ideas and experiences among radiation protection practitioners from all over the world. As you can see, the International Congress Programme

Committee has provided a full schedule for us. The International Congress Organising Committee has arranged for an exciting exhibition and a full social program. For the first time IRPA is recognising the young professionals in our field with special awards for their presentations, a reception and an opportunity to develop a network supported by IRPA. Finally, of course, we use this week to conduct IRPA business and begin to form a program for the next 4 years. I encourage you all to participate fully in the opportunities available to you during the week and enjoy your time in Glasgow.

**Kenneth R. Kase**

A handwritten signature in black ink that reads "Kenneth R. Kase". The signature is written in a cursive, flowing style.

President

## Welcome from the President of SRP, the host society



On behalf of The Society for Radiological Protection (SRP) I would like to welcome you to the UK and especially to IRPA13 in Glasgow. The honour and privilege of being the host Society for IRPA13 is matched in scale only by the magnitude of the work involved in making it happen. So I would first like to thank the many

SRP colleagues, those in our UK Partner Societies and others who have worked so hard for several years.

SRP has a Charter from Her Majesty The Queen that assigns us as the UK's learned and professional society for radiological protection. This gives us the responsibility of working for all those who wish to promote the science and art of radiation protection and allied fields for the public benefit. I can think of no better way of us doing this than hosting this Congress.

If you have time to visit our exhibition stand, please do so and meet some of our members. You can even join SRP if you wish! More than anything though, I urge you to make the most of the Congress as radiation protection professionals, and to enjoy this amazing social opportunity.

**Chris Englefield CRadP FSRP**

A handwritten signature in black ink that reads "Chris Englefield". The script is cursive and fluid.

President, 2011-2012



# Welcome from the President of the IRPA13 Congress



It has been a great pleasure to work with my SRP colleagues on the ICOC Organising Committee and with Ted Lazo and his ICPC Programme Committee to develop this Congress scientific and social programme. We have followed three guiding tenets:

- To bring our Theme *Living with Radiation – Engaging with Society* to life throughout our programme: this culminates in an exciting side programme on Wednesday involving about 1000 school children learning more about radiation, organised by SRP.
- To provide a modern Congress, making use of the latest digital technology to enhance your congress experience: for the first time at an IRPA Congress there is also the live webcast of three sessions, available to our colleagues around the world.
- To provide you with a real flavour of Scotland through our social programme.

I am confident that you will have an enjoyable and stimulating stay in Glasgow, and I look forward to meeting as many of you as possible.

## Roger Coates

Roger Coates

IRPA13 Congress President



# Committees and Supporters

## Hosts – Society for Radiological Protection (SRP)



SRP are very honoured to host the 13th International Congress of the International Radiation Protection Association in May 2012. SRP was founded in 1963 and is the UK Associate Society for the International Radiation Protection Association. With current membership of just over 2000, it is IRPA's second largest affiliate member. The Journal of Radiological Protection is the official scientific journal of the society, and is published on a quarterly basis.

The Congress is delighted to have the support of the following SRP partner societies:

- The Institute of Physics and Engineering in Medicine (IPEM)
- The Royal College of Radiologists (RCR)
- The British Institute of Radiology (BIR)
- The Society and College of Radiographers (SoCR)
- The British Nuclear Medicine Society (BNMS)
- The Association of University Radiation Protection Officers (AURPO)



## Supporting Organisations and Co-Sponsors

The Congress is delighted to have the support of the following supporting organisations and co-sponsors:

- International Commission on Radiological Protection (ICRP)
- International Commission on Radiation Units and Measurement (ICRU)
- OECD Nuclear Energy Agency (NEA)
- European Commission (EC)
- World Health Organisation (WHO)
- Pan American Health Organisation (PAHO)
- International Labour Organisation (ILO)
- International Organisation of Medical Physics (IOMP)
- International Commission on Non-Ionizing Radiation Protection (ICNIRP)
- International Atomic Energy Agency (IAEA)
- United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR)
- United Nations Environment Programme (UNEP)



## UK Governmental Supporters

- First Minister for Scotland
- Lord Provost of Glasgow
- Department for Transport (DfT)
- Ministry of Defence (MOD)
- Health and Safety Executive (HSE)
- Health Protection Agency (HPA)
- Nuclear Decommissioning Authority (NDA)
- The Environment Agency (EA)
- Scottish Environmental Protection Agency (SEPA)
- Department of Energy and Climate Change (DECC)



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## IRPA Executive Council 2008 – 2012

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Vice President, Congress Affairs	Roger Coates, UK
Executive Officer	Jacques Lochard, France
Treasurer	Richard Toohey, USA
Publications Director	Richard Griffith, USA
Council Member	Eduardo Gallego, Spain Alfred Hefner, Austria Gary H Kramer, Canada Jong Kyung Kim, Korea Bernard Le Guen, France Sisko Salomaa, Finland

## International Congress Organising Committee (ICOC)

Roger Coates	Congress President
Robert Corbett	General Secretary and Technical Visits Coordinator
Cornelius Lewis	Treasurer
Rachel Smith	International Congress Programme Committee Secretary
Christopher Perks	Marketing and Publicity Coordinator
George Sallit	SRP and Partner Society Liaison
Colin Partington MBE	Exhibition and Sponsorship Coordinator
Geoffrey Webb	International Congress Support Committee
Sheila Liddle	Social Programme Coordinator

### Invited Attendees

Kenneth Kase	President IRPA
Ted Lazo	International Congress Programme Committee Chairman

### Co-opted Members

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## International Congress Programme Committee (ICPC)

Ted Lazo	Chair, USA
Rachel Smith	Scientific Secretary, UK
Carl-Magnus Larsson	Australia
Rick Jones	USA
Yoshihiro Asano	Japan
Caroline Schieber	France
Alfred Hefner	Austria, IRPA
Abrie Visagie	South Africa
Ralph Andersen	USA
Alastair McKinlay	UK
Gert Liebenberg	South Africa
Keith Faulkner	UK
Sung-Joon Ye	Korea
Astrid Liland	Norway
Marion Hill	UK
Peter Shaw	UK
Richard Wakeford	UK
Manuel Rodriguez	Spain
Rolf Michel	Germany
Ana Maria Bomben	Argentina
Peter Waggitt	Australia
Hannes Stadtmann	Austria
Patrick Smeesters	Belgium
Ivanka Rupova	Bulgaria
Zdenko Franic	Croatia
Mohamed Gomaa	Egypt
Phillippe Bosquet	France
Celso Osimani	Italy
Kazuo Sakai	Japan
Chan Kim	S Korea
Olivier Rakotomalata	Madagascar
Hairul Idris	Malaysia



## International Congress Programme Committee (ICPC)

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Constantin Milu	Romania
Andrey Bushmanov	Russia
Mikhail Kiselev	Russia
Pedro Carboneras	Spain
Anne Nisbet	UK
Claire-Louise Chapple	UK
Tony Bandle	UK
Elizabeth Brackett	USA
Roselyne Ameon	France
Paolo Vecchia	ICNIRP
John Rowat	IAEA
Claire Cousins	ICRP
Hans Menzel	ICRU
Augustin Janssens	EC
Maria Perez	WHO
Shengli Niu	ILO
Madan Rehani	IOMP
Pablo Jiménez	PAHO

## International Congress Support Committee (ICSC)

Geoffrey Webb	Chair
Bernard Le Guen	IRPA Executive Council
John Rowat	IAEA
Pablo Jiménez	PAHO
Maria Perez	WHO

## IRPA13 Glasgow Ltd Board of Directors

George Sallit
Roger Coates
Cornelius Lewis
Kenneth Kase

# Contributing Organisations / Acknowledgments

The International Congress Organising Committee wishes to acknowledge the support from the following major sponsors:

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## Congress Sponsors

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Keynote Speakers

Plenary Session  
Underpinning Science:  
State of the Art



Vince Covello, Keynote  
Speaker at IRPA13 is  
being supported by



Webcasting (KIDS 6 Session)  
is being sponsored by

NEI





## Awards

Each IRPA Congress sees the award of prestigious awards for valuable contributions in the field of radiological protection.

### Rolf M. Sievert Award

IRPA13 scientific programme will be opened by the Sievert Lecture, presented to the winner of the 2012 Sievert award, Richard Osborne, by the IRPA Executive. This award is granted in honour of Rolf M Sievert, a pioneer in radiation physics and radiation protection.

Previous recipients of the Sievert award are: Professor Bo Lindell, Prof. W.V. Mayneord, Dr. Lauriston. S. Taylor, Sir Edward Pochin, Prof. Dr. Wolfgang Jacobi, Dr. Giovanni Silini, Dr. Daniel Beninson, Prof. Dr. Itsuzo Shigematsu, Dr. Abel J. Gonzalez and Prof. Christian Streffer

### Richard V Osborne to receive the 2012 Sievert Award and present his lecture "A Story of Tritium".



Richard V Osborne was born and educated in the UK, graduating from Cambridge and London Universities. He emigrated to Canada in 1963 where he joined AECL at Chalk River, where he spent the next 35 years working in the field of health & environmental sciences, where he became Divisional Director and directed the AECL research programs in radiation biology, health physics and environmental research.

He is now President of Ranasara Consultants Inc., working in the general area of radiological protection. He founded and was first President of the Canadian Radiation Protection Association in 1979. He was Vice-President of the International Radiation Protection Association from 1992–1996. He served on Committee 4 of the International Commission on Radiological Protection and he chaired the ICRP Task Group on Radon in Buildings. He also chaired the ICRP Working Party on controllable dose.



## The Gold Medal for Radiation Protection of the Royal Swedish Academy of Sciences

This medal was established in 1962 to be awarded to persons who have made a highly valuable contribution to international radiation protection progress during the preceding ten years. Recipients are nominated by the International Commission on Radiological Protection (ICRP) and chosen by the Academy. Previous recipients include: W. Binks, K. Z. Morgan, W. V. Maynard, L. S. Taylor, E. E. Pochin, S. Takahashi, B. Lindell, I. Shigematsu, A. Guskova, R. Doll and K. Sankaranarayanan. The 2012 Gold Medal is awarded to Keith F Eckerman.

### Dr. Keith Eckerman

Dr. Keith Eckerman was educated at the University of Wisconsin-Platteville, Oak Ridge Associated Universities and Northwestern University, and while in Oak Ridge he became interested in health physics as a career choice. After periods working at Argonne National Laboratory (ANL) and with the U.S. Nuclear Regulatory Commission in Washington, DC, in 1979 he became group leader of the Dosimetry Research Group at Oak Ridge National Laboratory (ORNL), where he has been for past three decades.

Dr. Eckerman's interest in the dosimetry of internal emitters began in 1970 when he was involved in the studies of radium dial painters. He has been an active member of Committee 2 of ICRP since 1984 and has chaired the ICRP Task Group on Dose Calculations from 1984 to 2007.

## IRPA Young Professionals Involvement and Prize

The Congress issues a special invitation and encouragement to younger scientists and professionals to attend as delegates. Whilst there is no formal definition of 'young' in this context, it is intended to apply to students and persons in the first ten years of their career in radiation protection, and as such they will only exceed the mid-30s age in exceptional circumstances.

The Congress offers a prize for the best presentation by a Young Professional or Scientist. To be eligible for entry, the candidate must be selected and nominated by his/her relevant IRPA Associate Society. The selected candidate from each Society has been allocated an oral presentation of their paper at the Congress. The Young Person Awards are: First Prize £1000, Second Prize £500 and Third Prize £250.

The Congress is encouraging networking amongst these young persons by holding a specific reception for them, allowing them also to meet some of the senior figures in the profession.



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## IRPA13 Young Professionals Prize Entries

Society	Candidate	Technical Session
<b>Austria</b>	Andreas Baumgartner	TS 2f
<b>Belgium</b>	Tom Clarijs	TS 7c
<b>Croatia</b>	Dr. Branko Petrinec	TS 8b
<b>Czech Republic</b>	Miroslav Hyza	TS 12a
<b>France</b>	Jad Farah	TS 2g
<b>German-Swiss</b>	Olaf Marzocchi	TS 2d
<b>Hungary</b>	Balázs Gergely Madas	TS 1a
<b>Italy</b>	Ms Alessandra Pistelli	TS 1b
<b>Japan</b>	Kotaro Tani	TS 2b
<b>Netherlands</b>	Heleen van Elsäcker-Degenaar	TS 3d
<b>Nordic</b>	Paula Toroi	TS 2a
<b>Philippines</b>	Ms Maria Kristina Maano	TS 7e
<b>Russian Federation</b>	Nataly Shagina	TS 2b
<b>South Africa</b>	Muhammad Akbar	TS 2a
<b>South Korea</b>	Jang Han Ki	TS 6d
<b>Spain</b>	Ms. Alegría Montoro	TS 2c
<b>UK</b>	Izzy Styles	TS 2a
<b>USA</b>	Anne Adamczyk	TS 10a

## Paper

Radiation protection of patients: status of primary standard dosimetry of high energy photon and electron beams in Austria

Implementation of acceptability criteria for medical radiological equipment in Belgium

<sup>137</sup>Cs Inventory in South Adriatic

Monitoring of Radionuclides in the Air in the Czech Republic After the Fukushima NPP Accident

Library of Mesh and NURBS Female Phantoms for Pulmonary in Vivo Body Counting Studies

Design and Setup of a New HPGe Detector Based Body Counter Capable of Detecting Also Low Energy Photon Emitters

Possible Consequences of Inhomogeneous Suborgan Distribution of Dose and the Linear No-Threshold Dose-Effect Relationship

Study on the prevalence of thyroid disease in healthcare workers at University hospital of Pisa in relation with occupational exposure to ionizing radiation

Estimation of Radionuclide Biokinetics Dependence on Intake Conditions for Internal Exposure

Enetrapp II: WP5. Develop And Apply Mechanisms For The Evaluation Of Training Events

Interpretation of Measured Dose Data in X-ray Imaging

Estimation of Occupational Radiation Dose Levels of Interventional Cardiologists at the Philippine Heart Center

Evaluation of In Utero Doses from Maternal Ingestion of Strontium Radionuclides at the Techa River

Modelling and Comparison of Hot Cell Shielding Capabilities during a Criticality Excursion

Probabilistic Radiological Risk Assessments for Radiation Facilities with Vague Information

Assessment of Frequency of Dicentric Chromosomes of Ukrainian Children from Parents Exposed to Radiation Fall-out After the Chernobyl Accident

Skin dose assessments using Varskin 3

Comparisons of Carrington-Class Solar Particle Event Radiation Exposure Estimates on Mars utilizing the CAM, CAF, MAX, and FAX Human Body Models



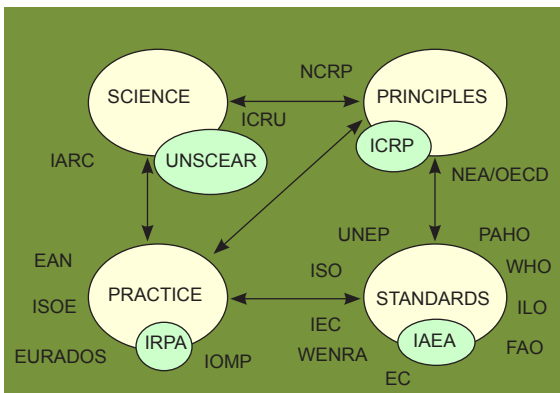
# Scientific Programme

## Overview by Ted Lazo, Chair, International Congress Programme Committee

This is an exciting time in the world of radiation protection. So much is moving forward in the underpinning science. There is great progress in the medical uses of radiation, although with some concerns over the very significant increases in total exposure. The nuclear resurgence is poised to deliver even more CO<sub>2</sub>-free energy, although not all stakeholders are comfortable with this. More and more uses are being found for radioactive sources, all of which however must be kept safe and secure. Exposure to natural radiation, especially radon and NORM, is a matter of constant attention.

All these issues are covered in our congress programme, where we also give special emphasis to our Theme: *Living with Radiation – Engaging with Society*.

The programme is based around the four Pillars of Radiation Protection as in the diagram below. This system is somewhat cyclic in nature, with all of these steps being interrelated and influencing each other.



We have given emphasis to review and discussion within the formal proceedings so that we can move towards a Congress output which clarifies state-of-the-art knowledge, current direction and emerging challenges in all of these areas and in all aspects of radiation protection. These considerations will be distilled into a Congress output which after the Congress will be posted on the IRPA13 website for consultation prior to publication in the scientific literature.

## Congress Theme: Living with Radiation – Engaging with Society

The theme that has been selected for the IRPA13 Congress is both interesting and challenging. It reminds us that while exposure to radiation may be either voluntary or involuntary, the management of protection will always involve social decisions and choices. To make such decisions and choices requires knowledge and wisdom, and the objective of this Congress is to increase both of these in order to help members of the radiation protection profession better address their responsibilities.

Public perception and understanding of radiation risks are often at distinct variance from the views of scientific experts. It is increasingly apparent that for many ventures involving radiation it can be impossible to move forward successfully without a structured and meaningful engagement with stakeholders, especially local communities. The Congress will therefore provide opportunities for radiation protection professionals to share experiences amongst ourselves, but also to experience and interchange views with those outside our profession – i.e. those who are often called our stakeholders.

## Programme Outline

The scientific programme content is arranged in 12 Topic Areas identified below. Our aim has been to ensure that there is always something happening of relevance to your own personal interests. Several different types of sessions have been included as follows:

- **Plenary Sessions:** These sessions by the world's leading scientists and practitioners in their fields will present overviews of the current state of key topics in radiation protection.
- **Key Issue Discussion Sessions:** These will explore the current key issues in specific topics through expert discussion, and will help us move towards the principal conclusions from the congress.
- **Technical Sessions and Poster Sessions:** All the submitted papers and posters will be presented within these sessions
- **Symposia:** Selected topics of current significance are addressed through specific sessions with invited speakers and wider discussions.
- **Fora:** Key current aspects of the work of our sister international organizations will be explored in these sessions.
- **Refresher Courses and Workshops:** Each day will begin with a series of Refresher Courses which offer training and updating opportunities to delegates. A limited number of hands-on training workshops are also provided.



- **Sponsored Commercial Presentations:** These presentations give opportunities for delegates to be made aware of the products, services and capabilities of commercial companies and organizations.

## Areas and Topics

The 12 Areas and associated sub Topics broadly follow the ICRP structure of Planned, Existing and Emergency Exposure Situations, although we have also responded to circumstances by adding a specific Area covering all aspects of the Fukushima accident. Exposure of workers, the public and patients are all included under the relevant topic heading. Given the Congress theme of Living with Radiation – Engaging with Society, specific experiences relating to a given topic area are presented in that topic session, with generic issues relating to society and stakeholder engagement being focused in Area 4.

1. **Biological and Health Effects of Ionising Radiation**
2. **Measurements and Dosimetry**
3. **Radiation Protection System Development and Implementation**
4. **Stakeholder Engagement and Involvement**
5. **Non-Ionising Radiation**
6. **Planned Exposure Situations: Industry and Research**
7. **Planned Exposure Situations: Medicine**
8. **Planned Exposure Situations: Radioactive Waste Management**
9. **Emergency Exposure Situations**
10. **Existing Exposure Situations**
11. **Protection of the Environment**
12. **Fukushima**



# Programme Schedule

## Sunday 13 May 2012

### IRPA Associate Societies Forum

Type:	Plenary Session
Date:	Sunday, May 13, 2012
Time:	10:00 - 17:45
Room:	Alsh



# Monday 14 May 2012

## Opening Ceremony

Type:	Plenary Session
Date:	Monday, May 14, 2012
Time:	09:00 - 10:00
Room:	Clyde Auditorium
Kenneth Kase	IRPA President
Douglas Boyd	Lord Dean of Guild
Michael Matheson MSP	Scottish Minister for Public Health
Chris Englefield	SRP President
Roger Coates	IRPA13 Congress President
Ted Lazo	Scientific Programme Chairman

## Sievert Lecture: A Story of Tritium

Type:	Plenary Session
Date:	Monday, May 14, 2012
Time:	10:00 - 11:00
Room:	Clyde Auditorium
Speaker:	Richard Osborne

## Underpinning Science: State of the Art

Type:	Plenary Session	
Date:	Monday, May 14, 2012	
Time:	11:30 - 13:00	
Room:	Clyde Auditorium	
Chair:	John Cooper	
Rapporteur:	Richard Wakeford	
11:30	Overview of Low Dose/Dose-Rate Cancer Epidemiology. Roy Shore	PL2.1
11:50	Non-Cancer Effects, Especially Circulatory Diseases. Mark Little	PL2.2
12:10	Update on Radiobiological Mechanisms at Low dose/dose-rates. Mike Atkinson	PL2.3
12:30	Health Effects of EMF – Scientific Update. Paolo Vecchia	PL2.4

Supported by



## TS2a: External Dose Assessment

Type: Technical Session  
Date: Monday, May 14, 2012  
Time: 14:00 - 15:30  
Room: Clyde Auditorium  
Chair: Hans Menzel  
Rapporteur: Alexander Brandl

14:00	Characterization of the Neutron Fields Around Cernavoda NPP. V Cauwels	TS2a.1
14:10	Radiation Dose to Interventional Radiology Staff – Can It Be Assessed by Only One Radiation Badge: Trunk, Head or Finger? S Kettner	TS2a.2
14:20	Guidelines to Optimize Extremity Monitoring and to Reduce Skin Doses in Nuclear Medicine. Results of the ORAMED Project. M Ginjaume	TS2a.3
14:30	An Assessment of Eye Doses in the UK, Ireland, USA and France. C Perks	TS2a.4
14:40	The Status of Criticality Accident Dosimetry in the UK. C Wilson	TS2a.5
15:00	Skin Dose Assessments Using Varskin. 3 I Styles	TS2a.7
15:10	Modelling and Comparison of Hot Cell Shielding Capabilities during a Criticality Excursion. M Akbar	TS2a.8
15:20	Interpretation of Measured Dose Data in X-ray Imaging. P Toroi	TS2a.9

## TS3a: RP System: Management and Culture

Type: Technical Session  
Date: Monday, May 14, 2012  
Time: 14:00 - 15:30  
Room: Alsh  
Chair: Annemarie Schmitt-Hannig  
Rapporteur: Bernard Le Guen

14:00	20 years of ALARA Management, Research and Development at the Belgian Nuclear Research Centre SCK•CEN. F Hardeman	TS3a.1
14:15	The Critical Examination of Radiological Installations. A Brennan	TS3a.2
14:30	Development and Dissemination of ALARA Culture. F Vermeersch	TS3a.3



14:45	Development and Implementation of USNRC's Safety Culture Policy Statement for Radioactive Materials. J Piccone	TS3a.4
15:00	Improving the Radiation Protection Safety Culture in the UK. R Hallard	TS3a.5
15:15	Conditions and Means of Developing a Radiation Protection Practical Culture within the Population in Post-Accident Situations. F Gallay	TS3a.6

## TS6a: RP Issues in the Nuclear Fuel Cycle

Type: Technical Session

Date: Monday, May 14, 2012

Time: 14:00 - 15:30

Room: Forth

Chair: Jong Kyung Kim

Rapporteur: Ralph Andersen

14:00	Updating the UNSCEAR Methodology for Estimating Human Exposures due to Radioactive Discharges. C Robinson	TS6a.1
14:15	Radiation Protection Aspects of Water Chemistry and Source-Term Management with a view of an ISOE Expert Group. A Rocher	TS6a.2
14:30	An Update on the UK Generic Design Process for Potential Nuclear New Build Reactors - the AREVA EPR and the Westinghouse AP1000. K Allars	TS6a.3
14:45	Radiological Protection Aspects of the Generic Design Assessment of Potential New Nuclear Reactors in the UK. G Ingham	TS6a.4
15:00	The Evaluation of the Radiological Impact for a New Nuclear Facility on a Multi-facility Site. H Seals	TS6a.5
15:15	Assessment Of The Impact On The Irish Public Arising From Liquid Discharges From Potential New Build Power Plants In The United Kingdom. K Kelleher	TS6a.6
15:30	Industrial Radiography at Nuclear Power Plants. B Ekstrom	TS6a.7

## TS7a: Radiation Protection Issues in Radiotherapy

Type: Technical Session  
 Date: Monday, May 14, 2012  
 Time: 14:00 - 15:30  
 Room: Lomond Auditorium  
 Chair: Roger Harrison  
 Rapporteur: Michel Bourguignon

14:00	Radiation Protection Issues in Proton Therapy. A Lomax	TS7a.1
14:20	IAEA Quality Audits in Radiotherapy. G Azangwe	TS7a.2
14:35	Peripheral Doses in Children Undergoing Gamma Knife Radiosurgery. S Miljanic	TS7a.3
14:50	Comparison of Primary Doses Obtained in Three 6 MV Photon Beams Using a Small Attenuator. C Trauernicht	TS7a.4
15:05	Multi-institutional Study for IMRT Dose Quality Assurance in Korea. S-J Ye	TS7a.5
15:20	Treatment Errors and Near-Misses in a Radiotherapy Department. M Hosseini-Ashrafi	TS7a.6

## TS8a: Waste Management: Policy, Standards and Pre-disposal Management

Type: Technical Session  
 Date: Monday, May 14, 2012  
 Time: 14:00 - 15:30  
 Room: Dochart  
 Chair: Thiagan Pather  
 Rapporteur: Gert Liebenberg

14:00	ICRP Recommendations on Radiological Protection in Geological Disposal of Long-lived Solid Radioactive Waste. W Weiss	TS8a.1
14:30	Radiological Assessments in Support of the UK Review of Exemption Orders for Radioactive Waste. K Jones	TS8a.3
14:45	Comparison of Provisions for Exclusion and Exemption of NORM Radionuclides Associated with the Oil and Gas Industry in the North Sea. A Stackhouse	TS8a.4
15:00	Optimization of Management of Liquid Radioactive Waste Generated in Research and Education Centers. F Usera	TS8a.5



## TS10a: Existing exposure situations due to NORM and natural radiation

Type: Technical Session  
Date: Monday, May 14, 2012  
Time: 14:00 - 15:30  
Room: Boisdale  
Chair: Peter Waggitt  
Rapporteur: Astrid Liland

14:00	Management of Operational and Existing Exposure Situations due to NORM and Natural Radiation: Radiation Protection and Scientific Challenges. R O'Brien	TS10a.1
14:20	Comparisons of Carrington-Class Solar Particle Event Radiation Exposure Estimates on Mars utilizing the CAM, CAF, MAX, and FAX Human Body Models. A Adamczyk	TS10a.2
14:35	Exposure Caused By Natural Radionuclides in Building Materials: Current Practice and Regulation and Future Radiation Protection Requirements. F Maringer	TS10a.3
14:50	Distribution pattern of NORM on Red Sea Shore Sediments in Relation to Non-Nuclear Industries. A Khater	TS10a.4
15:05	Rapid Method for Determination of Po isotopes in Biological Matter. M Sinojmeri	TS10a.5
15:20	Necessity of World Wide Regulation for Radioactive Consumer Products in Current Markets. E Furuta	TS10a.6

## TS1a: Radiation Biology

Type: Technical Session  
Date: Monday, May 14, 2012  
Time: 17:00 - 18:30  
Room: Forth  
Chair: Mike Atkinson  
Rapporteur: Carmel Mothersill

17:00	Inflammatory Response in Radiation Induced Late Effects. M Portas	TS1a.1
17:15	Signs of Late Radiation-induced Genomic Instability in Persons Chronically Exposed to Radiation. G Veremeyeva	TS1a.2
17:30	Oral Administration of Multiple Antioxidants Reduced Damage in Lethally Gamma-Irradiated Animals. K Prasad	TS1a.3

17:45	Global Gene Expression Responses to Low- or High-dose-rate Radiation in the Thymus of ICR and AKR/J mice. J Bong	TS1a.4
18:00	Informativity of Regulatory Proteins at Estimation of Radiation-Induced Changes of Immune Homeostasis in Nuclear Workers. EN Kirillova	TS1a.5
18:15	Possible Consequences of Inhomogeneous Suborgan Distribution of Dose and the Linear No-Threshold Dose-Effect Relationship. B Madas	TS1a.6

## TS2b: Internal Dose Assessment

Type: Technical Session  
Date: Monday, May 14, 2012  
Time: 17:00 - 18:30  
Room: Clyde Auditorium  
Chair: Elizabeth Brackett  
Rapporteur: George Etherington

17:00	Routine Internal Dosimetry Monitoring And Assessment: The Practical Application Of International Standards And Guidance. G Roberts	TS2b.1
17:10	Evaluation of In Utero Doses from Maternal Ingestion of Strontium Radionuclides at the Techa River. N Shagina	TS2b.2
17:20	A Probabilistic Approach for the Assessment of Internal Dose to Chronic Lymphocytic Luekemia Precursor Cell. J Neton	TS2b.3
17:30	Individual Monitoring of Internal Exposures for Argentina Nuclear Medicine Workers. A Rojo	TS2b.4
17:40	Development of mobile laboratories for Routine and Large Accident Monitoring of Internal Contamination. D Franck	TS2b.5
17:50	Modeling of DTPA Decorporation Therapy -- Still Puzzling After All These Years. B Breustedt	TS2b.6
18:00	Evaluation of the amount of <sup>210</sup> Po Ingested by the Spanish Population and its Relation to their Diet Habits. R Garcia-Tenorio	TS2b.7
18:10	Estimation of Radionuclide Biokinetics Dependence on Intake Conditions for Internal Exposure. K Tani	TS2b.8
18:20	Impact of ICRP-89 Based Models on Dose Estimates for Radiopharmaceuticals and CT Exams. M Stabin	TS2b.9



## S3.1 RP Culture

Type: Symposium  
Date: Monday, May 14, 2012  
Time: 17:00 - 18:30  
Room: Alsh  
Chair: Ken Kase  
Rapporteur: Bernard Le Guen

17:00	Introduction to IRPA Guiding Principles on RP Culture. B Le Guen	S3.1.1
17:15	WG1: Elements of Traits and Elements for Definition of RP Culture. K Kase	S3.1.2
17:30	WG2: Criteria for Success. S King	S3.1.3
17:45	WG4: Assessment Tools. M Cantone	S3.1.4
18:00	WG3: Engage Stakeholders and Role of RP professionals and IRPA Associate Societies. B Lorenz	S3.1.5

## TS8b: Waste Management: Public Exposure Assessments and Safety Cases

Type: Technical Session  
Date: Monday, May 14, 2012  
Time: 17:00 - 18:30  
Room: Dochart  
Chair: Adam Stackhouse  
Rapporteur: Marion Hill

17:00	The Importance and Uncertainties of Parameters Related to the Radiological Analysis of NORM for use in Public Dose Assessments. D De Villiers	TS8b.1
17:15	Doses to Public Arising From the Use of Radioisotopes in Radionuclide Laboratories and Hospitals in Finland. S Hellsten	TS8b.2
17:30	Radiological Protection Challenges of Retrieval of Legacy Intermediate Level Wastes (ILW) at the Solid Waste Plant B462 RSRL Harwell. A Carey	TS8b.3
17:45	Disposal Activities Within The IAEA Division Of Radiation, Transport And Waste Safety. G Bruno	TS8b.4
18:00	Radiological Impact Assessment in the LLWR's 2011 Environmental Safety Case. R Cummings	TS8b.5
18:15	<sup>137</sup> Cs Inventory in South Adriatic. B Petrincic	TS8b.6



## 59.1 Research on Medical Countermeasures against Serious Radiation Exposure

Type: Symposium  
 Date: Monday, May 14, 2012  
 Time: 17:00 - 18:30  
 Room: Lomond Auditorium  
 Chair: Ray Guilmette  
 Co-chair: Michel Bourguignon

17:00	Current Thinking on the Early Effects from Uniform and Non-Uniform Radiation. J Williams	S9.1.1
17:20	Early Effects from Internal Radiation: State-of-knowledge and Need for an Improved Assessment. F Menetrier	S9.1.2
17:35	MCM for external radiation – Drug Therapy. T MacVittie	S9.1.3
17:50	Stem Cell Therapy As Medical Countermeasures For External Radiation Burns. J Lataillade	S9.1.4
18:10	Medical Countermeasures for Treating Internal Deposits of Radionuclides. R Guilmette	S9.1.5

## TS10b - Existing exposure situations due to accidental contamination and nuclear legacy - long term management and remediation

Type: Technical Session  
 Date: Monday, May 14, 2012  
 Time: 17:00 - 18:30  
 Room: Boisdale  
 Co-Chair: Natalya Shandala  
 Co-Chair: Thierry Schneider  
 Rapporteur: Astrid Liland

17:00	A Quarter of a Century with Chernobyl Contamination – Norwegian Experiences. L Skuterud	TS10b.1
17:15	CORPORE, A Tool for Interpreting Whole Body Monitoring Results. P Croüail	TS10b.3
17:30	Guidance on the Assessment of Exposure from Land Contaminated with Heterogeneously Distributed Radioactive Material. W Oatway	TS10b.7



17:45	Optimising Decision Making For Late-Phase Recovery From Nuclear Or Radiological Terrorism Incidents In The US. A Nisbet	TS10b.4
18:00	Key Radiation Protection Issues In Regulatory Supervision Of Nuclear Legacies. M Sneve	TS10b.2
18:15	Regulatory Supervision and Assessment of the Radiation Situation in the Areas of the Former Military Technical Bases. A Shandala	TS10b.5
18:30	Challenges in The Nuclear Legacy Regulation. M Kiselev	TS10b.6
18:45	Radiological Characterisation and Decommissioning in the UK Non-nuclear Industry: Project Experience, Challenges and Solutions. S McLauchlan	TS10b.8

## S12.1 Japan HPS: Fukushima Issues

Type: Symposium  
 Date: Tuesday, May 15, 2012  
 Time: 09:00 - 10:30  
 Room: Clyde Auditorium  
 Chair: Toshiso Kosako  
 Rapporteur: Ted Lazo

09:00	Overview. T Kosako	S12.1.1
09:15	Environmental and Personal Monitoring. T Momose	S12.1.2
09:40	Public Concern Regarding Fukushima Accident - Challenge to RP Community. K Sakai	S12.1.3
09:55	Points at Issue on Radiation Protection following Fukushima Accident. T Hattori	S12.1.4

## TS1b: Epidemiology

Type: Technical Session  
 Date: Tuesday, May 15, 2012  
 Time: 09:00 - 10:30  
 Room: Forth  
 Chair: Dominique Laurier  
 Rapporteur: Richard Wakeford

09:00	Risk of Lung Cancer Death Associated to Radon Exposure Corrected for Measurement Error Among Uranium Miners. D Laurier	TS1b.1
09:15	Cardiovascular and Cerebrovascular Diseases in the Extended Cohort of MAYAK Nuclear Workers. T Azizova	TS1b.2
09:30	Livelong Accumulated Radiation Exposure Dose from Medical Radiography and Nuclear Medicine in a Population Representative Sample. H von Boetticher	TS1b.3
09:45	Risk of Radiation-Induced Cataract for Interventional Cardiologists: Results of the O'CLOC Study. S Jacob	TS1b.4
10:00	Study on the Prevalence of Thyroid Disease in Healthcare Workers at the Hospital of Pisa in Relation with Occupational Exposure to Ionizing Radiation. A Pistelli	TS1b.5



## TS4a: Experience in Stakeholder Engagement and Decision Making

Type: Technical Session  
Date: Tuesday, May 15, 2012  
Time: 09:00 - 10:30  
Room: Boisdale  
Chair: Eduardo Gallego  
Rapporteur: Rick Jones

09:00	Stakeholder Engagement: The UK Experience. T Bandle	TS4a.1
09:15	Early Stakeholder Involvement in Environmental Rulemaking for Uranium. M Boyd	TS4a.3
09:30	Activities of the Moroccan Association of Radiation Protection as one African Experience in the Field of Associative Work. A Chourkri	TS4a.4
09:45	Fukushima Facts: Science, Journalism and the Way Events are Perceived. A Margetic	TS4a.5

## TS7b: Radiation Safety Issues in Nuclear Medicine

Type: Technical Session  
Date: Tuesday, May 15, 2012  
Time: 09:00 - 10:30  
Room: Lomond Auditorium  
Chair: Madan Rehani  
Rapporteur: Cornelius Lewis

09:00	Challenges in Nuclear Medicine Radiation Dosimetry. S Mattsson	TS7b.1
09:25	Impact of the New Reconstruction Algorithm trueX at Siemens PET/CT-scanners . J Neuwirth	TS7b.2
09:40	Iodine 131 Treatment for Patients on Hemodialysis: Radiation Safety Considerations. M Chretien	TS7b.3
09:55	Personalised Dosimetry in 90y-Microspheres Therapy of Liver Cancer Using the Oedipe Software and SPECT/CT Images. A Petitguillaume	TS7b.4
10:10	Optimization of a Routine Method for Bone Marrow Estimation in 177Lu-EDTMP Therapy- Experience in Uruguay. M Teran	TS7b.5
10:25	Organ Dose Reconstruction for Hyperthyroid Patients Treated with <sup>131</sup> I. D Melo	TS7b.6

## 58.1 Stakeholder Engagement in Waste Management

Type: Symposium  
 Date: Tuesday, May 15, 2012  
 Time: 09:00 - 10:30  
 Room: Dochart  
 Chair and rapporteur: Marion Hill

09:00	CoRWM 2003-2006. B Clark	S8.1.1
09:10	COWAM and French experience. T Schneider	S8.1.2
09:20	UK Local Government experience. F Barker	S8.1.3
09:30	SKB Experience. A McCall	S8.1.4

## TS3b: RP System: Education and Training

Type: Technical Session  
 Date: Tuesday, May 15, 2012  
 Time: 09:00 - 10:30  
 Room: Alsh  
 Chair: Paul Livolsi  
 Rapporteur: Vivra Nilsson

09:00	IAEA's Education and Training Programme for Strengthening Radiation Protection in Member States. J Wheatley	TS3b.1
09:15	Accreditation of Health Physics Academic Programs in the U.S. J Harris	TS3b.2
09:30	The Development And Implementation Of A System To Accredit Ionising Radiation Instrumentation Specialists. J McClure	TS3b.3
09:45	Enetrap II: WP5 Develop And Apply Mechanisms For The Evaluation Of Training Providers. IH van Elsäcker-Degenaar	TS3b.4
10:00	Delivering a Radiation Protection Dividend: Systemic Capacity-Building for the Radiation Safety Profession in Africa. J Hilton	TS3b.5
10:15	Radiation And Radiological Protection. Guidelines For Primary And Secondary Schools. D Rueda Guerrero	TS3b.6



## TS5a: Non-ionising Radiation

Type: Technical Session  
Date: Tuesday, May 15, 2012  
Time: 11:00 - 12:30  
Room: Dochart  
Chair: Alastair McKinlay  
Rapporteur: John O'Hagan

11:00	The Urgent Need to Apply the ICRP Criteria to Non Ionizing Radiation. R Touzet	TS5a.1
11:15	Implantable Cardioverter Defibrillator and 50 Hz Magnetic Field Exposure in the Workplace. J Lambrozo	TS5a.2
11:30	Paradigm Change for Optical Radiation – Temporary Blinding from Optical Radiation as Part of the Risk Assessment. H Reidenbach	TS5a.3
11:45	Laser and LED Retina Hazard Assessment with an eye Simulator. A Amitzi	TS5a.4
12:00	Measurements of the Magnitude and Direction of the Electric Field of a Mobile Phone in the Near Field. A Pantinakis	TS5a.5

## TS1c: Human Health Effects and Risk Factors

Type: Technical Session  
Date: Tuesday, May 15, 2012  
Time: 11:00 - 12:30  
Room: Clyde Auditorium  
Chair: Roy Shore  
Rapporteur: Richard Wakeford

11:00	Radon Risk in Uranium Mining and ICRP. DB Chambers	TS1c.1
11:15	A Risk Assessment of the Potential Impacts of Radon, Terrestrial Gamma and Cosmic Rays on Childhood Leukaemia in France. D Laurier	TS1c.2
11:30	A New Look At Ionizing Radiation Carcinogenesis. O Raabe	TS1c.3
11:45	Genetic Hypersensitivity to Ionizing Radiation in Imaging and Treatment. E Salminen	TS1c.4

12:00	Dynamics of Hematopoiesis in Residents of Techa Riverside Villages Chronically Exposed to Ionizing Radiation: Clinical and Model. OA Smirnova	TS1c.5
12:15	High Congenital Malformations Rates in a Chernobyl Ionizing Radiation Impacted Population Isolate in Ukraine and Call for Research Co-Investigators. W Wertelecki	TS1c.6

## TS2c: Biological Dosimetry and Modelling

Type: Technical Session  
Date: Tuesday, May 15, 2012  
Time: 11:00 - 12:30  
Room: Alsh  
Chair: Yumiko Suto  
Rapporteur: TBC

11:00	Structural Genomic Damages In Plutonium Workers. TV Azizova	TS2c.1
11:15	Performance of the Dicentric Assay in a Recent NATO Exercise of Established and Emerging Biodosimetry Methods. C Beinke	TS2c.2
11:30	The Dicentric Assay in Triage Mode as Reliable Biodosimetric Scoring Strategy for Population Triage in Large Scale Radiation Accidents. H Romm	TS2c.3
11:45	Contribution of the Biological Dosimetry for Treatment Decisions in Patients with Differentiated Thyroid Carcinoma (DTC) under Radioiodine-131 Therapy. A Fadel	TS2c.4
12:00	Retrospective Dosimetry on Human Nails using X-band EPR Spectrometry. E Lund	TS2c.5
12:15	Assessment of Frequency of Dicentrics of Ukrainian Children from Parents Exposed to Radiation Fall-out After the Chernobyl Accident. N Sebastia	TS2c.6
12:30	FISH Translocation Practice as a Retrospective Biodosimeter: a Review. E Gregoire	TS2c.7



## S4.1 Affected People's Symposium

Type: Symposium  
Date: Tuesday, May 15, 2012  
Time: 11:00 - 12:30  
Room: Boisdale  
Chair: Astrid Liland  
Rapporteur: Rick Jones

11:00	Norwegian Sami Perspective. I Aahren	S4.1.1
11:30	The Chernobyl Accident: Understanding Its Wider Impact on the People of Belarus. V Piotukj	S4.1.3
12:15	Past Experiences and Lessons Learned Under the Rongelap Resettlement Program. T Hamilton	S4.1.5

## F6.1 Worker Education and Training (IAEA/ILO/NEA)

Type: Forum  
Date: Tuesday, May 15, 2012  
Time: 11:00 - 12:30  
Room: Forth  
Chair: Richard Paynter  
Rapporteur: John Croft

11:00	Why is RP training and education so important? S Niu	F6.1.1
11:10	Who has which responsibility? J Wheatley	F6.1.2
11:20	An example (NPP's: Dose trends, usual practice, effective tools ). H Willis	F6.1.3
11:30	Effectiveness of International Professional Organizations (eg IRPA). E Gallego	F6.1.4
11:45	Panel Discussion Panellists: Elena Buglova, Don Cool, Eduardo Gallego, Jean Koch, Shengli Niu, Olaf Schiebe, Annemarie Schmitt-Hannig, David Shier, John Wheatley, H Willis	



## F7.2 Global Health Care Perspectives (IAEA/WHO/PAHO)

Type:	Forum	
Date:	Tuesday, May 15, 2012	
Time:	11:00 - 12:30	
Room:	Lomond Auditorium	
Chair:	Michel Bourguignon	
Rapporteur:	Michael Kawoya	
11:00	New radiation health technologies: challenges, opportunities and limitations. F Nüsslin	F7.2.1
11:20	Optimization in therapeutic applications - the challenges, opportunities and limitations of new/emerging radiation technology. M Brada	F7.2.2
11:40	Challenges, opportunities and limitations to improve justification of medical imaging. L Lau	F7.2.3
12:00	Promoting/improving safety culture in the medical sector. S Ebdon Jackson	F7.2.4

## The Life and Work of CTR Wilson - the Scottish Inventor of the Cloud Chamber "From radiation tracks to the Nobel Prize"

Type:	Lunchtime Lecture
Date:	Tuesday, May 15, 2012
Time:	13:00-13:45
Room:	Lomond Auditorium
Presenter:	Jim Jamieson

## Engaging with Society

Type:	Plenary Session	
Date:	Tuesday, May 15, 2012	
Time:	14:00 - 15:30	
Room:	Clyde Auditorium	
Chair:	Jacques Lochard	
Rapporteur:	Anne Nisbet	
14:00	Social Science and Risk Communication. V Covello	PL3.1
15:00	Rebuilding Trust in the Science of Radiation Protection. H Grogan	PL3.2
15:15	Risk Communication with the Public at Fukushima Dai-ichi. O Haruyuki	PL3.3
15:30	Experiences in Stakeholder Engagement for Risk Management Decisions. O Renn	PL3.4



## KIDS 1 RP Science

Type: KIDS Session  
Date: Tuesday, May 15, 2012  
Time: 17:00 - 18:30  
Room: Clyde Auditorium  
Chair: Richard Wakeford  
Rapporteur: TBC  
Panellists: Mike Atkinson, Mary Helen Barcellos-Hoff, Dominique Laurier, Mark Little, Wolfgang Weiss

17:00 Panel Statements

17:30 Panel Discussion and Questions

## TS4b: Processes, Methodologies and Tools in Stakeholder Engagement

Type: Technical Session  
Date: Tuesday, May 15, 2012  
Time: 17:00 - 18:30  
Room: Dochart  
Chair: TBC  
Rapporteur: Rick Jones

17:00	Public Participation in Decision Making on Nuclear Installations. C Turcanu	TS4b.1
17:15	Comparison Between Two Local-National Forums for Emergency and Recovery Strategies. I Eikelmann	TS4b.2
17:30	Maximizing Public Engagement in Radiological Monitoring as a Means of Furthering Public Understanding of Ionizing Radiation. W Hartwell	TS4b.3
17:45	Stakeholder-Managed Independent Review: A Local Committee's Initiative to Assess the Radiological Impact of the Soulaines LILW Disposal Facility. P Dallemagne	TS4b.4
18:00	Moral Emotions and Risky Technologies: Including Moral Emotions in Risk Communication and Political Decision Making. S Kaliarnta	TS4b.5
18:15	Tools and Techniques for Effective Message Mapping and Radiological Risk Communications with the Public During Radiological Emergencies. P Milligan	TS4b.6

## F6.2 The Role of Radiation Protection Professionals in the Security of Radioactive Sources (WINS)

Type:	Forum	
Date:	Tuesday, May 15, 2012	
Time:	17:00 - 18:30	
Room:	Alsh	
Chair:	Pierre Legoux	
Rapporteur:	Bernard Weiss	
17:05	The Role of the Radiation Protection Professional. C Leijen	F6.2.1
17:20	Education and Training. C Englefield	F6.2.2
17:35	The Role of Professional Societies. E Valdezco	F6.2.3
17:50	International Programmes. I Iliopoulos	F6.2.4

## TS6b: Decommissioning

Type:	Technical Session	
Date:	Tuesday, May 15, 2012	
Time:	17:00 - 18:30	
Room:	Boisdale	
Chair:	Celso Osimani	
Rapporteur:	Ellen Anderson	
17:00	Radiation Protection during Decommissioning of Nuclear Facilities – Experiences and Challenges. J Kaulard	Ts6b.1
17:20	Radiological Protection During the Dismantling of Nuclear Facilities. T Ortiz	TS6b.2
17:35	Harwell's Liquid Effluent Treatment Plant: Past, Present and Future Challenges in Radiation Protection. G Gallacher	TS6b.3
17:50	Pharmaceutical-Producing Cyclotron Characterization, Removal, and Disposition. E Gillenwalters	TS6b.4
18:05	Final Radiological Release of the Radiochemical Laboratory at the Joint Research Centre in Ispra. D Giuffrida	TS6b.5



## F7.1 Role of MPE in Hospitals (IOMP)

Type: Forum  
Date: Tuesday, May 15, 2012  
Time: 17:00 - 18:30  
Room: Lomond Auditorium  
Chair: Fridtjof Nüsslin  
Rapporteur: Madan Rehani

17:00	The Role of MPE/QE/RPO – The View of the IOMP. F Nüsslin	F7.1.1
17:10	European perspective. C Hardiman	F7.1.2
17:20	The IAEA Inter-Regional Project on Harmonization of Medical Physicist Roles and Responsibilities in Radiation Medicine. A Meghzifene	F7.1.3
17:30	Asian Perspective. A Peralta	F7.1.4
17:40	Latin American perspective. S Kodulovich Dias	F7.1.5
17:50	The Role of MPE/QE/RPO in Hospitals – The African Perspective. R Nakatudde	F7.1.6

## TS9a: Emergency Preparedness and Response

Type: Technical Session  
Date: Tuesday, May 15, 2012  
Time: 17:00 - 18:30  
Room: Forth  
Chair: Pedro Carboneras  
Rapporteur: Manuel Marti Rodriguez

17:00	Preparedness and Response to Radiological Emergencies. R Mustonen	TS9a.1
17:20	Promoting Use of Local Volunteer Radiation Professionals in Emergency Response to Assist in Population Monitoring and Public Shelter Operations. R McBurney	TS9a.2
17:35	Radiological Emergency Preparedness and Response Training and Capability Development in South East Asia. A Popp	TS9a.3
17:50	Implementation of an Awareness Tool to Post-Accidental Issues for Local Actors. C Gauvin	TS9a.4
18:05	MOIRA-PLUS use in Decision Making on the Long-term Management of Contaminated Freshwater Bodies and Catchments. E Gallego	TS9a.5

# Wednesday 16 May 2012

## F2.1 Dosimetry and Measurement (ICRU)

Type: Forum  
Date: Wednesday, May 16, 2012  
Time: 09:00 - 10:30  
Room: Forth  
Chair: Hans Menzel  
Rapporteur: Sabine Mayer

09:00	Current and Recent ICRU Activities in Radiation Protection Dosimetry and Measurements. H Menzel	F2.1.1
09:20	Operational Quantities for External Radiation Exposure - Shortcomings and Alternative Options. G Dietze	F2.1.2
09:40	ICRU Report 86: A Consideration of Low-Dose Metrics. B Michael	F2.1.3

## S4.2 Teaching RP in Schools

Type: Symposium  
Date: Wednesday, May 16, 2012  
Time: 09:00 - 10:30  
Room: Boisdale  
Chair: Ann McGarry  
Rapporteur: Rick Jones

09:00	Recipe For Successful Science Teacher Workshops. C Tarantino	S4.2.1
09:15	Teaching Radiation Protection in Schools. P Livolsi	S4.2.2
09:30	Radiation Protection Culture at School: Feedback Experience and Perspective. T Schneider	S4.2.3
09:45	A Swiss-German Approach to Introducing Pupils, Students, and Young Professionals to Radiation Protection. J Breckow	S4.2.4
10:00	The Project of the Spanish Nuclear Industry Forum to Elaborate a Didactic Interactive Material on Radiological Protection. P Sanchez	S4.2.5
10:15	Teaching of Radiation Protection in Primary and Secondary Schools. L Lau	S4.2.6



## TS6c: NORM in Mining and Industry

Type: Technical Session  
Date: Wednesday, May 16, 2012  
Time: 09:00 - 10:30  
Room: Alsh  
Chair: Peter Shaw  
Rapporteur: Peter Waggitt

09:00	Radiation Protection Challenges for Exposures to Naturally Occurring Radioactive Material (NORM). P Haridasan	TS6c.1
09:20	Estimates of Effective Doses Among Czech Uranium Miners. L Tomasek	TS6c.2
09:35	Problems Experienced when dealing with the Decommissioning of NORM Contaminated Oil Production Installations and Vessels. B Heaton	TS6c.3
09:50	Dose Assessments Uncertainties for NORM Management in Conventional Hazardous Waste Disposals. J Mora	TS6c.4
10:05	A Prospective Radiological Risk Assessment for a Phosphate Industry Project. D da Costa Lauria	TS6c.5
10:20	Radioactivity in Raw Materials and Waste from NORM industries in China. J Luo	TS6c.6

## TS7c: Justification of Medical Exposures

Type: Technical Session  
Date: Wednesday, May 16, 2012  
Time: 09:00 - 10:30  
Room: Lomond Auditorium  
Chair: Maria Perez  
Rapporteur: David Sutton

09:05	Strengthening Justification of Medical Exposure in Diagnostic Imaging. J Le Heron	TS7c.1
09:20	Justification and Medical Exposures: Context and Implementation Issues in Practice. J Malone	TS7c.2
09:35	DEBATE: 'The rapid expansion of CT can be adequately justified through the existing framework of referral criteria'. Motion Proposer: D Remedios. Motion Opposer: W Huda	TS7c.3

## TS11a: Protection of the Environment

Type: Technical Session  
Date: Wednesday, May 16, 2012  
Time: 09:00 - 10:30  
Room: Dochart  
Chair: Augustin Janssens  
Rapporteur: Carl-Magnus Larsson

09:00	Radiological Protection of Flora and Fauna Throughout Australia – Developing a National Approach. M Grzechnik	TS11a.1
09:15	Modelling radiation dose effects to wildlife populations. J Vives i Batlle	TS11a.2
09:30	Emerging Issues in Radiation Protection of Biota– The Impact of Non-Targeted Radiobiological Effects. C Mothersill	TS11a.3
09:45	Inhibition of DNA Double-Strand Break Repair in Zebrafish and Links with Effects on Reproduction and Development. C Guillermin	TS11a.4
10:00	Assessment of the Radiological Impact and Associated Risk to Non-human Biota at Decommissioned Niobium (Nb) Mining Site in Norway. J Mrdakovic Popic	TS11a.5
10:15	Review of Environmental Radiological Monitoring Programmes and Development of an Environmental Radiological Monitoring Guide. J Benetto	TS11a.6

## TS12a: Fukushima: Atmospheric Dispersion

Type: Technical Session  
Date: Wednesday, May 16, 2012  
Time: 09:00 - 10:30  
Room: Clyde Auditorium  
Chair: Miroslav Pinak  
Rapporteur: Ted Lazo

09:00	Assessment of Atmospheric Dispersion for the Fukushima Dai-ichi Nuclear Power Plant Accident. A Mathieu	TS12a.1
09:15	Measurements and Dispersion Calculations by the Deutscher Wetterdienst Regarding the Release of Radionuclides at Fukushima-Daiichi Nuclear Power Plant. T Steinkopff	TS12a.2



09:30	Monitoring of Radionuclides in the Air in the Czech Republic After the Fukushima NPP Accident. M Hyza	TS12a.3
09:45	Operational Use of Atmospheric Dispersion Models in Denmark Supporting Decision Making During the Fukushima Daiichi Accident. S Hoe	TS12a.4
10:00	Comparison Of Dispersion Model Outputs And Radioactivity Measurements Made In Ireland Following The Fukushima Accident. K Smith	TS12a.5

## TS2d: Instrumentation and Measurement I

Type: Technical Session

Date: Wednesday, May 16, 2012

Time: 11:30 - 13:00

Room: Lomond Auditorium

Chair: Natalia Golnik

Rapporteur: Franz Josef Maringer

11:30	Improvement of Construction of Recombination Chamber for Mixed Radiation Dosimetry at Workplaces. M Gryzinski	TS2d.1
11:45	Nordic Intercomparison Campaign for Whole Body Counters – Evaluation of the Performance of the Facilities and Inventory of Regional Resources. L del Risco Norrliid	TS2d.2
12:00	A Novel Dosimetry System for Military Use in Response of Nuclear Emergencies. M Kirr	TS2d.3
12:15	Design and Setup of a New HPGe Detector Based Body Counter Capable of Detecting Also Low Energy Photon Emitters. O Marzocchi	TS2d.4
12:30	Wearing More Than One Dosemeter - How Do We Explain the Differences? P Burgess	TS2d.5
12:45	Measurement of Radio-nuclides in Radioactive Aerosols Produced in a 120-GeV Proton Target Station. S Sekimoto	TS2d.6
13:00	Radon Exhalation from Mine Tailings Dams in South Africa. J Ongori	TS2d.7
13:15	Use of Phoswich Detector for Simultaneous Monitoring of High Energy Photon and its Applications in In vivo Lung Counting. TBC	TS2d.8



## TS3c: RP System: Regulation

Type:	Technical Session	
Date:	Wednesday, May 16, 2012	
Time:	11:30 - 13:00	
Room:	Clyde Auditorium	
Chair:	Michel Bourguignon	
Rapporteur:	Charles Temple	
11:30	The Euratom Basic Safety Standards Directive. I Robinson	TS3c.1
11:45	Ongoing efforts of HERCA on the Harmonisation of the Radiological Monitoring Systems for Outside Workers. A Fremout	TS3c.2
12:00	Why an Effective National Regulatory Infrastructure is Essential for a Country's Radiation Protection System. D Mroz	TS3c.3
12:15	Radiation Protection Challenges in Kenya. J Maina	TS3c.4
12:30	Considerations of Transfrontier Shipment of NORM Waste from the North Sea Oil and Gas Industries. M Nilsen	TS3c.5
12:45	Regulatory Standards to Control Radiological and Nuclear Fuel Cycle Facilities. L Castro	TS3c.6

## KIDS 4 Approaches to Engaging with Society

Type:	KIDS Session
Date:	Wednesday, May 16, 2012
Time:	11:30 - 13:00
Room:	Alsh
Chair:	Rick Jones
Moderator:	Tony Bandle
Rapporteur:	Sven Nagels
Remarks:	Panel: V Covello, H Grogan, O Haruyuki, L Mann, P Dorfman, M Koskelainen



## TS7d: QA, Audit & Shielding in Diagnostic Radiology

Type: Technical Session  
Date: Wednesday, May 16, 2012  
Time: 11:30 - 13:00  
Room: Boisdale  
Chair: Pablo Jimenez  
Rapporteur: Constantin Milu

09:00	Quality Control and Patient Dosimetry on line for Computed Tomography. E Vano	TS7d.1
09:15	Radiation Dose Optimization Approach At Dubai Health Authority Hospitals: The Control Of Patient CT Radiation Exposures During 2008-2010. J Al Suwaidi	TS7d.2
09:30	An Effective Method of Patient Radiation Safety Assessment in a University Medical Center. S King	TS7d.3
09:45	Latin American Results in Diagnostic Mammography under IAEA Programme: Radiological Protection of Patients in Medical Exposures (TSA3). P Mora	TS7d.4
10:00	A New Method for Dosimetry and Image Quality Assurance in Mammography and Breast Tomosynthesis. H de las Heras Gala	TS7d.5
10:15	Implementation of Acceptability Criteria for Medical Radiological Equipment in Belgium. T Clarijs	TS7d.6
10:30	Radiation Protection of the Australian Public via the Introduction of a National Diagnostic Reference Level Scheme. P Marks	TS7d.7

## TS9b: Accident Consequence Management

Type: Technical Session  
Date: Wednesday, May 16, 2012  
Time: 11:30 - 13:00  
Room: Dochart  
Chair: Michael Boyd  
Rapporteur: Cyril Croteau

11:30	Biodosimetric Response to Radiation Emergencies: Accidental Exposures in Latin America- Examples of Recent Responses Under IAEA-RANET System. M Di Giorgio	TS9b.1
11:45	A New Strategy for the Delimitation of the Post-Accidental Zoning after a Nuclear Accident. J Godet	TS9b.2

12:00	The Calculation of Dose to Externally Contaminated Livestock and Animal Triage for Livestock Handling and Processing. A Brandl	TS9b.3
12:15	Canadian Radiation Emergency Medical Management Guide. G Kramer	TS9b.4
12:30	MULTIBIODOSE: multi-disciplinary biodosimetric tools to manage high scale radiological casualties. A Wojcik	TS9b.5

## IRPA General Assembly

Type:	Plenary Session
Date:	Wednesday, May 16, 2012
Time:	14:00 - 18:30
Room:	Lomond Auditorium

## The SRP Schools Event, including the Annual John Dunster Memorial Lecture: The Importance of Radiation in Medicine

Type:	Plenary Session
Date:	Wednesday, May 16, 2012
Time:	13:30 - 14:45
Room:	Clyde Auditorium
Presenter:	Peter Marsden
<b>Note:</b>	<b>This lecture is open to IRPA13 delegates</b>

## Workshop 7.1: Room Design in Diagnostic Radiology

Type:	Workshop
Date:	Wednesday, May 16, 2012
Time:	14:00 - 15:30
Room:	Alsh
Presenter:	Jim Malone

## Workshop 7.2: Patient Dose Calculation in Computed Tomography

Type:	Workshop
Date:	Wednesday, May 16, 2012
Time:	16:00 - 17:30
Room:	Alsh
Presenter:	Sue Edyvean



# Thursday 17 May 2012

## TS2e: Instrumentation and Measurement II

Type: Technical Session  
Date: Thursday, May 17, 2012  
Time: 09:00 - 10:30  
Room: Lomond Auditorium  
Chair: Hannes Stadtmann  
Rapporteur: Sander Perle

09:00	The use of New Eye Lens Dosemeter for Medical Staff. R Kopec	TS2e.1
09:15	Type Test Information of the New Instadose Personal Dosimeter. K Bennett	TS2e.2
09:30	A Personnel Neutron Albedo Dosimeter Badge using Aluminum Oxide Pellets. B Mukherjee	TS2e.3
09:45	A Personal Dosimetry System in a Box. C Perks	TS2e.4
10:00	Characterization of a Research Reactor's Fast Neutron Irradiator Using Silicon Bipolar Transistors and Calcium Fluoride Thermoluminescent Dosimetry. M Talmadge	TS2e.5
10:15	What can you say when there is almost nothing? Decision thresholds associated with multiple measurements and their use for environmental monitoring. G Magnificat	TS2e.6

## F3.1 Ethics and Values (NEA/ICRP)

Type: Forum  
Date: Thursday, May 17, 2012  
Time: 09:00 - 10:30  
Room: Dochart  
Chair: Sisko Salomaa  
Rapporteur: Burcin Okyar

09:00	Ethics in Medical Radiological Protection. C Cousins	F.3.1.1
09:20	The Precautionary Principle and the Ethical Foundation of the Radiation Protection System. J Lochard	F.3.1.2
09:40	A Cross-Cultural Approach to Questions of Ethics in Radiation Protection. F Zölzer	F.3.1.3
10:00	Ethics in Radiological Protection. A Gonzalez	F.3.1.4

## TS6d: Non-nuclear Industry, Research, Transport and Security

Type: Technical Session  
 Date: Thursday, May 17, 2012  
 Time: 09:00 - 10:30  
 Room: Alsh  
 Chair: Richard Paynter  
 Rapporteur: Peter Shaw

09:00	WNTI Perspective on the Transport of Radioactive Materials. G Owen	TS6d.1
09:15	Improving the Security of Radioactive Sources in Industrial Radiography in South East Asia. A Popp	TS6d.2
09:30	Search for Non-registered Radioactive Sources - an Important Part of the National Inspection Programme. H Janzekovic	TS6d.3
09:45	Radiation Safety at the PRIMA facility: A Review of Shielding Solutions and Personnel Dose Assessment. S Sandri	TS6d.4
10:00	Current Practice of Occupational Radiation Protection in Industrial Radiography. J Le Heron	TS6d.5
10:15	Probabilistic Radiological Risk Assessments for Radiation Facilities with Vague Information. H Jang	TS6d.6
10:30	The Safety Case for Transporting Spent Nuclear Fuel. C Kros	TS6d.7

## TS7e: Radiation Protection Challenges in Interventional & Paediatric Radiology

Type: Technical Session  
 Date: Thursday, May 17, 2012  
 Time: 09:00 - 10:30  
 Room: Boisdale  
 Chair: Paul Marks  
 Rapporteur: Andy Rogers

09:00	Challenges in Paediatric Interventional Fluoroscopy. K Strauss	TS7e.1
09:20	International Project on Individual Monitoring and Radiation Exposure Levels in Interventional Cardiology. P Padovani	TS7e.2
09:35	Monitoring the Eye Lens. R Behrens	TS7e.3



09:50	Paediatric Computed Tomography Exposure and Radiation-Induced Cancer: The French Ongoing Cohort of Childhood CT Scan. M Bernier	TS7e.4
10:05	Basic Recommendations for Interventional Procedures. R Touzet	TS7e.5
10:20	Randomized Comparison of Occupational Dose between Radial and Femoral Access for Percutaneous Coronary Intervention, (Radifemoproc). A Duran	TS7e.6
10:35	Estimation of Occupational Radiation Dose Levels of Interventional Cardiologists at the Philippine Heart Center. M Maano	TS7e.7

## TS10c: Radon

Type: Technical Session  
Date: Thursday, May 17, 2012  
Time: 09:00 - 10:30  
Room: Forth  
Chair: Sergey Kiselev  
Rapporteur: Astrid Liland

09:00	Recent Developments in the Regulatory Control of Radon Exposure in Spain. Garcia-Talavera	TS10c.1
09:15	The Effect of New Building Concepts on Indoor Radon. W Ringer	TS10c.2
09:30	Radon prevention and remediation in EU countries, RADPAR questionnaire study. H Arvela	TS10c.3
09:45	Short and Long-Term Radon Measurements in Domestic Premises: Reporting results in terms of the HPA Action and Target Levels. A Denman	TS10c.4
10:00	Reverse Seasonal Variations Of Indoor Radon Concentration. F Bochicchio	TS10c.5
10:15	Role Of Residential Radon In Childhood Leukaemia Incidence: The Geocap Program. C Demoury	TS10c.6
10:30	A Long-term Programme to Measure and Mitigate Radon Gas in English Schools - Progress Review and Lessons Learned. T Gooding	TS10c.7

## TS12b: Fukushima: Impact and Public Reaction

Type: Technical Session  
 Date: Thursday, May 17, 2012  
 Time: 09:00 - 10:30  
 Room: Clyde Auditorium  
 Chair: Jacques Repoussard  
 Rapporteur: Ted Lazo

09:00	Public Reaction to the Fukushima Accident in Korea and its Implications in Nuclear Safety and Risk Communication. J Lee	TS12b.1
09:15	Responding to Public Fears on Transboundary Radioactive Contamination from Fukushima Daiichi Accident. M Misshar	TS12b.2
09:30	Content Analysis of the Media Reporting on the Fukushima Nuclear Accident in three European Countries. M Cantone	TS12b.3
09:45	Japanese Earthquake and Tsunami: Implications for the UK Nuclear Industry. C Temple	TS12b.4
10:00	Radiation Protection and Emergency Preparedness Aspects of the U.S. Nuclear Energy Industry Response to the Fukushima Dai-ichi Accident. R Andersen	TS12b.5
10:15	Decontamination and Recovery Aspects of the Fukushima Accident. A McGarry	TS12b.6
10:30	The IAEA's Incident And Emergency Centre: Response To The Accident At Tepco's Fukushima Daiichi Nuclear Power Station. E Buglova	TS12b.7

## TS2f: Metrology and Dosimetry Standards

Type: Technical Session  
 Date: Thursday, May 17, 2012  
 Time: 11:00 - 12:30  
 Room: Alsh  
 Chair: Pete Burgess  
 Rapporteur: TBC

11:00	Eurados Intercomparisons for Individual Monitoring Services: Results and Conclusions from the First Three Exercises. A McWhan	TS2f.1
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11:15	International Co-operation, Basic Principles and Ongoing Developments In Radiation Protection Metrology and Measurements. F Maringer	TS2f.2
11:30	Radiation Protection Dosimetry in Pulsed Radiation Fields. O Hupe	TS2f.3
11:45	ISO/TC 85/SC2 Radiological Protection. A Rannou	TS2f.4
12:00	Characterization of an <sup>241</sup> AmBe neutron irradiation facility by different spectrometric techniques. E Gallego	TS2f.5
12:15	Radiation Protection of Patients: Status of Primary Standard Dosimetry of High-Energy Photon and Electron Beams in Austria. A Baumgartner	TS2f.6

### TS3d: RP System: Evolution and Implementation

Type: Technical Session

Date: Thursday, May 17, 2012

Time: 11:00 - 12:30

Room: Clyde Auditorium

Chair: Don Cool

Rapporteur: Caroline Schieber

11:00	NEA Stakeholder Involvement in the Development of ICRP Recommendations. S Magnusson	TS3d.1
11:15	Dose Constraints and other Policy and Practical Issues in Occupational Radiation Protection. G Frasch	TS3d.2
11:30	Findings from a Workshop on the Practical Implementation of the new ICRP Recommendations: a Contribution of the NERIS Platform. T Duranova	TS3d.3
11:45	The Influence of ICRP 103 on Current Actions of the U.S. Environmental Protection Agency. M Boyd	TS3d.4
12:00	What Resources Were Needed to Implement ICRP 60, and What Resources May Be Needed to Implement ICRP 103? J Valentin	TS3d.5



## F6.3 Nuclear Industry Forum (WNA)

Type:	Forum
Date:	Thursday, May 17, 2012
Time:	11:00 - 12:30
Room:	Lomond Auditorium

## S7.1 Medical Exposures, Radiation Risk and the Public

Type:	Symposium
Date:	Thursday, May 17, 2012
Time:	11:00 - 12:30
Room:	Boisdale
Chair:	Claire-Louise Chapple
Rapporteur:	Ana Maria Bomben

11:05	UNSCEAR report on Medical Exposures. K Faulkner	S7.1.1
11:20	Management of Patient Dose in Radiology: Which Models can achieve Optimisation? C Martin	S7.1.2
11:40	Current Epidemiology Studies of Risks Associated With CT Scans. M Pearce	S7.1.3
12:05	Patient perspective on risk and justification for medical exposures. J Turner	S7.1.4

## S10.1 Radon

Type:	Symposium
Date:	Thursday, May 17, 2012
Time:	11:00 - 12:30
Room:	Forth
Chair:	James McLaughlin
Rapporteur:	Christophe Murith

11:00	Residential Radon, Smoking and Lung Cancer. S Darby	S10.1.1
11:20	ICRP Radon recommendations. J Lecomte	S10.1.2
11:40	The Impact of UK Government Targets for Smoking Cessation on the Effectiveness of the Radon Remediation Programme. A Denman	S10.1.3
11:55	The National Radon Program – a Success Story Continuing in Canada. J Chen	S10.1.4
12:10	A Nationwide Radon Survey in Finland - Prevention in new Construction. H Arvela	S10.1.5



## TS12c: Fukushima Protection and Risk Issues

Type: Technical Session  
Date: Thursday, May 17, 2012  
Time: 11:00 - 12:30  
Room: Dochart  
Chair: Elena Buglova  
Rapporteur: Ted Lazo

11:00	Key Issues on Radiological Protection from Radioactive Waste Management in Existing Exposure Situation. D Sugiyama	TS12c.1
11:15	Comparative Analysis Of The Radionuclide Composition In Fallout After The Chernobyl And The Fukushima Accidents. S Shinkarev	TS12c.2
11:30	Practical Retrospective Dosimetry: Looking Back to Chernobyl with a View Forward at Fukushima. V Chumak	TS12c.3
11:45	Assessment on the 66th Day of Projected External Dose for Populations Living in the North-West Fallout Zone of the Fukushima Nuclear Accident. A Thomassin	TS12c.4
12:00	Radiation and Radioactivity Monitoring in the Surrounding Environment after Fukushima Daiichi Nuclear Power Plant accident 1. Overview. T Nakamura	TS12c.5
12:15	Estimation of Internal Exposure Dose of the Population Caused by Inhaled Radioactive Materials Released in Early Stage of Fukushima Nuclear Disaster. I Urabe	TS12c.6

## TS9c: Emergencies: Lessons Learned & New Threats

Type: Technical Session  
Date: Thursday, May 17, 2012  
Time: 14:15 - 15:45  
Room: Dochart  
Chair: Kazuo Sakai  
Rapporteur: Ramon de la Vega

14:15	Nuclear Security for the 2010 FIFA World Cup in South Africa: Part 2: Summary of Logistics and Results. C Kros	TS9c.1
14:30	INEX 4 Exercise on Consequence Management and the Transition to Recovery. B Ahier	TS9c.2

14:45	Lessons From Three Major Fires In The UK Non-Nuclear Sector. G Thomas	TS9c.3
15:00	Revisiting the Dose Calculation Methodologies in European Decision Support Systems. K Andersson	TS9c.4
15:15	Nuclear Security and Emergencies in Case of Malevolent Acts Against Nuclear Power Plants. R Caro	TS9c.5

## TS2g: Numerical and Computational Dosimetry

Type: Technical Session  
 Date: Thursday, May 17, 2012  
 Time: 14:15 - 15:45  
 Room: Forth  
 Chair: Christian Wernli  
 Rapporteur: TBC

14:15	Library of Mesh and NURBS Female Phantoms for Pulmonary in Vivo Body Counting Studies. J Farah	TS2g.1
14:30	Influence of Head Shape on Measured Activity of Actinides. T Vrba	TS2g.3
14:45	Comparison Of Internal And External Dose Conversion Factors Using ICRP Adult Male And Meetman Voxel Model Phantoms. D Leone	TS2g.4
15:00	Age Dependence of Dose Rates in the Enamel of Teeth Contaminated by 90Sr -90. A Volchkova	TS2g.5
15:15	Absorbed Fractions for Multi-Region Models of the Kidneys in ICRP/ICRU Voxel Phantoms. S Kinase	TS2g.6

## F3.2 Legal Aspects of RP (INLA)

Type: Forum  
 Date: Thursday, May 17, 2012  
 Time: 14:15 - 15:45  
 Room: Boisdale  
 Chair: Stephen Burns  
 Rapporteur: Ximena Vásquez-Maignan



## KIDS 6 Nuclear Fuel Cycle

Type: KIDS Session  
Date: Thursday, May 17, 2012  
Time: 14:15 - 15:45  
Room: Clyde Auditorium  
Co-Chair: Toshiso Kasako  
Co-Chair: Bernard Le Guen  
Co-Chair: Phil Metcalf  
Rapporteur: Willie Harris  
Moderator: Ralph Andersen  
Renate Czarwinski, Jack Hurst  
Panellists: (WANO), Anne McGarry, Caroline Schieber, Yang Huating

14:15 Feedback from Helsinki Congress. B Le Guen

14:25 Feedback from Tokyo Congress. P Metcalf

14:35 New Challenges following Fukushima Daiichi. T Kasako

14:45 Panel Statements

15:15 Panel Discussion and Questions

Supported by:



## KIDS 7 Medical

Type: KIDS Session  
Date: Thursday, May 17, 2012  
Time: 14:15 - 15:45  
Room: Lomond Auditorium  
Chair: Keith Faulkner  
Rapporteur: Claire-Louise Chapple  
Panellists: Claire Cousins, Walter Huda, Maria Perez, Jean Turner

14:15 Highlights from week's sessions. K Faulkner  
Reports from Regional Congresses

14:25 Helsinki. R Bly

14:30 Columbia. E Girozin

14:35 Tokyo. K Akahane

14:40 Nairobi. M Kawooya

14:50 Panel Discussion and Questions

## S11.1 Environmental Protection

Type: Symposium  
Date: Thursday, May 17, 2012  
Time: 14:15 - 15:45  
Room: Alsh  
Chair: Carl-Magnus Larsson  
Rapporteur: Brenda Howard

14:15	Principles and Concepts in Radiation Protection of the Environment. J Pentreath	S11.1.1
14:35	Application of Radiological Protection Measures to Meet Different Environmental Protection Criteria. D Copplestone	S11.1.2
14:55	RBE and Radiation Weighting Factors as Applied in the Context of Protection of the Environment from Ionising Radiation. K Higley	S11.1.3

## The System of Protection: Current and Future Developments

Type: Plenary Session  
Date: Thursday, May 17, 2012  
Time: 16:15 - 18:15  
Room: Clyde Auditorium  
Chair: Luis Echavarri  
Rapporteur: Ted Lazo

16:15	Overview on the future of the RP system. L Echavarri	PL4.1
16:20	UNSCEAR Perspective. W Weiss	PL4.2
16:35	The System of Protection: Future Developments – ICRP Perspective. C Cousins	PL4.3
16:50	IAEA Perspective. R Czarwinski	PL4.4
17:05	System of Radiation Protection: EC Perspective. A Janssens	PL4.5
17:20	Nuclear Sector Perspective. R Andersen	PL4.6
17:25	NORM Sector Perspective. G Liebenberg	PL4.7
17:30	Medical Sector Perspective. K Faulkner	PL4.8
17:35	Asian Perspective. K Kang	PL4.9
17:40	Latin American Perspective. E Medina Gironzo (TBC)	PL4.10
17:45	European Perspective - New ICRP Recommendations and Regulatory Development – Findings of The 2010 European IRPA Congress. J Valentin	PL4.11
17:50	Key Issues Panel Discussion and Questions	



## Lessons and Challenges following the Fukushima Accident

Type: Plenary Session  
Date: Friday, May 18, 2012  
Time: 09:00 - 11:15  
Room: Clyde Auditorium  
Chair: Denis Flory  
Rapporteur: Ted Lazo

09:10	Fukushima Lessons and Challenges in Japan. S Matsura	PL5.4
09:30	Lessons and Challenges for the US. W Magwood	PL5.2
09:50	Lessons and Challenges for the Czech Republic. D Drabova	PL5.3
10:10	Lessons and Challenges for a Nuclear Utility. B Le Guen	PL5.6
10:30	Lessons and Challenges for ICRP. A Gonzalez	PL5.5
10:50	Citizen Monitoring Following the Fukushima Disaster. D Boilley	PL5.7

## Congress Conclusion

Type: Plenary Session  
Date: Friday, May 18, 2012  
Time: 11:45 - 12:30  
Room: Clyde Auditorium  
Presenter: Ted Lazo

## Closing Ceremony

Type: Plenary Session  
Date: Friday, May 18, 2012  
Time: 12:30 - 14:00  
Room: Clyde Auditorium

- Kenneth Kase (Outgoing IRPA President): Opening Remarks
- Presentation of the Swedish Academy Gold Medal to Keith F Eckerman
- Presentation of the IRPA13 Young Professionals Awards
- Presentation of IRPA Service Awards
- Transfer of the IRPA Bell to the Incoming IRPA President
- John Broughton (SRP President): Transfer of IRPA Flag the IRPA14 Congress President
- Renate Czarwinski: Incoming President's Address "IRPA in the Future"
- Official Closing and Polvani Bell



# Poster Sessions and presentations

## Poster sessions A-B: Area 1

Type: Poster Session  
Topic: Biological and Health Effects of Ionising Radiation  
Date: Monday 14 and Tuesday 15 May 2012  
Time: 16:00 - 17:00 hours  
Room: Hall 4

On the question of interpopulation transfer of risk coefficients <u>Sakovich, VA</u> ; Gubin, AT	P01.01
The Relative Biological Effectiveness of 131I Beta Particles Compared to Gamma Radiation <u>Mahmoud Pashazadeh, Ali</u> ; Neshasteh-Riz, Ali; Mahdavi, Seyed Rabie	P01.02
Do the Auger Electron Emitters I-123 and I-125 Show Differences in their Cyto- and Genotoxic Potential? <u>Kriehuber, R</u> ; Jaeger, A; Oskamp, D; Pomplun, E	P01.03
Effect of Gamma Irradiation on the Biophysical and Protection Properties of Melanin <u>Ghannam, MM</u> ; MM, Mohsen; Al-Ayed, MS; Haseeb, AM	P01.04
The Role of V.A.C., Acellular Matrices, Enzymatic Debridement and Stem Cells Therapy as Adjunctive Treatment for C.R.S <u>Portas, M</u> ; Di Giorgio, M; Coppola, A; Giongrande, J C; De Lellis, M; Mansilla, E; Drago, H; Ortega, J C	P01.05
Radiation Injuries in Fluoroscopically Guided Interventional Procedures <u>Portas, M</u> ; Coppola, A; Di Giorgio, M; Giongrande, J C; De Lellis, M; Mansilla, E; Drago, H; Ortega, J C; Dovasio, F	P01.06
A Ne Look at the Environmental Health Impact of Radon and its Daughters in Light of Combustion Products <u>Lykken, GJ</u> ; Momcilovic, B; Ward, T; Jagam, P	P01.07
Comparison of Absorbed Radiation Doses Following a Chronic Contamination through Ingestion of Either 137-Cesium or 90-Strontium <u>Bertho, JM</u> ; Synhaeve, N; Stefani, J; Desbre, A; Blanchardon, E; Dublineau, I	P01.08
Antioxidant Status in Chicken Embryo Liver after Low Dose Gamma Irradiation <u>Vilic, M</u> ; Aladrovic, J; Beer Ljubic, B; Gottstein, Z; Pejakovic, J; Miljanic, S; Kraljevic, P	P01.10
Radioprotective and Anti-Carcinogenic Potentials of Mentha Piperita Linn.: Evaluation of cytotoxicity <u>Samartha, RM</u>	P01.11
Radioprotective Activity And Genotoxic Effects Of Curcumin In Human Lymphocytes Cultures <u>Sebastia, N</u> ; Almonacid, M; Navarro, M; Villaescusa, JI; Cervera, J; Silla, MA; Such, E; Soriano, JM; Montoro, A	P01.12



Statistical Evaluation of Subtle Effect of Continuous Low Dose rate Gamma-Irradiation on Murine Inflammatory Reaction <u>Ogata, H</u> ; Magae, J	P01.13
Pre-clinical Evaluation of <sup>188</sup> Re(V)oxo Complexes as Potential Agents for Melanoma Therapy Fernandez Castro, S; Giglio, J; <u>Terán, M</u> ; Incerti, M; Agorio, C; Chabalgoity, A; Rey, A	P01.14
Cognitive and Cerebrovascular Effects Induced by Low Dose Ionising Radiation “CEREBRAD EU project” <u>Benotmane, A</u>	P01.15
Accumulation of Man-Made Radionuclides by Mushrooms Nearby the Site for SNF and RW Temporary Storage in Andreeva Bay of Kola Peninsula <u>Metlyayev, EG</u> ; Schelkanova, ES; Natha, SV; Shchagin, YA	P01.16
Indices Of Blood Lipids In Workers Exposing Long-Term Radiation In A Range Of Low Doses <u>Semenova, YuV</u> ; Êarpov, AB; Dubin, VV; Kalinkin, DE; Baranova, IA; Takhauov, RM	P01.17
The Cytogenetic Abnormalities of Blood Lymphocytes in the Cohort of Siberian Group of Chemical Enterprises Personnel Litvyakov, NV; Vasilyeva, EO; Goncharik, OO; Bondaruk, AA; Mezheritsky, SA; <u>Takhauov, RM</u> ; Karpov, AB	P01.18
Repair of DNA Single- and Double-Strand Breaks in Peripheral Blood Lymphocytes of Chronically Exposed Individuals. <u>Pogodina, AV</u> ; Akleyev, AV	P01.19
Biological Material Bank Of The Seversk Biophysical Research Centre <u>Takhauov, RM</u> ; Karpov, AB; Mezheritsky, SA; Vasilyeva, EO; Goncharik, OO; Mironova, EB; Albach, EN; Semenova, YuV; Bondaruk, AA; Nekrasov, GB; Izosimov, AS; Gagarin, AA; Litvyakov, NV	P01.20
Allelic Imbalance of Genes in Spontaneous Tumor and in Tumor of Persons Exposing Long-Term Occupational Radiation Goncharik, OO; Litvyakov, NV; Mezheritsky, SA; Albach, EN; Vasilyeva, EO; Karpov, AB; <u>Takhauov, RM</u>	P01.21
Level of Lymphocytes in the Cell Cycle Delay in Individuals Exposed to Chronic Radiation Exposure. <u>Markina, TN</u> ; Veremeyeva, GA; Akleyev, AV	P01.22
Apoptosis and Mutations in the Gene of T-cell Receptor of Blood Lymphocytes in Persons Chronically Exposed to Radiation <u>Blinova, EA</u> ; Veremeyeva, GA; Akleyev, AV	P01.23
Radiobiology Repository Of Nuclear Workers As Unique Source For Studies Of Radiation Effect <u>Kirillova, EN</u> ; Zakharova, ML; Revina, VS; Pavlova, OS; Uryadnitskaya, TI; Sokolova, SN; Muksinova, KN; Loffredo, CA	P01.24
Development of ICRP-66 Respiratory Tract Model Based on a Study of Pu Microdistribution in Lung <u>Romanov, SA</u> ; Schadilov, AE; Levkina, EV	P01.25
On the Question of Interpopulation Transfer of Risk Coefficients <u>Sakovich, VA</u> ; Gubin, AT	P01.26



Systems Biology of Cell Signaling: a Foundation of the Healthcare for People Exposed to Ionizing Radiation Kuzmina, NB; Gromova, NV; Zhestkov, BG; Zyablitsin, AV; Krupnov, AV; Smirnov, PhYu; Ivanova, EN; <u>Borisov, NM</u>	P01.27
Appearance of Heavy DNA Fragments in Circulating Immune Complexes Justifies Radiation Exposure In Vivo. <u>Kabakov, AE</u> ; Makarova, YuM; Mosina, VA	P01.28
Modulation of Radiation Induced Biochemical Changes in Brain of Swiss Albino Mice by Punica Granatum Fruit Rind Extract Mathur, A; <u>Sharma, J</u>	P01.29
Fenofibrate has Radioprotective Effect via PPAR $\alpha$ -Mediated SOD Induction in HeLa cells Liu, X; Jang, S; An, Z; Song, H; Liu, X; Kim, W; Yu, J; <u>Park, W</u>	P01.30
Natural Radioactivity in the Soil Samples of Coastal Southern Nigeria. <u>Alatise, OO</u> ; Babalola, IA; Olowofela, JA	P01.31
The Importance of Time in Low Dose Radiobiology Phenomena <u>Abdollahi, H</u> ; Teymuri, M	P01.32
Radiation Survival Curve for Pediatrics Rhabdomyosarcoma Cells <u>Ibrahim, Alexander</u> ; Kafi, Siddig; Idris, Omer	P01.33
Bcl-2/BAX Ratio Modified By Low Doses Of Gamma Radiation <u>Bahreyni Toossi, MT</u> ; Azimian, H; Fardid, R	P01.34
Effects of N-acetyl-L-cysteine in two Yeast Strains <u>Kim, JK</u> ; Park, J; Nili, M	P01.35
Radiation Induced NF-KB Signaling Cascade Study In Mammalian Cells. <u>Chishti, AA</u> ; Hellweg, CE; Baumstark-Khan, C; Reitz, G	P01.36
Radiological Implications of Electronic Waste Dump-Sites in the Most Populous City in Nigeria <u>Arogunjo, AM</u>	P01.37
Development of Radioprotective Agent Using Smart Microorganism <u>Roh, C</u>	P01.38
Experimental study of pharmacokinetics and radioimmunoimaging of <sup>131</sup> I-labeled monoclonal antibody E-B5 against Pro-Gastrin-Releasing Peptide(31-98) Zeng-Li Liu,; <u>Xiao-Lin Zhou</u> ,; Yi-Zhen Shi,; Shou-Ying Du ,; Qiao-Ling Xu,; Yong-Mei Shen,; Yi Yang,; Jun Tang,	P01.39
Granulocyte-colony stimulating factor (G-CSF) protects intestine injury and increases survival rate in irradiated mice <u>Kim, J S</u> ; Yang, K; Gong, E J; Heo, K	P01.40
Ionising Radiation and Environmental Toxicants can Interact During Brain Development to Exacerbate Cognitive Defects in Mice Eriksson, P; Stenerlöv, B; Fredriksson, A; Buratovic, S; <u>Sundell-Bergman, S</u>	P01.41
Individual Radiosensitivity : A Key Issue in Radiation Protection <u>Bourguignon, M</u> ; Foray, N; Colin, C; Pauwels, E	P01.42
Histamine and Its Ligands As Promising Radioprotectors Of Normal Tissues To Improve Radiotherapy Medina, VA; Carabajal, E; Croci, M; Martinel Lamas, D; Prestifilippo, JP; Elverdin, JC; Bergoc, RM; Rivera, ES; <u>Martin, G</u>	P01.43

Radioprotection of Sensitive Rat Tissues by Oligoelements Se, Zn, Mn plus Lachesis Muta Venom. Crescenti , EJ; Medina, VA; Croci, M; Sambuco, L; Prestifilippo, JP; Elverdin, JC; <u>Martin, GA</u> ; Bergoc, RM; Rivera, ES	P01.44
Histamine Hinders Radiation-Induced Mesenchymal Transition In Epithelial Tumor Cells Mohamad, NA; Cricco, GP; Porretti, JC; Ventura, C; Núñez, MA; Cocca, CM; <u>Rivera, ES</u> ; Martín, GA	P01.45
Sanguinarine Is a Novel Radioprotector for Acute Whole Body Irradiation <u>Fan, S</u> ; Xu, J; Zhao, L; Jiao, Y	P01.46
Cancer Rates on the Area with Fuel-like Hot Particles Deposition – Unexpected Results <u>Brudecki, K</u> ; Mietelski, J W; Kuzma, K; Bogacz, J	P01.47
Cancer And Non-Cancer Incidence Among Bulgarian Medical Radiogenic Workers <u>Chobanova,;</u> Chobanova,; Chobanova,	P01.48
Individual Doses Estimation for the Semipalatinsk Historical Cohort <u>Granovskaya, E</u> ; Shinkarev, S; Katayama, H; Apsalikov, K; Hoshi, M	P01.49
Mortality From Cardiovascular Diseases And Occupational Uranium Exposure: Cohort And Nested Case-Control Studies Of French Uranium Workers Guseva Canu, I; Garsi, JP; Chablais, L; <u>Samson, E</u> ; Jovanovich, I; Caër-Lorho, S; Acker, A; Niogret, C; Laurier, D	P01.50
Lessons of Chernobyl and Prognosis for Fukushima: Health Effects <u>Ivanov, VK</u>	P01.51
Infant Mortality Among Offsprings of Occupationally Exposed Fathers <u>Kabirova, NR</u> ; Okatenko, PV; Koshurnikova, NA	P01.52
Cancer Mortality in Personnel of the Siberian Group of Chemical Enterprises and in Population of Nearby Territories Kalinkin, DE; <u>Karpov, AB</u> ; Takhauov, RM; Samoylova, YuA; Shiryayeva, IV	P01.53
The Risk of Acute Myocardial Infarction Development in Siberian Group of Chemical Enterprises Personnel Exposing Long-Term Radiation <u>Karpov, AB</u> ; Semenova, YuV; Litvinenko, TM; Takhauov, RM; Takhauov, RM	P01.54
Cancer Effects in the Population Chronically Exposed to Radiation on the Techa River <u>Krestinina, LYu</u> ; Preston, D; Davis, F; Epifanova, S; Akleyev, A	P01.55
Radiation Risk of Lung Cancer Incidence with regard to Histological Tumor Type among the Mayak Nuclear Workers <u>Labutina, EV</u> ; Kuznetsova, IS	P01.56
The Acute Myocardial Infarction Morbidity Among Siberian Group Of Chemical Enterprises Personnel And Population Living In A Zone Of Its Located Litvinenko, TM; Semenova, YuV; Òàkhauov, RM; Kalinkin, DE; Efimova, EV; <u>Kàrpov, AB</u>	P01.58



Possible Source Of Uncertainty In Radon Epidemiological Studies At Low Radon Concentrations <u>Magnoni, M</u>	P01.59
Thyroid Cancer Incidence due to Technogenic Exposure in Childhood <u>Martinenko, IA</u> ; Sokolnikov, ME; Sannikova, LA; Ryzhykh, TV; Koshurnikova, NA	P01.60
A Cohort Study on Low Dose Exposure and Mortality in Nuclear Power Workers in Germany <u>Merzenich, H</u> ; Fehringer, F; Hammer, G; Tröltzsch, K; Blettner, M	P01.61
Socially-Psychophysiological Estimation of a State of Health Suffered from Heavy Acute Irradiation in Failure Of Chernobyl Accident Metlyaeva, N; <u>Bushmanov, A</u>	P01.62
Lifetime Radiation Mortality Risk from Lung Cancer. Direct and Indirect Estimates of Nonlinear Dose Trend <u>Obesnyuk, VE</u> ; Sokolnikov, ME	P01.63
Expert and Prognostic Assessments of the Public Health in the Vicinity of the NPP <u>Petoyan, IM</u> ; Lyaginskaya, AM; Romanov, VV; Ermalitskiy, AP	P01.64
Radiation Risk Assessment, Taking into Account the effect of Irradiation on all Causes of Death <u>Sakovich, VA</u> ; Gubin, AT	P01.65
Radiation Risk Assessment, Taking into Account the Effect of Irradiation on all Causes of Death <u>Sakovich, VA</u> ; Gubin, AT	P01.66
TRACY : The French cohort of uranium cycle workers <u>Samson, E</u> ; Guseva Canu, I; Acker, A; Laurier, D	P01.67
Solid Cancer Mortality in Mayak Workers Cohort <u>Sokolnikov, ME</u> ; Preston, DL; Okatenko, PV; Koshurnikova, NA	P01.68
Regional Medico-Dosimetric Register of Siberian Group of Chemical Enterprises Personnel <u>Takhauov, RM</u> ; Karpov, AB; Dolgopолоv, YuV; Izmetstjev, KM; Litvyakov, NV; Kalinkin, DE; Kubat, II; Vasilyeva, EO; Semenova, YuV; Zerenkov, AG; Litvinenko, TM; Samoylova, YuA; Shiryaeva, IV; Kostrikina, EV	P01.69
Preconceptional Exposure and Cancer Risk Mortality in Children of PA «MAYAK» Workers <u>Telnov, VI</u> ; Kabirova, NR; Okatenko, PV	P01.70
Epidemiological Study Of Health Status Of Population Around A Jadugoda Uranium Mines In India <u>Thakur, HP</u> ; Sapra, BK	P01.71
Risk from Occupational and Environmental Radon and Role of Smoking <u>Tomasek, L</u>	P01.72
Cancer Risk Estimate by Rate of Cancer Mortality for In-utero Exposed Individuals <u>Tsareva, JV</u> ; Schonfeld, SJ; Preston, DL; Sokolnikov, ME; Okatenko, PV; Koshurnikova, NA	P01.73

Monitoring of Possible Health Effects in the Vicinity of Nuclear Sites in Belgium: Is There an Increased Incidence of Childhood Leukaemia? Bollaerts, K; <u>Fierens, S</u> ; Simons, K; Francart, J; Poffijn, A; Sonck, M; Van Bladel, L; Geraets, D; Gosselin, P; Van Oyen, H; Van Eycken, L; Van Nieuwenhuysse, A	P01.75
Knowledge of and attitude to nuclear power among residents around Tianwan Nuclear power plant in Jiangsu of China Yu, Ning le; Zhang, Yimei; Wang, Jin; Cao, Xingjiang; Cao, Xingjiang; Fan, Xiangyong; Xu, Xiaosan; Xu, Xiaosan; <u>Wang, Furu</u>	P01.76
Modification of Innate Immunity in Individuals with Late Radiation-Induced Neutropenia Using Hemopoietic Cells of Fetal Liver <u>Akleyev, AA</u> ; Dolgushin, Il; Dimov, GP	P01.77
Radiological Health Risk from Soil, Well Water and Borehole to the Inhabitants of Some Cities across Ondo and Ekiti States in Nigeria <u>Arogunjo, AM</u> ; Ogunware, AE	P01.78
Excess Lethal Cancer For the Total Population of Sabzvar City in Iran Arising From Five Common Conventional X-ray Examinations <u>Bahreyni Toossi, MT</u> ; Zarghani, H	P01.79
The Offspring Of Liquidators Of Accident On Chernobyl Atomic Power Station: Effects Of Complex Confounding And Stress Non-Radiation Factors <u>Bushmanov, AY</u> ; Biryukov, AP; Zhovtilova, EG; Koterov, AN	P01.80
Stress-Test of the Two-Fold Increase of Radon Risk Factor in dwellings <u>Bochud, FO</u> ; Laedermann, JP; Kropat, G; Bailat, CJ; Murith, C; Baechler, S	P01.81
The Social-Psycological Status Of The Population Residing In The Contaminated Territories Of The Urals Region <u>Burtovaya, EY</u> ; Belova, MV; Akleyev, AV	P01.82
Changes In Immunological Indicators In The Peripheral Bloods of Three Accidentally-exposed Persons <u>Chi, C</u> ; Tian, R; Liu, HF; Wei, JP; Wang, HY; Guo, JP; Guo, FL; Li, SF	P01.83
Severe Injuries Induced By Occupational Exposure In Interventional Radiology Selakovic-Micunovic, V; <u>Durovic, B</u> ; Vukmirovic, Dj	P01.84
The Prevalence of Thyroid Nodules in Radiographers <u>Elzaki, Amin</u> ; Lawz, Omer; Osman, Hamid	P01.85
Let Calculations for Low Energy Diagnostic X-Rays <u>Fonseca-Rodrigues, SSO</u> ; Drexler, GG; deAlmeida, CE	P01.86
The Late Consequences and Outcomes of Acute Radiation Syndrome <u>Galstyan, IA</u> ; Nadezhina, NM; Suvorova, LA; Shalyapina, AV; Nugis, VY	P01.87
Radiological Assessments of the Public: The Challenge of Assessing Changes to the Critical Group at Sellafield <u>Leonard, P</u>	P01.88
Save Our Sievert! <u>Mason, GC</u>	P01.89



Comparison of Methods of Estimation of Lifetime Cancer Risk Due to Chronic Exposure to Transuranics <u>McMillan, KL</u> ; Kaye, WR; Kearfott, KJ	P01.90
Risk of Lens Opacification in the Exposed Techa River Population <u>Mikryukova, LD</u> ; Akleev, AV	P01.91
Damaged Lymphocytes and Cancer Risk in Medical Nuclear Workers <u>Milacic, S</u> ; Djokovic, J; Milacic, M; Simic, J; Jovicic, D	P01.92
Radioactive Decay Series in Drinking Water Sources Of Iran <u>Mohammadi, S</u>	P01.93
RBE of Radon: An <i>In Vitro</i> Study Using Chromosomal Aberrations As A Biomarker <u>Mohankumar, MN</u> ; Meenakshi, C	P01.94
Use of Effective Dose for Pu Exposure Regulation Standards <u>Okatenko, PV</u> ; Sokolnikov, ME	P01.95
Assessment Of a Priori Threshold Values For Acute And Chronic External Exposures <u>Osovets, SV</u> ; Azizova, TV; Gergenreider, SN	P01.96
Radiation Injury to the Scalp following Neuro-Intervention- A Case Report <u>Pallewatte, A</u>	P01.97
Targeted And Non-Targeted Responses To Occupational Exposure Of Medical Personnel From Radio Therapy <u>Popescu, I A</u> ; Havarneanu, D; Gradinariu, F; Alexandrescu, I	P01.98
Karyo Pathologic Change of the Thyrocytes in Chernobyl Affected Children <u>Rozhko, A</u> ; Nadyrov, E; Masyakin, VB; Vlasova, NG; Kravtsov, VY	P01.99
Immune Status Of the Occupationally Exposed MAYAK Workers Rybkina, VL; <u>Azizova, TV</u> ; Meineke, V; Teplyakova, OV; Osovets, SV; Bannikova, MV; Abend, M; Shertan, G	P01.100
Radiation Protection Aspects of New Full-Body Rtg Scanners <u>Sabol, J</u> ; Navrátil, L	P01.101
A Study of Space Radiation Effects on Microgravity Bone Resorption <u>Sundaresana, A</u> ; Aghara, SK; Sriprisan, SI; Gibson, T	P01.102
Taking Into Account Radiation Induced Circulatory Diseases At Low Doses: What Impact On The Radiation Protection System? <u>Vaillant, L</u> ; Michelet, M; Schneider, T	P01.103
Effects of Low-Dose Ionizing Radiation Exposure on Chromosomal Damage and Immune Parameters in Interventional Cardiologists <u>Zakeri, F</u> ; Haeri, SA; Rajabpour, MR; Honarjoo, M; Ahmadpour, MJ	P01.104
Health Status Assessment Among The Exposed In Utero Offspring Of MAYAK Nuclear Workers Zhuntova, GV; <u>Azizova, TV</u> ; Rusinova, GG; Rybkina, VL; Sotnik, NV; Belyaeva, ZD; Masharova, EI; Chutchikova, TA; Grigorieva, ES; Adamova, GV; Teplyakova, OI; Karpova, VN	P01.105
The Gender Problem in Radiation Protection <u>Persson, L</u>	P01.106
Radiation Exposure During Video-Urodynamics in Women <u>Phillips, J</u> ; Giarenis, I; Mastoroudes, H; Robinson, D; Lewis, C; Cardozo, L	P01.107

## Poster sessions A-B: Area 2

Type: Poster Session

Topic: Measurements and Dosimetry

Date: Monday 14 and Tuesday 15 May 2012

Time: 16:00 - 17:00 hours

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The Uptake Kinetics Of Ba-133 And Heavy Metals (Co, Cr, Cd And Pb) In The Gibraltar Strait Marine Waters Dehbi, N; El Mrabet, R; Laissaoui, A; El Khoukhi, T; Ramzi, B; <u>Cherkaoui El Moursli, R</u>	P02.131
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Biomedical Evaluation of a Radiological Incident - A Bayesian Approach for Presenting Uncertainty on Biological Dose Estimates <u>Di Giorgio, M</u> ; Vazquez, M; Radl, A; Taja, MR; Bubniak, RV; Deminge, M; Zaretsky, A	P02.134
Biological Dosimetry for Occupational Overexposure: Some changes in Operation Concept Fehringner, F; Sipko, T; Gaysenuk, L; Seitz, G; Johannes, C; <u>Maznyk, N</u>	P02.135
New Concepts for Modelling Pu/Am Decorporation by DTPA Gremy, OG; <u>Fritsch, PF</u>	P02.136
MADORTools For Management Of Internan Contamination By Actinides And DTPA Therapy <u>Fritsch, PE</u> ; Breustedt, BB; Blanchardon, EB; Blanchin, NB; Berard, PB; Hurtgen, CH; Gremy, OG	P02.137



Conceptual Structure of Java-oriented Environment for Modeling Biokinetics of Incorporated Radionuclides and Internal Dose Calculations <u>Granovskaya, E</u> ; Kukhta, B; Kukhta, V	P02.138
Microdosimetric Assessment of the Cellular Responses to Low-Dose Exposure Lee, KM; Kim, SR; <u>Kim, EH</u>	P02.139
Time-dependent Gene Expression Analysis in Human Peripheral Blood Lymphocytes for Biodosimetric Applications after Low and High Dose Gamma-Irradiation Knops, K; Boldt, S; Wolkenhauer, O; <u>Kriehuber, R</u>	P02.140
RENEB – Realizing The European Network In Biological Dosimetry <u>Kulka, U</u> ; Ainsbury, L; Atkinson, M; Barquinero, J; Barrios, L; Beinke, B; Bogner, G; CuCu, A; Darroudi, F; Fattibene, P; Gil, O; Hadjidekova, V; Haghdoost, S; Herranz, R; Jaworska, A; Lindholm, C; Moertl, S; Montoro, A; Moreno, M; Oestreicher, U; Palitti, F; Pantelias, G; Popescu, I; Romm, H; Rothkamm, K; Sabatier, L; Sommer, S; Testa, A; Thierens, H; Trombier, F; Turai, I; Vaz, P; Voisin, P; Vral, A; Woda, C; Wojcik, A	P02.141
Approaches of the Cytogenetical Dose Evaluation of the Irradiation Nonuniformity <u>Nugis, VYu</u> ; Dudochkina, NE; Kozlova, MG	P02.142
Monitoring Of Capillaries In Occupational Exposure As Biological Indicator In Radiation Protection <u>Pennarola, R</u> ; Porzio, G; Pennarola, E; Cavaliere, L; Isgrò, F; Pane, F	P02.143
Nanohybrids composed of quantum dots and enzyme as photocatalysts induced by gamma rays <u>Roh, Changhyun</u>	P02.144
Performance of the automated dicentric and cytokinesis block micronucleus assays in a recent NATO exercise of established biodosimetry methods <u>Romm, H</u> ; Barnard, S; Boulay-Greene, H; Darroudi, F; Herodin, F; Martigne, P; Peinnequin, A; Poyot, T; Valente, M; De Sanctis, S; De Amicis, A; Franco, M; Moquet, J; Kulka, U; Lista, F; Oestreicher, U; Rothkamm, K; Thierens, H; Vandersickel, V; Little, MP; Meineke, V; Beinke, C; Abend, M; Vral, A	P02.145
The Probability of Radiation-induced Damage of Macromolecules with Complex Spatial Structure <u>Selyshchev, P</u>	P02.147
Establishment Of A Dose-Response Curve Of <sup>60</sup> Co Gamma-Ray Irradiation By Dicentric Chromosome Analysis <u>Suto, Y</u> ; Akiyama, M; Hirai, M; Yuki, M; Nakagawa, T; Tominaga, T; Nakayama, F; Suzuki, T; Sugiura, N	P02.148
Validation Method of Biological Dosimetry in an Accreditation Process <u>Voisin, PV</u> ; Gregoire, EG; Roch-Lefevre, SRL; Gruel, GG; Martin, CM; Voisin, PV; Roy, LR	P02.149
ESR dosimetry study of workers from Stepnogorsk uranium processing plant, Kazakhstan <u>Zhumadilov, K</u> ; Kazymbet, P; Ivannikov, A; Bakhtin, M; Zharlyganova, D; Zhumadilov, Z; Hoshi, M	P02.150



## Poster sessions A-B: Area 3

Type:	Poster Session
Topic:	Radiation Protection System Development and Implementation
Date:	Monday 14 and Tuesday 15 May 2012
Time:	16:00 - 17:00 hours
Room:	Hall 4
Research On The Radiological Safety Conditions At Different Hospitals In Nepal.	P03.01
<u>Adhikari, Mr</u> ; Jha, Prof.; Montenegro, Dr.	
Development of the Standard System for Integrated Radiation Management	P03.02
Lee, YJ; <u>Park, BM</u> ; Lee, EJ	
Changing of a Radiological Protection Management System – Impact at the Workface.-	P03.03
<u>Ferguson, DA</u> ; MacLeod, K	
Radiation Protection Management in Malaysia	P03.04
<u>Muhd Sarowi, S</u> ; Idris, HN; Ahmad, A; Abdul Razalim, FA; Kontol, K; Ali, N; Mishar, M	
Managing The Workload And Workflow Of A Radiation Protection Advisor In Medicine	P03.05
<u>Connolly, PA</u> ; Moores, Dr BM	
Safety and Security of Radiation Sources in North Africa and Middle East	P03.06
<u>Gomaa, M</u>	
Radiation Safety Management System At Your Finger Tips With Excel	P03.07
<u>Sowden-Plunkett, L</u>	
U.S Radiation Protection Best Practices	P03.08
Anderson, Ellen; <u>Harris, Willie</u>	
Investigation of Radiation Protection Observation Data at a Nuclear Facility	P03.09
Cournoyer, ME; <u>Cash, LJ</u>	
The New Food and Drug Administration of the Republic of the Philippines and Its Role in Radiation Protection	P03.10
<u>Peralta, AP</u>	
Radon Adsorbed in Activated Charcoal as a Tool for Teaching Radioactivity	P03.11
<u>Al-Azmi, D</u> ; Mustapha, AO	
Measurements of Ambient Gamma Radiation Levels as Practical Teaching for Physics Students	P03.12
<u>Al-Azmi, D</u> ; Karunakara, N; Mustapha, AO	
Training of Radiation Protection Experts – ‘Nuclear Training Centre’ Experience	P03.13
<u>Avadanei, C</u> ; Stanescu, G	
A Novel Swedish Master’s Degree Programme for Applied Radiation Protection	P03.14
Rääf, CL; Isaksson, M; <u>Bernhardsson, C</u>	



Survey of Health Physics Research and Education in the Netherlands <u>Bijwaard, H; Slaper, H; Dekkers, F</u>	P03.15
Bilateral Comparison Of Low Level RP Training And Education Courses – A Tool For Facilitating The Mobility Of RPOS And Radiation Workers <u>Boersma, HF; Vahlbruch, J-W; Dongen, OADM; Haagen, JHP; Greuter, MJW</u>	P03.16
Lessons Learnt from Specific Education and Training in Radiation Protection to the Security Forces and Armed Forces in Argentina. <u>Chahab, M; Cateriano, M; Fernández Moreno, S; López Vietri, J; Menossi, S</u>	P03.17
Comprehensive Radiation Safety Training, a Systems Approach for Human Capacity Development <u>Chavez, G; Fitch, S; Gomez, L; Hasan, A</u>	P03.18
The TRASNUSAFE project: development of training schemes on nuclear safety culture for managers <u>Giot, M; Carlé, B; Coeck, M; Meskens, G; Vermeersch, F; Crouail, P</u>	P03.19
Training schemes for Radiation Protection Expert and Officers, and accompanying tools, developed within the ENETRAP II project <u>Coeck, M; Livolsi, P; Massiot, P; Möbius, S; Schmitt-Hannig, A; Fantuzzi, E; van Elsäcker-Degenaar, H; Marco Arboli, M; Stewart, J; De Regge, P; Vaz, P; Pesnyak, C; Ceclan, M</u>	P03.20
SCK-CEN's Academy for Nuclear Science and Technology: Contributing to Education and Training in Radiation Protection <u>Coeck, M; Hardeman, F; Vermeersch, F; Meskens, G; Van den Berghe, S; Van den Eynde, G; Ceuterick, D</u>	P03.21
Radiation Dose Training- Awareness Among our Doctors Adequate to make Justifiable Referrals to Radiology Department? <u>Shaffaque, S; Dawood, A; Rafaye, A</u>	P03.22
e-IRMER - An e-Learning Package for Radiation Protection Training of Health Staff <u>Evans, S; Denman, AB; Goldstone, K; Eve, J</u>	P03.23
The EUTERP Foundation: Towards a European Approach for Harmonisation in Education and Training for Radiation Protection Professionals <u>Draaisma, FS</u>	P03.24
How To Build A Regulator <u>Edmunds, I</u>	P03.25
Radiation Protection Training Activities <u>Gomaa, MA</u>	P03.26
Comparison of the Lowest Level Radiation Protection Courses in Germany and The Netherlands <u>Greuter, MJW; Haagen, JHP; Van Dongen, OADM; Vahlbruch, JW; Koletzko, G; Schouwenburg, M; Boersma, HF</u>	P03.27
Undergraduate Radiation Protection Training - A Stakeholder Engagement Approach <u>Harris, P; Partington MBE, C; Hallard, R; Englefield, C</u>	P03.28

Radiation Education for High School Students Using Potassium Radiation Sources <u>Kawano, TK</u>	P03.29
A Bottom Up Experience: The French Qualified Experts Regional Networks <u>Lefaire, C</u> ; <u>Balduyck, S</u> ; <u>Barbey, P</u> ; <u>Barret, C</u> ; <u>Barrey, N</u> ; <u>Benque, B</u> ; <u>Figueira, M</u> ; <u>Mozziconacci, JG</u> ; <u>Seguin, B</u> ; <u>Tourneux, C</u>	P03.30
Informatization and Integration of Radiological Protection Optimization Programs <u>Levy, DS</u> ; <u>Sordi, GMAA</u>	P03.31
The European Master's Degree in Radiation Protection (EMRP): The French Implementation <u>Livolsi, P</u> ; <u>Balosso, J</u> ; <u>Ammerich, M</u> ; <u>Vidal, JP</u> ; <u>Multon, E</u> ; <u>Visseaux, H</u>	P03.32
Guidance To Radioactive Contamination Measurements In Health And Research Installation <u>Macias, MT</u> ; <u>Usara, F</u>	P03.33
A New Approach on Regional Training Courses to Avoid Denial Cases of Shipments <u>Mallaupoma, MC</u>	P03.34
Social Networking and Radiation Protection <u>Medina Gironzini, E</u>	P03.35
Education and Training of the Medical Staff on Radiation Protection <u>Milu, C</u>	P03.36
RPO Competency Model for Enhancement of Radiation Protection in Malaysia <u>Mishar, M</u>	P03.37
Certificate of Professional Development in Radiation Protection <u>McKechnie, B</u> ; <u>Moseley, T</u> ; <u>Heaton, B</u>	P03.38
Training on Radioisotopes Techniques and Radioprotection Aspects at the School of Pharmacy and Biochemistry (UBA, Argentina). <u>Martin, G</u> ; <u>Zubillaga, M</u> ; <u>Cremaschi, G</u> ; <u>Cricco, G</u> ; <u>Cocca, M</u> ; <u>Goldman, C</u> ; <u>Salgueiro, J</u> ; <u>Medina, VA</u> ; <u>Klecha, A</u> ; <u>Bianchin, AM</u> ; <u>Mohamad, N</u> ; <u>Nuñez, M</u> ; <u>Leonardi, N</u> ; <u>Massari, N</u> ; <u>Martinel Lamas, D</u> ; <u>Gutierrez, A</u> ; <u>Ventura, C</u> ; <u>Rivera, ES</u>	P03.39
Optimisation of Radiation Protection (ALARA): A Practical Guidebook <u>Economides, S</u> ; <u>Gemmill, J</u> ; <u>Hardeman, F</u> ; <u>Lorenz, B</u> ; <u>Nuccetelli, C</u> ; <u>Risica, S</u> ; <u>Schieber, C</u> ; <u>Schmitt-Hannig, A</u> ; <u>Vermeersch, F</u> ; <u>Wright, A</u>	P03.40
Karlsruhe Chart Of Nuclides - Edition 2012 <u>Sóti, Z</u> ; <u>Magill, J</u> ; <u>Dreher, R</u> ; <u>Pfennig, G</u>	P03.41
Developing Curricula for Radiation Protection Officers <u>Stange, KL</u>	P03.42
Structured Intercomparison of Clinical Medical Physicists' Education and Training Frameworks in European, North American and Australasian countries <u>Stefanoyiannis, AP</u> ; <u>Christofides, S</u> ; <u>Psichis, K</u> ; <u>Geoghegan, DS</u> ; <u>Gerogiannis, I</u> ; <u>Round, WH</u> ; <u>Geronikola-Trapali, X</u> ; <u>Armeniakos, I</u> ; <u>Kaplanis, PA</u> ; <u>Prentakis, A</u> ; <u>Chatziioannou, SN</u>	P03.43



Enetrapp II: WP5 Develop And Apply Mechanisms For The Evaluation Of Training Events <u>van Elsäcker-Degenaar, IH</u> ; Draaisma, FS; Suttmuller, M; Stewart, J; Livolsi, P; Fantuzzi, E; Mobius, S; de Regge, PP; Vaz, JP; Ceclan, M	P03.44
Training and Education in Radiation Protection at the Nuclear Research and Consultancy Group (NRG), Petten, the Netherlands <u>van Elsäcker-Degenaar, IH</u> ; Ruitter, PGR; Buurveld, HA	P03.45
Enetrapp II: WP5 Develop And Apply Mechanisms For The Evaluation Of Training Material <u>van Elsäcker-Degenaar, IH</u> ; Draaisma, FS; Suttmuller, M; Livolsi, P; Fantuzzi, E; Mobius, S; de Regge, PP; Ceclan, M; Stewart, J	P03.46
"Radiophilia": A Tragic Phenomenon in Diagnostic radiology. <u>Abdollahi, H</u> ; Teymuri, M	P03.47
Problems With the Pregnancy Question <u>Arcott, TC</u> ; Lewis, CA	P03.48
Actions And Impact Of The laea Technical Activities In The Field Of Occupational Radiation Protection In Latin America, Europe, Asia And Africa. <u>Cruz Suarez, R</u> ; Ma, J; Puthanveedu, HP; Czarwinski, R	P03.49
Towards Developing a Radiation Protection Culture in Diagnostic Radiology Practice in Nigeria <u>Egbe, NO</u> ; Ekpo, EU; Eduwem, DU; Inyang, SO; Azogor, WE	P03.50
Inter-knowledge an Innovative Environment for Teaching and Training in Radiation Protection using ENEA ICT: CRI & IES Internship Experience <u>Fontana, C</u> ; Fontana, F; Cosimi, E; Dawodu, A; Roccaldo, AR	P03.51
Radiological Rollback Of Controlled Areas At Sellafield Site– A Step Change In Contamination Control Culture <u>Humphries, JK</u>	P03.52
Radioprotection Culture at Nuclear Fuel Plant Pitesti Romania <u>Ivana, T</u> ; Epure, G	P03.53
Radiological Protection of Patients <i>as part of Safety of Patients</i> : A Healthcare Approach to Safety Culture <u>Larcher, A</u> ; Jimenez, P; Montserrat-Capella, D; Perez, MR	P03.54
Radiation Protection Culture: The Case of Serbia <u>Popovic, D</u>	P03.55
Safety Culture - Reflections from the Nordic Nuclear Industry <u>Reiman, T</u> ; Rollenhagen, C; Kahlbom, U; Pietikäinen, E	P03.56
Radiation Protection Culture in Context <u>Rycraft, HS</u> ; Coates, R	P03.57
Evaluating Radiation Protection Programs Using the Ten Principles of Radiation Protection <u>Strom, DJ</u>	P03.58

## Poster sessions A-B: Area 4

Type:	Poster Session
Topic:	Stakeholder Engagement and Involvement
Date:	Monday 14 and Tuesday 15 May 2012
Time:	16:00 - 17:00 hours
Room:	Hall 4
Stakeholder Engagement – Regulators And The RP Profession Build A Consensus On Competence Of Radioactive Waste Advisers <u>Englefield, C</u> ; Wright, A; Stackhouse, A; Peake, L	P04.01
Stakeholder Engagement: Challenges and Pitfalls <u>Hamrick, BL</u>	P04.02
The Codirpa: A Pluralistic and Multidisciplinary Approach to Post- Accidental Management Facing in New Questions Raised by the Fukushima Accident <u>Gallay, F</u> ; Caamano, D; Mehl-Auget, I; Godet, JL	P04.03
Implementation of a “Citizens’ Workshop” on Domestic Radon <u>Charron, SC</u>	P04.04
Habits Surveys; an Opportunity to Engage with the Public in the Vicinity of Nuclear Licensed Sites in the UK <u>Clyne, F</u> ; Dale, P; Dewar, A; Garrod, C; Kennedy, P; Leonard, K; Pemberton, R; Stephen, P	P04.05
Stakeholder Involvement In The Improvement Of Radiation Protection Regulations <u>Thomas, GO</u> ; Wellens, RS; El-Sabbahy, H	P04.06
Engagement of Stakeholders to Consider Increasing Alignment of the USNRC Radiation Protection Framework with International Recommendations <u>Cool, DA</u> ; Morgan-Butler, K; Sahle, S	P04.07
Public Perception of a Low Level Radioactive Waste Facility Proposal : A Case Study during a Planning Application <u>Denman, AR</u>	P04.08
Ionizing Radiation: Interfacing Science and the Courts <u>Cash, L</u> ; Bredeweg, T; Blackwell, C; Sauer, N; Chavez, EL	P04.09
Social Responsibility within an Irradiation Facility: A Brief Account of an Implementation Process Experience <u>Docters, A</u> ; Lucuix, MB	P04.10
Stakeholder Engagement in UK Emergency Preparedness and Response <u>Croft, JR</u> ; Bandle, T	P04.11
2010 Helsinki Regional IRPA Meeting Results, Stakeholder Engagement Experience <u>Koskelainen, MO</u>	P04.12
The Nuclear Regulatory Authority’s experience in stakeholder engagement <u>Cesario, PA</u>	P04.13
Stakeholder Engagement Through Web Operations <u>Dickson, H</u> ; Classic, K; Roessler, G; Wahl, L	P04.14



Assessment of the Monetary Value of Man-Sv for Korean NPP Radiation Workers Kim, SI; <u>Lee, BI</u> ; Suh, DH; Lim, YK; Jeong, MS	P04.15
An Approach to Stakeholders Involvement in the Preparedness for Nuclear and Radiological Emergency Response & Recovery in Spain <u>Montero, M</u> ; Gallego, E	P04.16
Reaching Out with "Ask the Experts" <u>Wahl, L</u> ; Roessler, G; Classic, K; Dickson, H	P04.17
Radiation Risk Perception for the Co-Medical Students <u>Yokoyama, S</u> ; Kodaira, N	P04.18
The Importance of Effective Communication with the Public and the Media on Issues of Radiological Protection <u>Walker, SG</u>	P04.19
Methodology for Comprehensive Monitoring of the Environment and Public Health as an Important Evidence of Safe Nuclear Engineering Development Kotenko, KV; <u>Shandala, NK</u> ; Romanov, VV; Novikova, NY; Titov, AV; Lyahinskaya, AM; Tukov, AR	P04.20
Transmission and Dissemination of Radiation Protection Culture to Young Generations <u>Réaud, C</u> ; Charron, S; Schneider, T; Bernaud, JY; Livolsi, P; Delattre, A; Monti, P; Schneider, C; Le Clerc, A; Rochereau, S; Ayrault, D; Lerou, F	P04.21
Comparing Risks for Communication <u>Peralta, AP</u> ; Ng, KH	P04.22
Public Training on Radiation: Changing Perceptions <u>Lynn, HS</u> ; Frame, P	P04.23
Effective Procedures and Measures for Public Understandings on Peaceful Usage of Radiation and Atomic Energy <u>limoto, T</u> ; Saitoh, A; Suzuki, A; Makabe, K; Mitsui, R; Yokote, M	P04.24
Studies on Risk Perception Involving Radioactive Waste Tanimoto, KS; Rodrigues Jr, O; <u>Hiromoto, G</u>	P04.25
Presenting Radiological Risks to the Public, Schools and Visitors: The Experience at the Joint Research Centre in Ispra <u>Giuffrida, D</u> ; Osimani, C	P04.26
Information to the Public: Viewpoints on an Index of Environmental Radioactivity <u>Fournier, M</u> ; Clipet, N; Jaunet, P	P04.27
Public Demand for environmental Transparency: Challenges of presenting Data of the Radiological Survey of the Environment to the Public <u>Clipet, N</u> ; Fournier, M; Jaunet, P; Levelut, MN	P04.28
Don't Say Don't: The Importance of Being Positive When Communicating with the Public <u>Cehn, JI</u>	P04.29
Radiation Risk Scale – A Tool for Communication <u>Ansari, A</u>	P04.30

## Poster sessions A-B: Area 5

Type: Poster Session

Topic: Non-Ionising Radiation

Date: Monday 14 and Tuesday 15 May 2012

Time: 16:00 - 17:00 hours

Room: Hall 4

Medical Survey after 50 Hz Electric or Magnetic Field Exposure <u>Lambozo, J</u> ; Souques, M	P05.01
Assessment of Public Exposure to 50 Hz Electric and Magnetic Fields of Power Lines in Iran <u>Farvadin, D</u> ; Nasehnia, F; Zamani, M; Rahimian Mohammadi, E; Ghaffar Nezhad, F	P05.02
Gene Expression Profiling of Human HaCaT Keratinocytes Exposed to ELF-EMF Revealing Inhibition of Cell Cycle Progress <u>Huang, CY</u> ; Chuang, CY; Hsu, IC	P05.03
Assessment of Public Exposure to Radiofrequency Radiation Near Mobile Phone Base Stations in Iran <u>Farvadin, D</u> ; Nasehnia, F; Zamani, M; Rahimian Mohammadi, E; Ghaffar Nezhad, F	P05.04
Assessment of Public Exposure to Ultraviolet Radiation Emitted by Compact Fluorescent Lamps in Iran <u>Farvadin, D</u> ; Zamani, M; Nasehnia, F	P05.05
Does Elastography Enable Accurate Differentiation Of Malignant And Benign Breast Lesions Compared To Conventional Ultrasound? <u>Sheikh, SS</u> ; Dawood, A; Anwar, N; Mian, M	P05.07
Isothermal Exoemission of CsBr: Efficiency for UV-Skin-Dosimetry Galiy, PV; <u>Tuziak, OY</u> ; Tsvetkova, OV	P05.08
Measurement of RF Power Emitted by 3g Mobile Telephones During "voice over ip" (voip) Communications <u>Jovanovic, D</u> ; Chauvin, S; Bragard, G; Picard, D; Desreumaux, JP	P05.09
The Electromagnetic Field of Modern Communication as a Factor in the Environment: Hygiene and Radiobiological Effects <u>Grigoriev, OA</u> ; Grigoriev, YG	P05.10
The Analysis of Effects of Low Intensity Radio Frequency Radiation by Changes in Functional Activity of Hydrobionts <u>Igolkina, JV</u> ; Baranova, MM; Sarapultseva, HI; Uskalova, DV; Paukova, OA	P05.12
Evaluation of Effect of Magnetic Field on Heterotrophic Bacteria in Water <u>Khoshniyat</u> ; Samarghandi; Rahmani; Saeidi; Roshanai,	P05.13
The Effects Of Electromagnetic Pulse On Chemotaxis Of Murine Lymphocytes* <u>Liu, JY</u> ; Zhang, HW; Guo, GZ	P05.14
Experimental Research of the Reaction of the Central Nervous System on Combined Action of Physical Factors Non-Ionizing Radiation of Low Intensity <u>Lomonosova, EE</u> ; Lukyanova, SN; Alekseeva, VA; Grigoriev, OA	P05.15



The National Register of RF Workers: A long-term, follow-up study <u>Litchfield, JJ</u> ; Sorahan, T	P05.17
The Effects of Electromagnetic Fields of Mobile Phones on Children - the Viewpoint of the Russian Committee on Non-ionizing Radiation Protection <u>Grigoriev, OA</u> ; Grigoriev, YG	P05.18
Postgraduate Education on Hygiene of Non-ionizing Radiation: Program and Organization for Teaching Process Grigoriev, O; Bushmanov, A; <u>Merkulov, A</u> ; Alekseeva, V	P05.19
Optical Radiation Risk Assessment And Management Gentile, L; <u>Sartor, W</u>	P05.20
Assessment of EMF Exposure with a Personal Monitor <u>Campos, MCA</u>	P05.21
Non-ionizing Radiation Measurements in Kenya <u>Chumba, JK</u> ; Kinyanjui, N	P05.22
Measurements of Electromagnetic Fields Near Cellular Base Stations (BTS) for Radiation Protection Purposes <u>Shadrack, AK</u>	P05.23
Non Ionizing Radiation Protection Infrastructure and achievements of Regulatory Authority in Iran <u>Kardan, MR</u> ; Babakhani, A; Farvadin, D	P05.24
Methodology of the Tests on Efficiency of the Means for Biological Protection against Non-Ionizing Radiation (by the Example of EMF and Infrasonic) <u>Merkulov, A</u> ; Grigoriev, O; Dragan, S; Kezik, V	P05.25
A Material Carbonization as a Mechanism for Protection from Direct High-power Laser Beam Muric, B; <u>Pantelic, D</u> ; Vasiljevic, D	P05.26
Selecting Medical Laser Diodes Radiation Eye Protectors Gentile, L; <u>Sartor, W</u> ; Baratti, A	P05.27
Chronic Lymphocytic Leukemia and Non-Ionizing Radiation-Case Report Djokovic, J; <u>Milacic, S</u>	P05.28
Radio Frequency Fields in Our Surroundings – Measurements in the Frequency range of 80 MHz-3 GHz. Are Measurements Sufficient to Meet Peoples Concern? <u>Sjømoen, TM</u> ; Klæboe, L; Lervik, H; Heimdal, PE; Hannevik, M	P05.29
Can Earth's ULF Magnetic Micropulsations Induce Brain's Spurious Activities - Preliminary Study - ? <u>Souza de Assis, A</u>	P05.30



## Poster sessions A-B: Area 6

Type: Poster Session  
 Topic: Planned Exposure Situations: Industry and Research  
 Date: Monday 14 and Tuesday 15 May 2012  
 Time: 16:00 - 17:00 hours  
 Room: Hall 4

New PWR Shutdown Technology at DC Cook 1,2 Achieves Outage Dose Performance Improvement in 4 Outages from WANO 4th Quartile to Top Decile  
Miller, DW P06.01

ALARA Achievement:Fourth Quartile to Top Decile in Six Years at Cook Nuclear Plant  
Miller, DWM P06.02

Temporal Evaluation of the Natural Uranium Released by an Uranium Mine  
de Souza Pereira, W; Kelecom, A P06.03

A Model to Measure the Dosimetric Risks: An Application to the Operators of Gammagraphic Inspections  
Francois, P; Jahan, S; Cordier, G; Leonard, JG P06.04

Regulatory Framework and Technology Development for Advanced Fuel Cycle Facility in Korea  
Jeong, SY; Lee, JJ; Choo, YH P06.05

Health Assessment of Nuclear Workers from Areva NC – La Hague: Preliminary Results  
 Baysson, H; Michel, Y; Caer-Lohro, S; Acker, A; Auriol, B; Laurier, D; Samson, E P06.06

Information System on Occupational Exposure and ISOE Database  
Abela, G; Schieber, C; Miller, D; Hayashida, Y; Ma, J; Okyar, HB P06.08

High Dose Tasks Robotization. Application to Water Filter Change  
Delalande, V; Castro, D; Jahan, S P06.10

A Portable Gamma Imaging System dedicated to the Detection and the Direct Visualization of Hot Spots (mainly 60Co) in Nuclear Power Plants  
 Gaillard-Lecanu, E; Hameau, D; Onillon, H; Jahan, S; Carrel, F; Schoepff, V; Gmar, M; Maurer, JE; Mahé, C; Vénara, J; Lestang, M; Arnette, A; Courageot, E P06.11

UK Arrangments for Radiation Protection  
Lloyd, C P06.12

Suggestions on the Improvement of Regulatory Activities on Nuclear Equipment in China  
Lu, G P06.13

Estimation of Environmental Release of NPP Based on Containment Measurements  
 Szanto, P; Deme, S; Lang, E; Nemeth, I; Pazmandi, T P06.14

Radiological Protection During a PWR Refuelling Outage  
Proctor, L; Tutt, M; Lunn, M; Blaauw, L P06.15

ALARA Design Concept of SMART Reactor for Standard Design Approval  
Kim, KY; Kim, HY; Song, JH P06.16



Dispersion Modelling of Routine Atmospheric Discharges from Proposed UK New Nuclear Build Site Locations <u>McGinnity, P</u> ; McGrath, R	P06.17
Prospects for Nuclear Energy in Kenya under Vision 2030 <u>Shadrack, AK</u>	P06.18
Permitting of New Nuclear Power Stations: The Environment Agency's Role at Hinkley Point C Payne, B; MacDonald, E; Roberts, G; Streatfield, I; <u>McGoff, A</u>	P06.19
NEA Workshop on Good Practice in Effluent Management for New Build <u>Sutherland, A</u> ; Lazo, T	P06.20
Radioanalytical Determination of Fe-55 and Ni-63 in Environmental Samples Abelairas, A; Idoeta, R; Herranz, M; <u>Legarda, E</u> ; Rodriguez, MT	P06.21
Remediation of a Radium-Contaminated Facility with High Radon Levels Barnes, JV; <u>Major, RO</u>	P06.22
Entombment - Still an Option and Potential Implications <u>Batandjieva, B</u> ; Metcalf, P; Szilagyi, A	P06.23
Decommissioning in the Non-Nuclear Sector. <u>Fahey, PP</u>	P06.24
Clearobot, An Automated Robot Performing Final Radiological Surveys In Radiological Facilities <u>GIUFFRIDA, D</u> ; OSIMANI, C	P05.25
Characterisation of Worker Dose Uptake during the Decommissioning of the Magnox Power Station at Bradwell <u>Goldsmith, J</u> ; Love, B; Keenan, N	P05.26
Regulatory Challenges Of Decommissioning In The UK <u>Griffiths, JS</u> ; Bacon, M	P06.27
Data Collection on Occupation Exposure at Nuclear Power Plants under Decommissioning - Challenges for the Information System on Occupational Exposure <u>Kaulard, J</u> ; Okyar, HB; Strub, E	P06.28
The Requirement For Proper Storage Of Nuclear And Related Decommissioning Samples To Safeguard Accuracy Of Tritium Data <u>Kim, DJ</u> ; Warwick, PE; Croudace, IW	P06.29
Challenges For The RP Team During The Transition-Phase From Operation To Dismantling And "Green Field" Restoration. <u>Lindvall, CG</u> ; Welander, C	P06.30
The Role And Conclusions Of The Health Protection Agency (HPA) Regarding The Partial Delicensing Of The Oldbury Power Station Nuclear Licensed Site. <u>McClure, JC</u>	P06.32
Decontamination and Decommissioning of UK Pharmaceutical R&D sites: a Radiological Protection Perspective <u>Muir, AS</u> ; Hart, V; Hardcastle, G	P06.33
Application Of ISOCS In The Measurement Of Bulk Plutonium Contaminated Waste During Decommissioning. <u>Pearman, I</u>	P06.34

Radiological Protection Arrangements for Decommissioning the complex Nuclear Site at Dounreay <u>Thompson, P</u> ; McLean, L; Watkin, T; White, S	P06.35
Radiological Control Programme During Decommissioning Projects At Necsa <u>Vrey, SJ</u>	P06.36
Airfired Suits in Nuclear Decommissioning - Safe Working Practices Webb, DA; Millard, CE; Vaughan, NP; <u>Simister, D</u>	P06.37

## Poster sessions A-B: Area 7

Type:	Poster Session
Topic:	Planned Exposure Situations: Medical
Date:	Monday 14 and Tuesday 15 May 2012
Time:	16:00 - 17:00 hours
Room:	Hall 4
Experience Feedback from Events Notified in Interventional Radiology : A Necessary Improvement of Radiation Protection of Patients and Staff <u>Rousse, C</u> ; Godet, JL	P07.01
Cardiovascular Dosimetry Following Radiotherapy Treatment using Hybrid Computational Phantoms <u>Moignier, A</u> ; Derreumaux, S; Broggio, D; Chea, M; Boisserie, G	P07.02
A Comparison of CT Imaging Protocols for Diagnostic vs Radiotherapy Applications <u>Khan, S</u> ; Hosseini-Ashrafi, M; Ioannou, L; Royle, G	P07.03
Design of Radiation Safety System for Shanghai Proton and Heavy Ion Radiotherapy Facility <u>Xia, X</u> ; Xu, J; Wang, G; Xu, X; Lv, J; Wang, J	P07.04
Safety Analyses of Over-dose Exposure Accident in Radiological Therapy by FMECA Technique: use of Fuzzy Logic Techniques Castiglia, F; Giardina, M; <u>Tomarchio, E</u>	P07.05
Evaluation Of Radiation Safety Reports For Brachytherapy Equipments In Korea Keum, MH; <u>Park, SH</u> ; Ahn, SD; Cho, WK	P07.06
Verification of Dose Calculation Accuracy on MV Cone Beam CT Images using HU-density Conversion Method <u>Kim, MJ</u> ; Lee, KN; Suh, TS	P07.07
Comparison Study of the Partial Breast Irradiation Techniques; Dosimetric Analysis Depending on Various Tumor Locations in Patient's Breast <u>Kim, MJ</u> ; Park, SH; Suh, TS; Choi, BO	P07.08
Monte Carlo Methods and Accuracy of Treatment Planning Systems in Radiotherapy <u>Caccia, B</u> ; Andenna, C; Occhigrossi, A	P07.09
Evaluation of Polyethylene Phantoms Filled with Water in Peripheral Dosimetry in Radiotherapy Soboll, DS; <u>Schelin, HR</u>	P07.10
Monte Carlo Simulation of Out-of-Field Dose Distribution in Carbon-ion Radiotherapy with Passive Beam <u>Yonai, S</u> ; Matsufuji, N; Namba, M	P07.11



Radiotherapy Bunker Design: Realistic Orientation Factors and Duty Cycles Based on Machine Usage Data <u>Jones, M</u> ; Stanford, C; Smith, S; Hardy, M	P07.12
Lessons Learned From Significant Events In Radiotherapy <u>Rousse, C</u> ; Cillard, P; Isambert, A; Godet, JL	P07.13
Radiotherapy Safety and Quality Management System <u>Franchi, V</u> ; Rousse, C; Godet, JL	P07.14
Development of a New X-ray Source System using Ultraviolet Laser for Medical Treatment <u>Minami, K</u> ; Ishida, T; Kobayashi, H; Mimura, H; Shimo, M; Suzuki, S	P07.15
FMEA in Developing a QM Program in Protontherapy <u>Cantone, MC</u> ; Ciocca, M; Fossati, P; Krenqli, M; Lorentini, S; Molinelli, S; Schwarz, M; Veronese, I; Vitolo, V; Orecchia, R	P07.16
Upgrading QA/QC Programme in Radiation Therapy in Croatia: Results of the IAEA CRO 6008 Project <u>Jurkoviæ, S</u> ; <u>Švabiæ, M</u> ; <u>Dikliæ, A</u> ; <u>Smiloviæ Radojeiæ, Ð</u> ; <u>Kasabašiæ, M</u> ; <u>Ivkoviæ, A</u> ; Faj, D	P07.17
Application Of ALARA Principle In Minimizing The Exposure Of Operator Of Radiotherapy Co-60 Units <u>Sabol, J</u> ; Hudzietzová, J; Navrátil, L.	P07.18
Comparison of Peripheral Doses in Head and Neck Cancer: Tomotherapy versus Rapid Arc Duchateau, M; D'Agostino, E; Defraene, G; <u>Cauwels, V</u>	P07.19
Evaluation the Effect of Treatment Unit on Results of Treatment Planning Systems in External Beam Radiotherapy Golrokh Nodehi, MR; Asnaashari, K; <u>Khosravi, HR</u> ; <u>Khosravi, HR</u> ; Mahdavi, SR; Shirazi, A; Gholami, S	P07.20
MOSFET Dosimetry for Evaluation of Gonad Shielding during Radiotherapy. <u>Kim, HY</u> ; Choi, YS; Park, SY; Park, YK; Ye, SJ	P07.21
The Influence of Spatial Fractionation in Beam Delivery on Responses of Normal Brain, Brain Tumor and Vascular Endothelial Cells Lee, MH; Lee, KM; <u>Kim, EH</u>	P07.22
Evaluation of Polyethylene Phantoms Filled with Water in Peripheral Dosimetry in Radiotherapy <u>Soboll, DS</u> ; <u>Schelin, HR</u>	P07.23
Radiation Safety Practice in BPKM Cancer Hospital, Nepal <u>Chand, Surendra Bahadur</u> ; Chaurasia, PP; Adhikary, MP	P07.24
Study on Radation Protection and Dose Distribution of $\gamma$ Knife Stereotactic Radio Therapy System <u>Zhang, W</u> ; Yu, X; Yang, K	P07.25
Traceability of Proton Therapy Beam Obtained from TESLA Accelerator Installation <u>Spasic Jokic, VSJ</u>	P07.26
Haemodialysis and Sequential I131 Ablation Therapy for Metastatic Follicular Ca: A Radiation Protection Perspective <u>Huften, JS</u> ; Carroll, MJ; Jones, GO	P07.27
Delivered Dose From Photoneutrons In A Head Phantom During Therapeutic Radiation <u>Juste, B</u> ; Miro, R; Verdu, G; Abella, V; Diez, S; Campayo, JM	P07.28

Radiation Dosimetry In The New PET/CT Facility In Morocco <u>Cherkaoui El Moursli, RC</u> ; El kharrim, AE; Talsmat, KT; Toufique, Y; Verra, P	P07.29
Radiation Risk to Patients from Nuclear Medicine Procedures in Camagüey and Ciego De Ávila Provinces (Cuba) During the Period 2000 - 2005. <u>Brígido, O</u> ; Barreras, A; Montalván, A; Prieto, F; Hernández, J	P07.30
Radiation Protection Issues Associated With The Administration of I131 Therapy to a Critically Ill Patient on an Intensive Therapy Ward <u>McCallum, SJ</u>	P07.31
Radiation Dose to Patients from 18F-FDG PET/CT Examinations and Discussion on Dose Reduction Strategies <u>Gunalp, B</u>	P07.32
Radiation Protection Organisation in the General Electric FDG- Radiopharmaceutical Facility at the Joint Research Centre in Ispra <u>Giuffrida, D</u> ; Osimani, C	P07.33
Radiation Protection in a PET/CT Installation. The Design Change to Optimize Radiation Protection. <u>Antonescu, E</u> ; Coroianu, AID; Tudose, A	P07.34
Physiologically Based Pharmacokinetics Model for Dose Estimations of 18F-FDG Examinations <u>Akahane, K</u> ; Shimada, Y	P07.35
Radiation Protection Procedures For Y-90 Microspheres Therapeutic <u>Reis, T</u> ; Carvalho, A; Figueira, R; Batel, VP; Oliveira, A; Oliveira, P; Pereira, J	P07.36
Whole Body Clearance Rate Determinations for Post-surgical DTC I-131 Treatment Patients <u>Lai, YC</u> ; Chen, YW; Chang, CC	P07.37
Measurement Of Neutron Fluxes In A Medical Compact Cyclotron Room With Boron-Containing Water Self-Shielding <u>Fujibuchi, T</u> ; Horitsugi, G; Yamaguchi, I; Eto, A; Iwamoto, Y; Obara, S; Watanabe, H; Hatazawa, J	P07.38
Improving Radioprotection in a Cyclotron & PET Center Savio, E; <u>Terán, M</u> ; Balter, H; Paolino, A; Lago, G; Oliver, P; Engler, H	P07.39
Design and Setting Up of the Unit of Molecular Imaging of Large Animals at the National Centre for Cardiovascular Research. <u>Escudero, R</u> ; Moreno, J; Delgado, R; López, G	P07.40
Shielding Studies for Radioactive Isotopes Used in Nuclear Medicine <u>Mora-Zeledon, J</u> ; Contreras-Gonzales, JL; Pazy, V; Gutierrez-Varela, J; Martinez-Gomez, LC	P07.41
A Measuring tool for Protective Environment and Behavior Against Radiation Hazard from PET-CT Cho, D; Jung, J; <u>Han, E</u>	P07.42
Effect of Patient Morphology in Paediatric Nuclear Medicine Dosimetry Based on 3d Whole-Body CT Images <u>Desbrée, A</u> ; Gardumi, A; Pierrat, N	P07.43



Radiation Shielding in a PET/CT Department: Use of Optimisation Techniques <u>Gallacher, D J</u> ; Woods, E; MacKewn, J	P07.44
Evaluations of Occupational Exposure During Bone Scan Procedure Hamza, Y; <u>Osman, H</u> ; Sulieman, A; Boshara, N	P07.45
Evaluation of Radioactivity Decontamination from Different Materials for Surfaces of a Generally Purpose Radioisotope Laboratory. Borré, C; Tesán, F; Leonardi, N; Rivera, E; Zubillaga, M; Salgueiro, MJ; <u>Martin, G</u>	P07.46
Determination of Optimization Means of the Radiological Protection in Cyclotron and Nuclear Medicine <u>Guimarães, MICC</u> ; Adissy, PF; Videira, HS; Buchpiguel, CA	P07.47
In-patients Receiving 90Y-Dototoc / Dotatate Therapy: Dose Rate Analysis & Radiation Protection Advice <u>Jones, GO</u> ; Hufton, IS; Carroll, MJ	P07.48
Radiation Safety in Nuclear Cardiology: Current Knowledge and Practice - Results from the 2011 ASNC Member Survey <u>Einstein, AJ</u> ; Tilkemeier, P; Fazel, R; Reames, P; Rakotoarivelo, H; Shaw, LJ	P07.49
Improving Safety in Radiation Therapy <u>Gilley, DB</u> ; Holmberg, O; Czarwinski, R	P07.50
Sensitivity Analysis of Influence Parameter on Radiological Risk for LINAC facility <u>Yu, HJ</u> ; Jang, HK; Kim, TW; Lee, JK	P07.51

## Poster sessions A-B: Area 8

Type: Poster Session

Topic: Waste Management

Date: Monday 14 and Tuesday 15 May 2012

Time: 16:00 - 17:00 hours

Room: Hall 4

Towards Harmonization: Implementing the WENRA Safety Reference Levels for Storage  
Berger, JP; Lorenz, B; McGinnes, D

P08.01

INSC Assistance on Improvement of Safety of Waste Management and Decommissioning Worldwide  
Batandjieva, Ms B; Farrar, B., Mr.

P08.02

Calibration Validation by Montecarlo Simulations of a Total Gamma Counting Tunnel for Clearance Purposes  
Nalin, T; Porta, A; Ravazzani, A; Osimani, C

P08.03

Clearance at JRC-Ispra  
Nalin, T; Requejo, C; Ravazzani, A; Osimani, C

P08.04

The Delicensing of Nuclear Licensed Sites in the United Kingdom  
Stephen, PMS; Johnson, S; McCready-Shea, S; Nattress, E

P08.05

Exemption and Clearance: Progress made in the Argentine Regulatory System  
Bossio, M C; Muñoz, CC

P08.06

Oak Ridge National Laboratory's "Authorized Limits" Process for Unrestricted Release of Exempt-Level Radioactive Materials <u>Schwahn, SO</u> ; Stephens, GM	P08.07
Validating A Clearance Approach For NPP Containerized Materials And Big Items <u>Garcia-Bermejo Fernandez, R</u> ; Anaya Lazaro, M; Orive Moreno, R; De Diego Compadre, JL; De Diego Compadre, JL	P08.08
Radiological Characterisation and Elimination of Waste from the CERN Accelerator Complex <u>Froeschl, R</u> ; Ulrici, L; Walter, N; Saraiva, JP	P08.09
Estimation of Ratios Among Corrosion Products in the Reactor Coolant of a PHWR and its Inference for Spent Resins <u>Alvarez, DE</u> ; Bossio, MC; Medici, MA; Muñiz, CC	P08.10
Activities Of The Radiological Protection Technical Unit In Relation To Radioactive Waste Management <u>Ortiz, T</u> ; Alcaide, E; Garcia, JA; Orta, MC	P08.11
The Environmental Radiological Surveillance Programme of the El Cabril Low and Intermediate Level Radioactive Waste Disposal Facility Fuentes, L; Pinilla, JL; <u>Ortiz, T</u>	P08.12
Application Research of Decontamination Process of Primary Coolant Pump in Nuclear Power Plant <u>WU, Q</u>	P08.13
Study on Minimization of Radioactive Wastes in the Mo 99 Production Vicente, R; Rego, ME; <u>Hiro moto, G</u>	P08.14
Surveillance of Radioactive Discharges from the Centre of Isotopes of Cuba <u>Amador, ZH</u> ; Pérez, S; Rivero, AT; Oropesa, P	P08.15
Analysis of Air Discharges from a PET Radiopharmaceuticals Production Center Based on a Cyclotron <u>Tomarchio, E</u>	P08.16
Transfer of Tc-99 from soils to Rice and Upland Crops <u>Choi, YH</u> ; Lim, KM; Jun, I; Keum, DK; Kim, IG	P08.17
Seaweed Transfer into Foodstuffs <u>Toner, M</u> ; Dale, P	P08.18
Standardised Reporting of Radioactive Discharges from AWE Sites. A View from a Nuclear Site with Multiple Discharge Outlets <u>Cockerill, RJ</u> ; Dolan, MJ; Place, AH	P08.19
Comparison of Sampling and Analysis Procedures for NORM in Produced Water Discharged from Oil Platforms North Sea <u>Nilsen, M</u> ; Russ, R; Robinson, CA; Saleh, S	P08.20
Radiological Assessments of the Public: the Challenge of Assessing Changes to the 'Critical Group' at Sellafield <u>Leonard, P</u>	P08.21
Methodology for Comprehensive Monitoring of the Environment and Public Health as an Important Evidence of Safe Nuclear Engineering Development Kotenko, KV; <u>Shandala, NK</u> ; Romanov, VV; Novikova, NYa; Titov, AV	P08.22



Assessing the Health and Environmental Impact of the Naval Nuclear Propulsion Programme <u>Scarlett, Aaron</u>	P08.23
Internal Radiation Doses of the Public around Tianwan Nuclear Power Plant Caused by Intake of Uranium and Thorium Radionuclide <u>Wang, J; Yu, N</u>	P08.24
Comparison of Air Dispersion Modelling Techniques in Calculating Effective Dose in an Urban Environment and Meeting Regulatory Requirements. <u>Gallacher, D; Chadwick, SJ</u>	P08.25
Importance of Soil Type on Internal Distribution of Radiocaesium and Radiostrontium in Barley, Oat and Wheat <u>Rosén, K; Bengtsson, S; Markocsan, D; Isaksson, M</u>	P08.26
Environmental Gamma Spectrometry for Polish Nuclear Power Plant – Preliminary Considerations <u>Szewczak, K; Ciupek, K; Jednorog, S</u>	P08.27
Comparison of Gaussian Standard Deviation Methods and ADMS code for Environmental Impact Assessments <u>Kerouanton, D; Devin, P</u>	P08.29
Public Exposure during the normal operation of a PET Radiopharmaceutical Production Facility <u>Lacerda, MAS; Tavares, JCF; Reis, LCA</u>	P08.30
Preliminary Study for Annual Release Limit of Gaseous Radioactive Materials from Pyroprocess Facility <u>Kim, BM; Yoo, HJ; Go, HJ; Lee, JK</u>	P08.31
Fire Test Evaluation using the Kerosene and Aviation Fuel <u>Bang, KS; Kim, KY; Lee, JC; Seo, CS; Seo, KS; Kim, HJ</u>	P08.32
The Development of Stylized Inadvertent Intrusion Scenarios for a Purpose Built Near Surface Disposal Site for Radioactive Waste <u>Oatway, WB; Anderson, T; Mobbs, SF</u>	P08.34
Radioactive Waste Management Facilities and Assessment of their Safety in Estonia <u>Lust, M; Muru, K</u>	P08.35
Safety Assessment Methodologies in Disposal of Disused Sealed Sources Using Borehole Concept: Zaria Case Study <u>Sa'id, A; Mallam, SP; Akpa, TC; Funtua, II</u>	P08.36
An ALARP approach to Human Factors and Ergonomics <u>Sutton, P</u>	P08.37
Planned near surface radioactive waste repository impact on productive aquifer system - case of Ignalina NPP <u>Jakimaviciute-Maseliene, V; Mazeika, J</u>	P08.38
Integrating World Reference Base Soil Maps into Biosphere Risk Assessments for Radioactive Waste Repositories <u>Staudt, C; Semiochkina, N; Kaiser, C</u>	P08.39



## Poster sessions A-B: Area 9

Type:	Poster Session
Topic:	Emergency Exposure Situations
Date:	Monday 14 and Tuesday 15 May 2012
Time:	16:00 - 17:00 hours
Room:	Hall 4
Recent Recommendations on Emergency Exposure Situations and a Discussion on Setting Reference Levels <u>Milligan, P</u> ; Okyar, HB	P09.01
Medical Treatment of Radioactive Material Intakes at AWE Bingham, D; Jones, CS; Jones, DM; Lewis, NJ; <u>Morgan, C</u>	P09.02
Creation of Quick Internal Dose Assessment Graph Following the TIARA Project for Ingestion and Wound Pathway in Emergency Situations <u>de Ruvo, A</u> ; Cruz-Suarez, R	P09.03
New Calixarene Formulations for a Quick Uranium Skin Decontamination <u>Belhomme-Henry, C</u> ; Phan, G; Bouvier-Capely, C; Rebière, F; Agarande, M; Fattal, E	P09.04
Order of Medical Management of local Radiation Injure in Russian Federation <u>Kretov, AS</u> ; Bushmanov, AU; Kotenko, KV; Nadezhina, NM; Galstyan, IA	P09.05
Radioprotective Drugs in the System of Radiation Protection of Exposed Radiation Workers and Population in the Case of Nuclear Accidents Il'in, LA; Ushakov, IB; <u>Vasin, MV</u>	P09.06
A Study on Radioactive and Nonradioactive Aerosol Behaviour <u>Otahal, P</u> ; Vosahlik, J; Burian, I; Nemecek, L; Zdimal, V; Jakub Ondracek, JO	P09.07
Design of Optimised Systems for Monitoring of Radiation and Radioactivity in case of a Nuclear or Radiological Emergency in Europe <u>Rojas-Palma, CRP</u> ; Astrup, P; Helle, K; Urso, L; Muller, T; Schichtel, T	P09.08
The Application of Web GIS and Google Earth for Emergency Response and Relative Training <u>Fang, Hsin-Fa</u> ; Chang, Bor-Jing; Lu, Chung-Hsin; Wang, Chu-Fang; Wang, Chu-Fang	P09.09
Orphan source recovery in Genova – Italian Fire Fighter Experience <u>Rosiello, Luca</u> ; Frezza, Marco	P09.10
Approach to Source Terms Estimation Released into the Atmosphere during Accidents of Nuclear Power Plants of Design Information Unknown <u>Kim, BS</u>	P09.11
A Web Tool For A Real Time Follow Up Of A Criticality Accident In A Nuclear Fuel Factory <u>Sierra, S</u> ; Sanchez, G; Ortiz, D; Perez, A	P09.12



Nuclear Security Arrangements for the 2010 FIFA World Cup in South Africa: Part 1: A General Overview (Concept of Operation and Lessons Learned) <u>Kros, CG; Visagie, AL; Steyn, IE</u>	P09.13
The Creation of the National Alliance for Radiation Readiness (NARR) – Bringing Together Public Health and Radiation Control <u>Salame-Alfie, A</u>	P09.14
Development and Utilization of Gamma-ray Shielding Suit Excellent Easy-to-wear <u>Yamanishi, H; Ito, T; Yamamoto, T; Yamamoto, T; Yamamoto, K</u>	P09.15
Evaluation of the Emergency Planning Zone for Nuclear Power Plants in Taiwan After Fukushima Daiichi Nuclear Accident <u>Chang, SJ; Wu, J; Wang, ZW; Yang, YM; Chang, BJ</u>	P09.16
DSTL RADSAFE Exercise <u>Corbett, B</u>	P09.17
Dimensioning of Norwegian Nuclear and Radiological Emergency Preparedness and Crisis Management <u>Selnaes, ØG</u>	P09.18
Use of the SCALE-SAS1 Code for Dose Rates Calculations in Case of a Criticality Accident <u>Laget, M; Thomassin, A; Arial, E</u>	P09.19
UK Emergency Preparedness and Response Arrangements: The Role of the Nuclear Regulator <u>Little, S; Powell, R; Dicks, P; Etheridge, B; Mayor, A</u>	P09.20
Assessment of Dose Rates due to a Criticality Accident - Influence of Source and Protections <u>Arial, E; Laget, M; Thomassin, A</u>	P09.21
UAS Gamma Spectrometry for Detection and Identification of Radioactive Sources <u>Gårdestig, MR; Kock, P; Pettersson, HBL</u>	P09.22
International Data and Information Exchange Systems to support the EU Member States during Radiological and Nuclear Emergencies <u>De Cort, M.; de Vries, G.; Kalkas, I.; Nishev, A.; Tanner, V.</u>	P09.23
The use of Atmospheric Dispersion Models During Nuclear Emergency Exercises in Belgium <u>Olyslaegers, G; Camps, J; Rojas Palma, C</u>	P09.24
Improving the Swedish Emergency Radiation Protection - Increased Ability through Exercises <u>Östlund, K; Finck, RR; Samuelsson, C; Nilsson, MJC; Kock, P; Hubbard, L</u>	P09.25
Enhancing europe's capability to respond to and recover from nuclear or radiological emergencies - NERIS Platform <u>Croteau, C; Schneider, T; Mustonen, R; Raskob, W; Liland, A; Duranova, T; Oughton, D</u>	P09.26
Support to the Radiological Group during a Nuclear Emergency <u>Gomez-Argüello, B; Torres, C; Prieto, B</u>	P09.27
Dose Assessment Following Radiation Accidents At The Prima Facility <u>Sandri, S; Coniglio, A; D'Arienzo, M; Guarracino, M</u>	P09.28

Estimation of Source term released using Non-linear Regression Analysis <u>Shin, HK; Song, DY</u>	P09.30
The Role of Enresa in Nuclear and Radiological Emergencies <u>Alcaide, E; Ortiz, T</u>	P09.31
Modeling Of Tritium Dispersion From Accidental Release Postulates Of Nuclear Power Plants. <u>Soares, AD; Simões Filho, FFL; de Aguiar, AS; Lapa, CMF</u>	P09.32
What Nuclear and Radiological Emergency Management can Learn from Non-Nuclear: a Case Study <u>Raskob, W; Müller, T; Trybushnyi, D</u>	P09.33
An Introduction to the UK Government Decontamination Service <u>Kerswell, RC; Caddick, J; Hewlett, D; Arkell, A</u>	P09.34
Adaptation of The International Approaches to Establishment and Development of Documents on Emergency Planning and Preparedness of FMBA Units <u>Salenko, YA; Bogdanova, LS; Grachev, MI; Frolov, GP</u>	P09.35
Analysis of the Practicability of the External Emergency Planning in Germany based on Experiences from the Fukushima Accident <u>Gering, F; Gerich, B; Wirth, E; Kirchner, G</u>	P09.36
FMBC-NRPA Cooperation In Medical Radiological Emergency Response In 2005-2011 <u>Bogdanova, LS; Grachev, MI; Frolov, GP; Salenko, YA; Sneve, MK; Jaworska, A</u>	P09.37
Recommendations of the Iodine Prophylaxis to the Russian Public in Case of the Radiological Accident <u>Kotenko, KV; Ilyin, LA; Lyaginskaya, AM</u>	P09.38
IAEA Safety Guide On Criteria For Use In Preparedness And Response To Nuclear Or Radiological Emergency And Application In A Severe Reactor Emergency <u>Buglova, E; McKenna, T</u>	P09.39
The IAEA's Incident and Emergency System <u>Buglova, E; Baciu, F; Martincic, R; Winkler, G</u>	P09.40
Nordic Nuclear Safety Research (NKS) Programme: Nordic Cooperation on Nuclear Safety Issues <u>Andersson, KG; Ekström, K; Gwynn, JP; Magnússon, SM; Physant, F</u>	P09.41
Analysis of the Structure of Medico-Sanitary Consequences of Radiation Accidents for Carrying out of Protective Measures <u>Natkha, SV; Arefeva, DV; Shayakhmetova, AA</u>	P09.42
Updates To UK Emergency And Recovery Advice Following Changes In International Guidance <u>Nisbet, AF; Haywood, SM; Mortimer, K; Simmonds, JR</u>	P09.43
PACE (Probabilistic Accident Consequence Evaluation) – a Tool for Assessing the Ranges of Consequences of Potential Accidents at Nuclear Sites <u>Sherwood, JC; Charnock, TW; Bexon, AP; Dematapitiya, C; Higgins, N; Osifo, O</u>	P09.44
When I Heard the Words 'Contamination' and 'Instruments' This is not what I had in Mind! <u>Clifton-Climas, D</u>	P09.45



SINAC – Simulator Software for Interactive Modelling of Environmental Consequences of Nuclear Accidents (2nd Generation) <u>Szanto, P; Deme, S; Lang, E; Nemeth, I; Pazmandi, T</u>	P09.46
Hospital Preparedness for a Radiological Terrorist Event <u>Bar-Deroma, R; Otits, L; Moskovits-Shir, K</u>	P09.47
Moss Biomonitoring in Radiation Exposure Assessment <u>Spiric, Z; Vekic, B; Barisic, D; Frontasyeva, M; Kusan, V</u>	P09.49
A Rapid Method for the Determination of Low-Level Strontium 90 in Emergency Situation <u>Ji, Y; Shen, B; Shao, X; Dang, L; Tian, Q</u>	P09.50
Evaluating the Use of Radiation Portal Monitors to Screen Livestock during Radiological Consequence Management Operations <u>Marianno, CM; Erchinger, JL; Justina, J; Herring, A</u>	P09.52
HERCA' Activities in Nuclear Emergency Planning and Response: From Chernobyl to Fukushima <u>Majerus, P; Xicluna, D; Piller, G; Van Bladel, L</u>	P09.53
Dose Reconstruction after the Overexposure of a Nuclear Diver Handling Mistakenly Highly Activated Materials <u>Baechler, S; Laedermann, JP; Bailat, C; Leupin, A; Ritter, A; Scheidegger, R; Bochud, FO</u>	P09.54

## Poster sessions A-B: Area 10

Type: Poster Session  
 Topic: Existing Exposure Situations  
 Date: Monday 14 and Tuesday 15 May 2012  
 Time: 16:00 - 17:00 hours  
 Room: Hall 4

Radioactivity and Health Impacts of Some Terrestrial Vegetables and Fruits in Oil and Gas Producing Areas in Delta State, Nigeria <u>Tchokossa, P; Olomo, JB; Balogun, FA; Adesanmi, CA</u>	P10.01
Outdoor/Indoor Exposure to Terrestrial Radiation Atkadugli Town, Nuba Mountains, Sudan <u>Kafi, ST; Salih, S</u>	P10.02
Influence of Measurement Position on Cosmic-Ray Induced Dose Inside a Learjet Type Aircraft <u>Federico, C A; Gonçalez, O L; Caldas, L V E</u>	P10.03
Review and Cross-comparison of Matroshka Phantom Measurements in Different Compartments of the International Space Station <u>Hajek, M; Berger, T; Bilski, P; Matthiae, D; Puchalska, M; Zechner, A; Reitz, G</u>	P10.04
Hazards and Countermeasures on Extended Space Missions <u>Sion, N</u>	P10.05
Dosimetry Onboard Spacecraft Using Passive Detectors <u>Ambrozova, I; Pachnerova Brabcova, K; Mrazova, Z; Spurny, F; Shurshakov, VA; Toloček, RV</u>	P10.06

Radiation Dose Mapping in the European Columbus Laboratory of the International Space Station <u>Hofstätter, C</u> ; Hajek, M; Berger, T; Körner, C; Reitz, G	P10.07
Assessing Public Exposure on Commercial Flights in Brazil Rochedo, ERR; Alves, VA; Prado, NM; <u>Lauria, DC</u>	P10.08
Assessment of Natural Radiation Doses in Akure, Southwestern Nigeria. <u>Ajayi, OS</u>	P10.09
Naturally Occurring Radionuclides in World Historical Sites Samples Nikolic, J; Jankovic, M; Todorovic, D; <u>Pantelic, G</u>	P10.10
Natural Alpha Emitting Radionuclides In Bottled Drinking Waters In Croatia And Their Dose Contribution <u>Rožmaria Maëefat, M</u> ; Rogiaë, M; Benedik, LJ; Barišiaë, D	P10.11
Study of Radionuclides in Cochiti Reservoir Sediments <u>Fitch, S</u> ; Chavez, G; Landsberger, S	P10.12
An Interactive Map Of Natural Uranium Content In Tap Drinking Water In Dwellings Surrounding The Joint Research Centre Of Ispra <u>Giuffrida, D</u> ; Osimani, C; Galletta, M; Depiesse, D; Bolchini, O	P10.13
Monitoring of Radioactivity in Fertilizers in Austria <u>Dauke, M</u> ; Korner, M; Katzlberger, C	P10.14
Natural Radioactivity of Volcanic Tuff Stones with Different Colors Used as Commonly Building Materials <u>Degerlier, Dr</u>	P10.15
Second Assessment (2008-2009) – Radiological Quality Of Drinking Water In France <u>Caamano, D</u> ; Guillotin, L; Jédor, B; Davezac, H; Tracol, R; Loyen, J	P10.16
Mapping the Terrestrial Air-Absorbed Gamma Dose Rate Based on the Data of Airborne Gamma-ray Spectrometry in Southern Cities of China <u>Xiong, S</u> ; Wang, N; Fan, Z	P10.17
High Radioactive Materials In Building Industry <u>Todorovic, N</u> ; Bikit, I; Hansman, J; Nikolov, J; Mrdja, D; Forkapic, S	P10.18
Radioactivity of Soil from Niksic $\gamma$ Montenegro and Assessment of the Corresponding Radiological and Cancer Risk <u>Antovic, NM</u> ; Svrkota, N; Antovic, I; Jancic, D	P10.19
Assessment of Radioactivity Contents and Associated Risks in Some Soil Used for Agriculture and Building Materials in Cameroun <u>Tchokossa, P</u> ; Makon, TB; Nemba, RM	P10.20
Iran's Comprehensive Plan for Radiological Assessment on High Level Natural Radiation in Ramsar <u>Babakhani, A</u> ; Kardan, MR; Effaf, MJ	P10.21
Occupational Radiation Doses of United Kingdom High Altitude Mountain Guides as a Result of Cosmic Ray Exposures. <u>Kerr, RW</u>	P10.22
Measurement of Gamma Radioactivity Level in Rock and Soil of Saunder Quarry Site, Abeokuta North, South-Western, Nigeria. <u>Okedeyi, AS</u>	P10.23
Uranium and Heavy Metals in Narghile (Shisha, Hookah) Moassel <u>Khater, A</u> ; Amr, M; Chaouachi, K	P10.24



On the Population Dose 2010 and 2011 at Volincy Municipality in Belarus Dederichs, H; Heuel-Fabianek, B; <u>Hill, P</u> ; Lennartz, R; Pillath, J	P10.25
Display or Dispose - The Dilemma of Radium in Historical Military Aircraft <u>Williams, D</u>	P10.26
A Coordinated International Effort to Remediate Uranium Mining Sites in Central Asia <u>Metcalf, P</u>	P10.27
Environmental Risk Assessment at a Legacy Site with Enhanced Levels of NORM <u>Brown, J</u> ; Dowdall, M; Hosseini, A	P10.28
Russian Experience In The Regulatory Supervision Of The Uranium Legacy Sites <u>Titov, AV</u> ; Shandala, NK; Kiselev, SM; Isaev, DV; Khokhlova, EA	P10.29
Managing Radiation Risks from Point Sources <u>Dale, P</u>	P10.30
Health Risks from Radioactive Objects on Beaches in the Vicinity of the Sellafield Site <u>Oatway, WB</u> ; Brown, J; Etherington, G	P10.31
Withdrawal of Radioactive Lightning Rods in France <u>Charpentier, B</u> ; Rodde, S	P10.32
Norwegian Support in Development of Standards and Regulations on Radioactive Waste Management and Long-Term Monitoring in Uzbekistan <u>Zhunossova, T</u> ; Sneve, M; Liland, A; Khalilov, K; Salikhbaev, U; Zaredinov, D	P10.33
Investigation and Remediation of NORM Legacy Sites in Merseyside <u>John, GH</u>	P10.34
Estimating the Radiological Impacts in a Natural High Background Radiation Area: the Case of Horta da Vilarica (Northeastern Portugal) <u>Pereira, AJSC</u> ; Pinto, PGAN; Neves, LJPF	P10.35
Action Procedure in Norm Industries: Coal-Fired Power Plants <u>Robles, B</u> ; Mora, JC	P10.36

## Poster sessions C-D: Area 2

Type: Poster Session  
 Topic: Measurements and Dosimetry  
 Date and time: Wednesday 16 May 2012, 10:30-11:30 hours  
 Thursday 17 May 2012, 13:15-14:15 hours  
 Room: Hall 4

Patient Dose Measurements in Digital Mammography, Using Computed Radiography (CR) Versus Dose in Analog Mammography Gomes, DS; Barragan, CVM; Costa, KC; Donato, S; Castro, WJ; de Oliveira, MA; Leyton, F; Chevalier del Rio, M; <u>Nogueira, MS</u>	P02.151
Computer Simulations and Image Reconstruction for a Proton Computed Tomography System Milhoretto, E; <u>Schelin, H</u> ; Setti, J; Denyak, V; Paschuk, S; Evseev, I; Silva, F; de Assis, J; Yevseyeva, O; Lopes, R; Vinagre Filho, U	P02.154
Mass Attenuation Coefficients of X-rays in ISO Quality Concrete in Barite of Different Regions of Brazil Almeida JR, AT; Araujo, FGS; <u>Nogueira, Tavares, MS</u> ; Santos, MAP; Vieira, JW	P02.155
Comparison of Different Methods for Measuring CT Dose Profiles with a New Dosimetry Phantom <u>Liebmann, M</u> ; Luellau, T; Feltes, M; Poppe, B; von Boetticher, H	P02.156
Using MCA DigiDART for Neutron Detection <u>Soppe, E</u> ; Vilella, A; Carelli, J	P02.157
First Argentinean Intercomparison of Neutron Detectors <u>Carelli, J</u> ; Vilella, A; Soppe, E	P02.158
Thin Wall Recombination Chamber Filled with Nitrogen <u>Tulik, P</u> ; Golnik, N; Krzemiński,	P02.159
Radioactive Source Detection by Vehicle Radiation Portal Monitors Considering the Background Suppression <u>Stavrov, A</u> ; Kagan, L	P02.160
Strontium-90 in the Teeth of Residents of Techa Riverside Settlements <u>Shishkina, EA</u> ; Verdy, E; Volchkova, AY; Tolstykh, EI; Degteva, MO	P02.161
Study of the Triage Method for Radiological Mass Casualty Event Using Plastic Scintillator <u>Yoo, JR</u> ; Pak, MJ; Ha, WH; Lee, SS	P02.162
Mathematical Calibrations for Measurements of Radionuclides in People following a Radiological Incident <u>Shutt, AL</u>	P02.163
Mobile Unit for Site Characterization in Environmental Remediation Projects <u>Streil, T</u> ; Oeser, V	P02.164
Analysis of the Life Time of Quartz TL peaks: Comparison of the Deconvolution Using the First Order Kinetic to the Initial Rise <u>Ratovonjanahary, AJF</u> ; Göksu, HY; Andriambololona, R	P02.165
Which Levels of Alpha- and Beta Contamination on Surfaces are Possible to Detect with Manual Search? <u>Hedman, A</u> ; Boson, J	P02.166



Fiber Optic Interferometric Sensor for Registration of X-Ray Radiation Culeac, IP; Andriesh, AM; Iovu, MS; Nistor, IH; Petrenco, PA; Zagonenco, VT; <u>Buzdugan, AI</u>	P02.168
Angular Response of Polymer Films Irradiated with Accelerated Electron Beam Galante, AMS; <u>Campos, LL</u>	P02.169
Studying the Variation of Radon Level Among Covering Materials in Some Houses in Major Cities of the Southwestern Nigeria <u>Oni, OM</u> ; Oladapo, OO; Oni, EA; Farombi, O	P02.171
Evaluation and Analytical Comparison of Different 2D and 3D Radiotherapeutic Treatment Planning Systems using Dosimetry with Anthropomorphic Phantom Golrokh Nodehi, MR; Asnaashari Lahroodi, Kh; Khosravi, HR; <u>Khosravi, HR</u> ; Mahdavi, SR; Shirazi, A; Gholami, S	P02.175
Development of a Protocol for Radiation Survey Meter Calibration Lessard, F; Beaulieu, L; <u>Chretien, M</u> ; Morrier, J	P02.177
Characterization of OSL response of LiF:Mg,Ti and microLiF:Mg, Ti in <sup>60</sup> Co gamma source Bravim, A; Sakuraba, RK; Cruz, JC; <u>Campos, LL</u>	P02.179
Long Distance Radiation Monitoring System using Optical Fiber Scintillator and Silicon Photomultiplier <u>Jeon, SJ</u> ; Joo, KS; Beack, SH; Park, MK; Kim, JG	P02.180
Phenomenon of Self-Absorption of Calcium Sulfate - Dysprosium Dosimeter, Made With Iranian Natural Calcium Sulfate <u>Rashidi, SA</u> ; Deevband, MR; Kashani, MM	P02.181
A Comprehensive Study Of The Glandular Dose To Women Participating In The National Mammography Program For Early Detection Of Cancer Of The Breast, In Israel. <u>Broisman, A</u> ; Schlesinger, T; Alfasi, Z; Orion, I	P02.182
Different Methods for Tritium Determination in Surface Water by LSC <u>Nikolov, J</u> ; Todorovic, N; Jankovic, M; Vostinar, M; Bikit, I	P02.183
Full-range isotopic calibration of an RMS detector by F-18 decaying source method <u>Lai, YC</u> ; Chen, YW; Chang, KL	P02.184
Criteria For Reporting Radiological Data: Two Different Approaches <u>Gascó, C</u> ; Alvarez, A; Navarro, N	P02.185
Thermal Neutron Fluence Measurements Around a Cyclotron for PET production <u>Méndez-Villafañe, B</u> ; Sansaloni Florit, F; Lagares Gonzalez, JI; Llop Roig, J; Guerrero Araque, JE; Muñoz, JL; Pérez Morales, JM	P02.186
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Neutron Dosimetry Device Using PADC Nuclear Track Detectors <u>Lopez, FO</u> ; Saint Martin, G; Bernaola, OA	P02.189
Review on Adequacy of Skin Exposure Dose Evaluation Using Harshaw Algorithm <u>Kim, SD</u> ; Huh, JH; Seo, JS; Lee, BI; Kim, JI; Oh, BT; Jeong, YC; Lee, SH	P02.190
Enhancement of Exposure Dose Prediction Reliability for Radiation Workers by Using Represented TLD/ADR Ratio <u>Kim, SD</u> ; Huh, JH; Lee, BI; Kim, JI; Oh, BT; Jeong, YC; Lee, SH	P02.191
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Easy Determination of the State of Contamination with a GM Counter <u>Lee, YJ</u> ; Chae, GS; Jang, DK	P02.193
Building a Modular $\gamma$ -Radiation Monitoring System from off the Shelf Components <u>Nilsson, MJC</u> ; Kock, P; Östlund, K; Finck, RR	P02.194
Stability of a Berthold LB6411 Neutron Probe for Use as a Secondary Standard <u>Hoedlmoser, H</u> ; Schuler, C; Butterweck, G; Mayer, S	P02.195
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Thermoluminescence Characteristics of High Gamma Dose Irradiated Natural Quartz <u>Singh, M</u> ; Kaur, N; Singh, L	P02.198
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Interlaboratory Comparison of Tritium Electrolytic Enrichment Systems at RBI (Zagreb) and JSI (Ljubljana) Barešić, J; <u>Krajcar Bronić, I</u> ; Horvatinčić, N; Obelić, B; Sironić, A; Kožar-Logar, J	P02.200
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Maintenance of the Buried Neutron Irradiator <u>Grassi, E</u> ; Soppe, E; Villella, A; Carelli, J	P02.205
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Automation of the Calibration of Dosimeters for Radiotherapy <u>Romero, AL</u> ; Gutiérrez, S	P02.238



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Calibration of the High and Low Resolution Gamma-Ray Spectrometers <u>Luca, A</u> ; Antohe, A; Neacsu, B; Sahagia, M	P02.262
Evaluation of Radiation Dose in Computed Tomography Standard Beams Using Simulators Martins, EW; <u>Potiens, MPA</u>	P02.263
Impact Of IEC 61066:2006 Standard Testing To The Joint Research Centre Dosimetry System Del Torchio, R; Ferrario, D; <u>Giuffrida, D</u> ; Minchillo, G; Osimani, C	P02.264
Assessment of the Uncertainty of the Results of Control of an Individual Dose Equivalent <u>Natkha, SV</u> ; Shayakhmetova, AA; Arefeva, DV	P02.265
Evaluation Methodology And Performance Tests Of Ionization Chambers Of The Air Kerma Area Product Using Mathematical Simulation <u>Potiens Jr, AJ</u> ; Potiens, MPA	P02.266
Upgrading of the National Radiation Standards at the Secondary Standards Dosimetry Laboratory (SSDL) in the Philippines <u>Romallosa, KM</u> ; Caseria, ES	P02.267
The Support Offered by the Romanian Primary Activity Standard Laboratory to the Nuclear Medicine Field <u>Sahagia, M</u> ; Antohe, A; Luca, A; Waetjen, AC; Ivan, C	P02.268
Calibration and Energy Response Determination of Radiation Protection Area Survey Meters in ISO Narrow Spectrum Photon Beams <u>Suliman, II</u> ; ElHassan, MM	P02.269
Secondary Standard Dosimetry Laboratory in Central Laboratory for Radiological Protection in Poland <u>Szewczak, K</u> ; Ciupek, K; Woloszczuk, K; Jednorog, S	P02.270
Measurement of Single Scan Dose Profiles in Computed Tomography Dose Phantom Using a Micro Ionization Chamber <u>Takei, Y</u> ; Koshida, K; Suzuki, S; Kataoka, Y; Kobayashi, M; Ootsuka, T; Murata, M; Takeda, H	P02.271



Electronic Dosemeters in Pulsed Fields of Ionising Radiation: Determination of Relevant Parameters to Decide on Usability <u>Zutz, H</u> ; Hupe, O; Ambrosi, P; Chiaro, PJ; Voytchev, M	P02.272
Calculation of dose distribution in PET/CT units using MCNPX monte Carlo code <u>Alsafi, K</u> ; Miliebari, S; Alghamdi, A; Ma, A	P02.273
Determination of the Radiation Field in an Interim Storage Facility Becker, F; Zhang, G; <u>Marzocchi, O</u>	P02.274
Construction and use of a Library of 25 Full-Body Male Numerical Models: Rationale and Results <u>Broggio, D</u> ; Beurrier, J; Huet, C; Desbree, A; Farah, J; Bremaud, M; Franck, D	P02.275
Use of Computer Vision Algorithms for Fast Evaluation of the Dose Caused by Scattered Radiation in Industrial Environment Kudrin, I; <u>Chizhov, K</u> ; Mazur, I; Kryuchkov, V; Tesnov, I; Szoke, I	P02.276
Monte Carlo Analysis of Spectrum Produced by Transmission-type X-ray Target <u>Chu, CH</u> ; Hwang, TT	P02.277
Monte Carlo Modeling of Photon Dose Rate Field in the Chernobyl New Safe Confinement Chumak, VV; <u>Bakhanova, EV</u>	P02.278
Analysis of Dose and Risk Associated with the use of Transmission X-Rays Body Scanner Using Monte Carlo Simulation Correa, SCA; <u>Aquino, JO</u> ; Souza, EM; Silva, AX	P02.279
Selection of an Appropriate Air Kerma Rate Constant for Volumetric Se-75 Sources <u>Currier, BH</u> ; Munro III, JJ; Medich, DC	P02.280
Radiological Dose Exposure comparison study between Monte Carlo codes MCNP and SCALE <u>Damon, RW</u> ; van Rooyen, J; Adetula, B	P02.281
Simulation of the Influence of the ISO Water Slab Phantom on the Neutron Field of a Calibration Source <u>Hoedlmoser, H</u> ; Hetland, OS; Mayer, S	P02.282
Monte Carlo Simulation of Radiation Leakage and Design Optimisation for Doors and Doorframes of X-Ray Facilities <u>Hosseini-Ashrafi, ME</u>	P02.283
Comparison of Radiation Shielding Requirements for Ir-192, Co-60 and Yb-169 HDR Brachytherapy Sources Using Monte Carlo Simulations <u>Hosseini-Ashrafi, ME</u> ; El-Shaer, H	P02.284
Calculation of Calibration Factors and Minimum Detectable Activities in the Lung of Radionuclides Released in the Case of a Nuclear Power Plant Accident <u>Hunt, JG</u> ; Dantas, BM; Heiss, J; Cruz Suarez, R	P02.285
Thyroid Screening Of Members Of The Public With Portable NaI Detectors After A Radionuclide Release From A Nuclear Power Plant <u>Hunt, JG</u> ; Kutkov, V	P02.286

Transformation of the Normal Distribution for Monte Carlo modeling of regions of Adult trabecular bones for use in Computational Models of Exposure Vieira, JW; Leal Neto, V; Lima Filho, JM; <u>Lima, FRA</u>	P02.287
Measurements of Air Kerma as function of potential in X-ray tubes for estimates standard quantities used for dosimetric evaluation Guimarães, CRP; Vieira, JW; Santos, MAP; Lopes Filho, FJ; Lima, FRA; <u>Ferreira Filho, AL</u>	P02.288
Review of Dosimetric Models of the Extrathoracic Airways for Internal Photon Emitters <u>Ocampo, JC</u> ; Puerta, JA; Morales, J	P02.289
Experimental Verification of TPS Software and Tabulated Data for Blocked Fields <u>Ochieng, B</u> ; Asad, Y; Zainab, R; Sherali, H	P02.290
The Interaction of Natural Background Gamma Radiation with Depleted Uranium Micro-Particles Located Deep in the Human Body <u>Pattison, JE</u>	P02.291
Shielding Evaluation for a Radiotherapy Bunker by NCRP 151 and Portuguese Regulation on Radiation Safety Rodrigues, MJP; <u>Poli, MER</u>	P02.292
Quantification of the Effect of Respiratory Motion on Efficiency Calibration for Internal Dosimetry Pözl, S; Schneider, T; Geckeis, H; Urban, M; <u>Leone, D</u>	P02.293
Comparison Between Simulation and Measurement of Activation Products in High-Energy Medical Linear Accelerators Saeed, MK; <u>Fischer, H</u> ; Poppe, B	P02.294
Proton Beam Characterization Using Monte Carlo Simulation Technique <u>Sriprisan, SJ</u> ; Aghara, SK	P02.295
Modeling of Spontaneous Particle Sputtering from Plutonium Dioxide Material Bastrikov, VV; Khokhryakov, VV; <u>Zhukovsky, MV</u>	P02.296
Dose Rate Distribution from a Standard Waste Drum Arrangement <u>Zoeger N.</u> ; Brandl A,	P02.297



## Poster sessions C-D: Area 3

Type:	Poster Session	
Topic:	Radiation Protection System Development and Implementation	
Date and time:	Wednesday 16 May 2012, 10:30-11:30 hours	
	Thursday 17 May 2012, 13:15-14:15 hours	
Room:	Hall 4	
IRIS: A Comprehensive Approach for Information Management and Automated Administration	P03.60	
Mianji, F; Babakhani, A; <u>Kardan, MB</u> ; Shadi, N		
Some Aspects on the Nuclear Regulatory Issues in the Republic of Moldova	P03.61	
<u>Buzdugan, AJ</u> ; Balan, IH; Mursa, ET		
Proposed Methodology for Standardization on Evaluating Radiological Protection System Implementation in Regulatory Inspections: One Researching Agenda	P03.62	
<u>Filgueiras, BC</u> ; Sauerbronn, FF		
Implications of ICRPS Evaluation of Tissue and Non-Cancer Effects	P03.63	
<u>Chambers, DB</u>		
Recent Experience Gained in Radiation Protection Activities in Egypt	P03.64	
<u>Gomaa, M</u> ; El shinawy, KR; Salaheldeen, T; Morsi, TK; Badwey, W		
Medical Physics in Guatemala, Central America (History)	P03.65	
Hernández, E; <u>Ureta, L</u> ; Toledo, M; Freire, D		
Comparison of Individual Doses from Risk Assessments to Doses from National Registry	P03.67	
<u>Jug, N</u> ; Škrk, D		
Radiation Protection in Using the Mobile Hot Cell for the Conditioning of High Activity Sealed Radioactive Sources	P03.68	
<u>Kekana, RMT</u>		
HERCA Statements on the Justification of X-Ray Body Scanners and on the Regulatory Status of Small Amount of Radioactive Substances added to Lamps	P03.69	
<u>Kueny, LK</u>		
Optimization versus Dose Constraints: a Concept Loses its Way	P03.70	
<u>Lorenz, B</u> ; Holl, M; Nuesser, A; Overheu, C; Wink, R		
Implementation of the system of public exposure assessment in Lithuania	P03.71	
<u>Mastauskas, A</u>		
Evolution of Radiation Protection Trends – the Malaysian Experience	P03.72	
<u>Mod Ali, N</u>		
Optimization of the Radiation Protection at Operation of Nuclear Objects of the Marine Technology	P03.73	
<u>Natkha, SV</u> ; Shayakhmetova, AA; Arefeva, DV		
The Way Forward for Implementation of new Recommendations	P03.74	
<u>Ozgur, S</u>		



REVIEW OF SAFETY AND SECURITY OF RADIOACTIVE SOURCES IN AFRICA <u>Shadrack, AK</u>	P03.75
Development and Implementation of the New Radiological Protection System in Russia <u>Shandala, NK</u> ; Kiselev, MF; Shinkarev, SM; Romanov, VV	P03.76
Context effects on the Willingness to Pay for Mortality Risk Reductions from a Nuclear Accident: An analysis before the Fukushima Daiichi NPP Accident <u>Takahara, S</u> ; Kato, T; Kimura, M; Nishikawa, M; Homma, T	P03.78
National Program of Radiation Protection of Patients (Argentina) <u>Touzet, R</u> ; Buzzi, A	P03.79
The Binational Nuclear Energy Commission between Argentina and Brazil: its activities in the area of regulation and standards <u>Terigi, GE</u> ; Acosta, GM	P03.80
HERCA Working Group on Medical Applications For Harmonizing the Implementation of Radiation Protection Regulation in Europe <u>Bly, R</u> ; Trueb, P	P03.81
Radiation Protection Research at the U S Nuclear Regulatory Commission <u>Bush-Goddard, S</u>	P03.82
Safety Regulation for the Design Approval of Radiation Devices <u>Cho, WK</u>	P03.83
HASS Financial Provision – Lessons Learned And Shared <u>Englefield, C</u> ; Williams, C; Balmer, D; Bowen, L; Shaw, T	P03.84
Radiological Principles of Israeli Standard 5098 “Content of Natural Radioactive Elements in Building Products” <u>Haquin, G</u>	P03.85
Radiation Exposure of Workers in Korea <u>Lee, SH</u> ; Seo, GS; Choi, WC; Choi, MS; Kim, KP	P03.86
Informatization of Multi-Criteria Analysis Outranking: a Software to Improve Decision-making in Radiological Protection Optimization Programs <u>Albuquerque, SM</u> ; <u>Levy, DS</u> ; Sordi, GMAA; Levy, PJ	P03.87
Sixty Years Experience on Safe Transport of Radioactive Material in Argentina <u>Lopez Vietri, J</u> ; Rodriguez Roldán, M; Fernández, A; Gerez, C; Elechosa, C	P03.88
Regulatory Oversight - Challenges and Solutions <u>Metcalf, P</u> ; Batandjieva, B	P03.89
Population Exposure to Radioactivity in Building Material: Comparison Between the EU Index I and Other Computational Methods <u>Nuccetelli, C</u> ; Risica, S; Trevisi, R	P03.90
Modern Trends and Problems in Radiation Protection System <u>Pavlovski, O</u> ; Bolshov, L; Arutyunyan, R	P03.91
One Of The Implications Of Monetary Reference Value <u>Perez, CFA</u> ; Sahyun, A; Sordi, GM; Ghobril, CN	P03.92
Technical Specification for a Safe use of the X-Ray Generators <u>Fradin, J</u> ; <u>Rodde, S</u>	P03.94



Withdrawal of Radioactive Sources Smoke Detectors used in France <u>CHARPENTIER, Bruno</u> ; <u>RODDE, Sylvie</u>	P03.95
Some Inconsistencies in the IAEA Publication Entitled: "Optimization of Radiation Protection in the Control of Occupational Exposure" <u>Sordi, GMAA</u> ; <u>Perez, CDFA</u> ; <u>Sahyun, A</u> ; <u>Ghobril, CN</u>	P03.96
Regulating Radiological Protection Aspects Of Great Britain's Nuclear Industry <u>Temple, CE</u>	P03.97
Argentine Regulatory Experience Related to the Application of Specific Standards in the use of Radioactive Material in Industries. <u>Truppa, W</u> ; <u>Cordoba, M</u> ; <u>Poletti, M</u> ; <u>Calabria, M</u>	P03.98
Can, And Should, The Management of Radiological Materials And Hazardous Chemicals Be Harmonised? <u>Valentin, J</u>	P03.99
Application of NEMA NU-3 for Intraoperative Gamma probes: A Cuban Experience <u>Varela Corona, C</u>	P03.100
Current Status of the International Standards on Radiation Protection Instrumentation <u>Voytchev, M</u> ; <u>Chiaro, P</u>	P03.101
A Cloud Approach To Environmental Radiation Protection Ethics <u>Seymour, CB</u>	P03.102
Has Protection Gone Too Far? <u>Clark, SM</u>	P03.103
HSE's Enforcement Management Model for Ionising Radiation <u>Nettleton, MA</u>	P03.104
The Compensation Culture <u>Pinks, T</u> ; <u>Frusher, M</u> ; <u>Clark, S</u>	P03.105

## Poster sessions C-D: Area 6

Type:	Poster Session
Topic:	Planned Exposure Situations: Industry and Research
Date and time:	Wednesday 16 May 2012, 10:30-11:30 hours Thursday 17 May 2012, 13:15-14:15 hours
Room:	Hall 4
Implementation of International Guides and National Law for Gamma Radiography in Germany <u>Sölter, B</u> ; <u>Kaps, C</u> ; <u>Redmer, B</u>	P06.38
Food Control after a Major Nuclear Accident – the Need for Harmonisation <u>Janzekovic, H</u> ; <u>Krizman, MJ</u>	P06.39
Technical Specifications for Radiometric Screening Equipment at Border Controls <u>Barnes, JV</u> ; <u>Major, RO</u> ; <u>Berthou, V</u> ; <u>Lishankov, V</u> ; <u>Naumenko, M</u>	P06.40
Leakage Testing Of Sealed Radioactive Sources <u>Rolle, A</u> ; <u>Neueyer, T</u> ; <u>Droste, B</u>	P06.41

The Security of Radioactive Sources in the UK - The Perspective of the Radiation Protection Profession <u>Tattersall, PJ</u> ; Croft, JR	P06.42
The Removal and Transport of High Activity Cobalt Sources from the University of Adelaide and the Royal Adelaide Hospital in AUSTRALIA <u>Mayman, KA</u>	P06.43
All Is Not What It Seems!.....Isotopes And Inventories <u>Mayman, KA</u>	P06.44
Implementation of a Quality Assurance Program for Assembly and Production of Sealed Radioactive Sources used in Industrial Applications <u>Vasquez, PAS</u> ; Andrade e Silva, LG; Calvo, WAP	P06.45
Enhancing the Capability of Frontline Officers in Combating Illicit Trafficking of Radioactive Sources in Nigeria. <u>Umar, SD</u>	P06.46
Feedback of Experience in Industrial Radiography and Related French Regulation Projects on Justification and Accidents Response <u>Fontaine, G</u> ; Rodde, S	P06.47
The UK Approach To Security Of Radioactive Sources <u>Englefield, C</u>	P06.48
Improvement of the Buried Radioactive Source Situation at a Hospital in Cambodia <u>Popp, A</u> ; Ardouin, C; Alexander, M; Blackley, R; Murray, A	P06.49
UK Surplus Source Disposal Programme <u>John, GH</u>	P06.50
Absorbed Dose Simulation During Handling Radioactive Sources in Well Logging Temporary Jobsites <u>Gomes, RDS</u> ; Gomes, JDRL; Costa, MLDL; Miranda, MVFES	P06.51
Dose Evaluation in Removal and Storage of Well Logging Sources Using an Anthropomorphic Phanton Simulator Miranda, MV FES; <u>Costa, ML de Lara</u> ; Gomes, J D´Arc RL; Gomes, R dos Santos	P06.52
Application of Phosphogypsum as a Material for Landfill Cover in Brazil <u>Jacomino, V</u> ; Taddei, MH; Cota, S; Silva Faria, D; Mello, J	P06.53
Occupational Exposure in Cleaning Tanks Containing Naturally Occurring Radioactive Material (NORM) in Offshore Oil Production. <u>Jesus, JMF</u>	P06.54
Demobilization of Offshore Oil Production Unit (FPSO) Contaminated with Naturally Occurring Radioactive Materials to Revamp and Changing of Location. <u>Jesus, JMF</u>	P06.55
Dose Reconstruction for F-104 Strafighter Maintenance Personnel <u>Kuipers, TP</u> ; De Koning, AS	P06.56



Natural Radioactivity and Risks Associated with Mining of Rare Metal Pegmatite of Oke-Ogun Field, Sepeteri, Southwestern, Nigeria <u>Tchokossa, P</u> ; Tubosun, IA; Okunlola, GA; Balogun, FA; Fasai, MK; Ekhaeyembe, S	P06.57
Examination Of The Environmental Radioactivity Nearby The Uranium Mining And Milling Facility <u>Titov, AV</u> ; Kiselev, SM; MetlyaeV, EG; Isaev , DV; Zhuravleva, LA	P06.58
Radioactivity Assessment in Rare Earth Extraction and Steel Industry: A Study Case in Baiyun Obo, China <u>Wu, Q</u> ; Ma, C; Kong, X; Zhao, S; Feng, Y; Wang, X; Lou, J	P06.59
Analysis of Workers' Dosimetry of Industrial Gammagraphy in Argentina <u>Alonso Jimenez, MT</u> ; Pagni, I	P06.60
Assessment of the radiological impacts of Gypsum, Ferro-Manganese and Oil industries <u>Bakr, HM</u> ; <u>Badran, HM</u> ; Sharshar, T; Elnimr, T	P06.61
International initiatives addressing the safety and security of Disused Sealed Radioactive Sources (DSRS) <u>Heard, RG</u>	P06.62
Radiological Assessment of Black Powder in Sales Gas Pipelines <u>Cowie, M</u> ; Worrall, M; Sherik, A; Mously, K; Nassar, R	P06.63
Decontamination of NORM Contaminated Facilities & Equipment, Case Study <u>Cowie, M</u>	P06.64
Radiological Characterization of Phosphate Rock and Soils of the Northern Region of Peru <u>Gonzales, S</u> ; Osore, JM; Lopez, E; Jara, R	P06.65
Radiological Considerations of the BHP Billiton Olympic Dam Expansion <u>Hondros, J</u>	P06.66
Database on Naturally Occurring Radioactive Material <u>Iwaoka, K</u> ; Kuroda, N; Shimomura, T; Tabe, H; Yonehara, H	P06.67
Radiation Safety Systems for the Linac Coherent Light Source (LCLS) at SLAC <u>Rokni, S</u> ; Bauer, J; Santana-Leitner, M; Liu, J; Mao, S; Prinz, A	P06.68
Residual Gamma Dose Rate Evaluation at the Radioactive Ion Beam Facility SPES <u>Sarchiapone, L</u> ; Zafropoulos, D	P06.69
Radiation Safety of New X-ray Free Electron Laser Facility at SPring-8 <u>Asano, Y</u> ; Itoga, T	P06.70
Radiological Protection in Fusion Research at JET <u>Campling, D</u> ; Macheta, P; Booth, S; Letellier, E	P06.71
Neutron Fields Around the Joint Research Centre of Ispra Cyclotron's Beam Lines <u>GIUFFRIDA, D</u> ; SIMONELLI, F; ABBAS, K; Zafropoulos, D; OSIMANI, C	P06.72
Preliminary Assessment of Radioactive Waste for the DEMO Fusion Reactor <u>Park, JS</u> ; Shin, CH; Kim, SH; Lee, YS; Kim, JK	P06.73

Parameter considerations of Accelerator-based Sub-Critical Nuclear Reactor <u>Lee, HS</u> ; Kang, HS; Lee, TY	P06.74
ANSI N43.1 Standard "Radiation Safety for the Design and Operation of Particle Accelerators" (Final Draft Sept. 2011) <u>Liu, J</u> ; Walker, S	P06.75
Commissioning and Critical Examination of a new PET Imaging Centre <u>Reeves, NJ</u>	P06.76
Survey of RF Test Facility During Cavity Conditioning <u>Doull, RE</u> ; Bonner, P	P06.77
Survey on Occupational Exposure in Industrial Radiography Practice <u>Rosca Fartat, G</u> ; Ciupagea, F; Ghilea, S; Coroianu, AI	P06.78
Dose Planning and Evaluation During Reactor Repair <u>van Tuinen, ST</u> ; Hoogeboom, N	P06.79
Occupational Exposure in Production of Radiopharmaceuticals and Labeled Compounds <u>Amador, ZH</u> ; Pérez, S; Soria, MA	P06.80
Performance Safety Indicators for a Radioactive Facility in Cuba <u>Amador Balbona, ZH</u>	P06.81
Assessment of the Radiological Safety of Exposure Devices For Industrial Gamma Radiography in Argentina <u>Ermacora, MG</u> ; Vidal, DN; Alonso, MT	P06.83
Applications Of Ionizing Radiation. Irradiation Of Biological Materials And Small Animals In Research Fernandez, MA; <u>Escudero, R</u>	P06.84
A Survey of Environmental Radioactivity Level in Laboratories of the Town Campus University, Uyo - Niger Delta Region <u>Esen, NU</u> ; Ituen, EE; Nwokolo, SC	P06.85
Technological Management Applied in Irradiation Foodstuff Ghobril, CN; Mastro, NL; <u>Sordi, GM</u> ; Sahyun, A; Perez, CFA	P06.86
Laser Research Centre Eli Beamlines - Radioprotection Issues and Shielding Design <u>Olsovcova, V</u> ; Griffiths, M; Haley, R; McFarlene, L; Rus, B	P06.87
X-Ray Security Body Scanners – Dose Optimisation and Other Considerations in their Use <u>Macdonald, AR</u>	P06.88
Optimization of a Bunker for Gamagraphy of Pipes with a Diameter of 2m <u>Sahyun, A</u> ; Sordi, GM; Ghobril, CN; Perez, C F A	P06.89
Optimisation of Radiation Protection of Mobile Security Scanning Systems for Vehicles and Cargo Containers Equipped with Gamma Radiation Sources <u>Tudor, M</u> ; Sima, C; Bizgan, A; Coroianu, AID; Popovici Vlad, O; Studineanu, E; Birsan, N; Munteanu, DP	P06.90
Transport of Radiopharmaceuticals and Labelled Compounds in Cuba <u>Amador Balbona, ZH</u> ; Pérez Pijuán, S; Ayra Pardo, FE	P06.91
Actions To Reduce Denials And Delays Of Shipment Of Radioactive Material In Brazil <u>Bruno, N</u> ; Alvim, TF	P06.92



Safe, Secure And Sustainable Transport Of Radioactive Material <u>Capadona, N</u>	P06.93
NECSA Waste to Vaalputs <u>Dauids, W</u>	P06.94
Transportation of Nuclear Fuel Bundles - 15 Years of Experience in Nuclear Fuel Plant Pitesti Romania <u>Ivana, T</u> ; Epure, G; Olaru, V	P06.95
Some Questions About Reference Levels. As an Example the Segregation Distance for Package Containing Radioactive Material Transported in an Aircraft Sordi, GM; <u>Correa, FR</u>	P06.96

## Poster sessions C-D: Area 7

Type: Poster Session

Topic: Planned Exposure Situations: Medical

Date and time: Wednesday 16 May 2012, 10:30-11:30 hours

Thursday 17 May 2012, 13:15-14:15 hours

Room: Hall 4

DAMEX – A Patient Dose Database For The Continuous P07.54

Assessment Of The Medical Radiological Practice In Switzerland

Treier, R; Trueb, PR; Samara, E; Aroua, A; Verdun, F; Zeller, W

Calculation of Shielding for CT Rooms from Patient Dose Data P07.55

Martin, CJ; Sutton, DG; Peet, DJ; Williams, JR

Radiation Protection in Dental X-Surgeries – Rooms for P07.56  
Improvement

Hart, GC; Dugdale, M

U.S. Radiation Protection Guidance for Diagnostic and P07.57

Interventional X-Ray Procedures

Keith, LS; Sears, ST; Miller, DL; Hamdy, RC;

Leidholdt, EM; Paunovich, ED; Elmore, CL;

Bower, DW; Hill, DG; Winston, J; Boyd, M

Quality Control for the Mammography Screening Program in P07.58

Serbia: Physical and Technical Aspects

Ciraj-Bjelac, O; Lazarevic, D; Bozovic, P; Arandjic, D; Cekerevac, D

Handling of Incidents within Medical Use of Radiation P07.59

Højgaard, B; Bjerkborn, A; Waltenburg, HN

Estimation of the Effective Dose to the Personnel in Diagnostic P07.60

Radiology from Under-Apron and Over-Apron Measurements

von Boetticher, H; Lachmund, J; Hoffmann, W

Comparison of Local Radiation Protection of the Panoramic and P07.61

the DVT mode of a Dental X-ray Device

Ernst, G; Neuwirth, J; Hefner, A

Estimation of Effective Dose in Common X-ray Diagnostic P07.62

Examinations in India

Sonawane, AU; Sunil Kumar, JVK; Singh,

M; Kulkarni, A; Pradhan, AS

An Investigation into CT Dosimetry using an Elliptical Phantom P07.63

Martin, CJ; Sookpeng, S; Gentle, DJ

Principles Behind Shielding Recommendations in BIR/ IPEM P07.64

Report

Williams, JR; Sutton, DG; Martin, CJ; Peet, DJ

Demonstration of Anatomical Imaging Using Neutron Radiography <u>Cutright, D</u> ; Medich, D	P07.65
Diagnostic Reference Levels (DRL's) and Target Dose Levels in The Netherlands <u>Zweers, D</u> ; Geleijns, J; Veldkamp, WJH	P07.66
Estimation of Half-Value Layer for Dual-Energy Computed Tomography Acquisition Using a New Copper Absorption Method <u>Matsubara, K</u> ; Mitsui, W; Iida, H; Mizukami, N; Matsumoto, C; Koshida, K; Matsui, O	P07.67
Patient Doses from X-ray Examinations in Denmark Højgaard, B; Torpenholt Jørgensen, U; <u>Waltenburg, HN</u>	P07.68
Radiation Dose Reduction Efforts in an Academic Medical Center <u>Jacob, CHP, N</u>	P07.69
Mean Glandular Dose Behavior Using Different Glandularity Phantoms <u>Leyton, F</u> ; Oliveira, B; Oliveira, M; Nogueira, M; Paixão, L; Reynaldo, S; Silva, T	P07.70
Automated Collection of Patient Exposure Data : Recent Standards and Tools <u>O'Donnell, KP</u>	P07.71
Estimation of Effective Dose in Common X-ray Diagnostic Examinations in India <u>Sonawane, AU</u> ; Sunil Kumar, JVK; Singh, M; Kulkarni, A; Pradhan, AS	P07.72
Trends in Patients' Exposure Doses during Radiographic Examinations in Japan Asada, Y; Kobayashi, K; Kobayashi, M; Matsunaga, Y; Otsuka, T; <u>Suzuki, S</u>	P07.73
Collective Doses of Bulgarian Population from X-ray and Nuclear Medicine Examinations: 2010 update <u>Vassileva, J</u> ; Ingilizova, K; Avramova-Cholakova, S; Hristova-Popova, J	P07.74
Dosimetry of CT and Image Quality in Oncology Patient: Comparison of Two National Institute of Cancer. <u>Orejuela Mosquera, D M</u> ; Kodlulovich, S; Plazas, M C	P07.75
Preliminary Study Of Image Quality In MSCT Through Qualitative Parameters For Adult Abdomen Routine In Rio De Janeiro, Brazil. Soto, Y; Silveira, V; Delduck, R; <u>Mora, P</u> ; Kodlulovich, S	P07.76
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## Poster sessions C-D: Area 9

Type:	Poster Session
Topic:	Emergency Exposure Situations
Date and time:	Wednesday 16 May 2012, 10:30-11:30 hours Thursday 17 May 2012, 13:15-14:15 hours
Room:	Hall 4
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An Source Rebuild Method with Genetic Algorithm Based on Monitor Data Xu, XJX; Yao, YRT; <u>Yang, YHT</u>	P09.59
Sorption Characteristics of Radionuclides in Environmental Aqueous Systems for Sorbents <u>Fukutani, S</u> ; Kubota, T; Ohta, T; Takamiya, K; Fujiwara, K; Yoshinaga, H; Satta, N; Koyama, A	P09.60
Consequences in Norway after Hypothetical Accidents at Sellafield and the Leningrad NPP <u>Nalbandyan, A</u> ; Album Ytre-Eide, M; Thørring, H; Liland, A	P09.61
Pharmacological Modulation of Acute Radiation Disease by Meloxicam, an Inhibitor of Cyclooxygenase-2 <u>Hofer, M</u> ; Pospíšil, M; Dušek, L; Hoferová, Z; Komůrková, D; Weiterová, L	P09.62
Average Annual Effective Doses at Inhabitants Living on Contaminated Territories at Long Time After the Chernobyl Accident <u>Vlasova, N</u> ; Rozhko, A; Chunikhin, L; Visenberg, Y; Lescheva, S; Drozdov, D	P09.63



Plutonium Levels in Air and Vegetables from a Contaminated Area: A Review of Results and Estimation of the Related Inhalation and Ingestion Doses <u>Gutiérrez, J</u>	P09.64
Evaluation of Dose Probability Due to Incidents According to the Type of Nuclear Research Reactors <u>Maciel Lopes, VML</u> ; Sordi, GMAAS; Madi, TMF; Moralles, MM	P09.65
Loss of Control of a High Activity Well-logging Source - The Lessons Learned Rodaks, G; <u>Thomas, G</u> ; Nettleton, M; Taylor, J	P09.66
Consequences of Burying or Cremating Radioactively Contaminated Fatalities Watson, S; <u>Jones, KA</u> ; Mobbs, SF; Chen, QQ	P09.67

## Poster sessions C-D: Area 10

Type:	Poster Session
Topic:	Existing Exposure Situations
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Room:	Hall 4
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Radon Regulations in Dwellings: Is it Time to Move Towards a More Compulsory Approach? <u>Bochicchio, F</u>	P10.38
Present Status of Radon and Radium Activity Measurements in Well and Bottled Water at the Federal University of Technology (UTFPR, Brazil) Corrêa, J; <u>Kappke, J</u> ; Paschuk, S; Schelin, H; Denyak, V; Perna, A; Reque, M	P10.39
Investigation of Radon Isotopes Content In Dwellings and Public Buildings of Russian Federation <u>Stamat, IP</u> ; Kormanovskaya, TA	P10.40
Natural Radioactivity In Ceramics <u>Stamat, IP</u> ; Svetovidov, AV	P10.41
Thoron, Radon and their Progenies in the Indoor Environment in Workplaces Located in an old Public Building in Rome (Italy) <u>Trevisi, B</u> ; Guardati, M; Leonardi, F; Tonnarini, S; Veschetti, M	P10.42
Indoor Radon Levels And Influencing Factors In Dwellings In France Paillard, JC; <u>Roudier, C</u> ; Zeghnoun, A; Vacquier, B; Lucas, JP; Catelinois, O; Mandin, C; Lefranc, A	P10.43
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Results of a Radon Mitigation Action in Schools in South Italy: Methodology, Effectiveness and Economical Considerations <u>Trevisi, B</u> ; Caricato, AP; Fernández, M; Leonardi, F; Leonardi, F; Tunno, T; Tonnarini, S; Veschetti, M	P10.45

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Measurements of Concentration of Radon in Indoor and Outdoor air in Kumamoto Prefecture, Japan <u>Shimasaki, T</u> ; Kawahara, O; Shiraishi, Y; Gotoh, K; Kojima, A; Urano, T; Okada, S	P10.48
Study on Unattached Fraction of Radon Progeny and its Environmental Influence Factors <u>Guo, L</u> ; Zhang, L; <u>Guo, Q</u>	P10.49
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An Aid to the Study of the Behavior of Radon and Air Pollutants in the Atmospheric Boundary Layer <u>Kataoka, T</u> ; Yunoki, E; Shimizu, M; Mori, T; Tsukamoto, O; Takahashi, S; Fudeyasu, H; Iwata, T; Ohashi, Y; Sahashi, K; Maitani, T; Miyashita, K; Sasaki, T; Fujikawa, Y; Kudo, A; Shaw, RH	P10.79
Evaluation of Indoor Radon Level Due to High - Exposure Building Material Used in Iran <u>Abbasi, A</u> ; Mirekhtiary, F	P10.80
Presence of a Radioactive Gas in Archeological Excavations, Determination and Mitigation <u>Balcazar, M</u> ; Gomez, S; Peña, P; Zavala-Arredondo, J; Gazzola, J	P10.81
Environmental Risk Assessment of Radon from Ceramic Tiles <u>Maged, AF</u> ; Nada, LAM; Lotfi, ZI	P10.82
Aspects Of Health Defence In the Environmental Radiation Protection From Radon Pennarola, E; Trinchese, P; Caggiano, A; Di Matteo, R; Di Palma, P; Iacoviello, P; Pennarola, R	P10.83
The mesurment of radon in the environment: publication of a new ISO standard Calmet, D; <u>Améon, R</u> ; Beck, T; De Jong, P; Herranz, M; Klett, A; Michel, R; Richards, T; Schuler, C; Tokonami, S; Woods, M; Jiranek, M; Rovenska, K; Duda, JM; Haug, T	P10.84
Low Energy Construction, Ventilation Strategies and Indoor Radon <u>Arvela, H</u> ; Holmgren, O; Reisbacka, H	P10.85
A Novel Estimation of the Exposure of the Population of Israel to Natural Sources of Ionizing Radiation Epstein, L; <u>Koch, J</u> ; Haquin, G; Orion, I	P10.86
Exposure to Radon from Concrete with Fly Ash: a Proposed Model, In-Situ and Laboratory Measurements. <u>Haquin, G</u> ; Kovler, K; Becker, R	P10.87
Living in an excavated housing. Relationship between typological features and indoor radon in underground dwellings. Creville <u>Piedecausa García, B</u>	P10.88



## Poster sessions C-D: Area 11

Type:	Poster Session	
Topic:	Protection of the Environment	
Date and time:	Wednesday 16 May 2012, 10:30-11:30 hours	
	Thursday 17 May 2012, 13:15-14:15 hours	
Room:	Hall 4	
Man-made Radionuclides in the Soil and Vegetation Covering Nearby the Site for SNF and RW Temporary Storage on Kola Peninsula		P11.01
<u>Akhromeev, SV</u> ; Shchelkanova, ES; Novikova, NYa; Filonova, AA		
Radio-Ecological Regulations for Remediation of the Sites for Temporary Storage of the Spent Nuclear Fuel and Radioactive Waste		P11.02
<u>Seregin, VA</u> ; Shchelkanova, ES; Sneve, MK; Semenova, MP; Novikova, NY		
The Common Reed Seeds' Viability From Water-Bodies With Different Levels of Radioactive Contamination		P11.03
<u>Yavnyuk, AA</u> ; Shevtsova, NL; Gudkov, DI		
Long-Term Effects of the Low-Level Radiation Exposure on Aquatic Biota within the Chernobyl Exclusion Zone		P11.04
<u>Gudkov, DI</u> ; Shevtsova, NL; Dzyubenko, EV; Pomortseva, NA; Nazarov, AB		
High Natural Background Radiation Areas and Interaction between Nature, Scientists and Public		P11.05
<u>Abdollahi, H</u> ; Teymuri, M		
Structure Of The Cell Wall Of Mango After Application Of Ionizing Radiation		P11.06
<u>Silva, JM</u> ; Villar, HP; Pimentel, RMM		
An Anthropocentric View Cannot be used to Achieve Radioprotection of Biodiversity		P11.07
<u>Cedervall, B</u> ; Mothersill, C		
Investigation of Specific Local Ecosystem Arised on the Tenorm Slag and Ashes		P11.08
<u>Prlic, J</u> ; Suric, MM; Hajdinjak, M; Cerovac, Z		
Study on the Bioaccumulation of 210Po in the Biota of Pondicherry, South East Coast of India		P11.09
<u>Sadiq Bukhari, A</u> ; Syed Mohamed, HE; Meera Maideen, M		
Biological Effects of a 25-Year Low-Dose Chronic Exposure on Higher Aquatic Plants of the Chernobyl Exclusion Zone		P11.10
<u>Shevtsova, NL</u> ; Gudkov, DI		
Comprehensive Assessment Of Ecosystems Conditions Of Reservoirs With A Different Levels Of Radioactive Contamination		P11.11
<u>Pryakhin, EA</u> ; Tryapitsina, GA; Deryabina, LV; Andreev, SS; Obvintseva, NA; Stukalov, PM; Kostyuchenko, VA; Akleyev, AV		
Transfer of wet deposited radiocaesium and radiostrontium in <i>Brássica napus</i> L. and <i>Triticum aestívum</i> L.		P11.12
<u>Bengtsson, SB</u> ; Rosén, K		
Combined Action of Radiation and Mercury on DNA Damage and Repair in Coelomocytes of Earthworms		P11.14
<u>Kim, JK</u> ; Ryu, TH; Nili, M		

Determination of 238U, 232Th and 40K in Zircon Sand Products from a Processing Plant in Brazil <u>Hazin, CA</u> ; Gazineu, MHP; Farias, EEG; Honorato, EV	P11.15
Measuring U-238 and U-235 Decay Products By the Spectrometer PRIPYAT-2M <u>Svrkota, N</u> ; Antovic, NM; Andrukhovich, SK	P11.16
Radiocesium in Mycorrhizal Macro Fungi in Finnish Lapland in 1980-2011 <u>Ylipieti, J</u> ; Rissanen, K	P11.17
Determination of Uranium in Soil by KPA using Diphonix® resin <u>Grinman, ADR</u> ; Giustina, D; Mondini, JM	P11.18
Temporal Evolution of the Spanish Labs Intercomparisons in the Radionuclides Determination in Environmental Samples <u>Gasco Leonarte, C</u> ; Trinidad, JA; Suarez Navarro, JA; Romero, L; Valino, F; Llaurodo, M; Salas, R; Barrera, M	P11.19
Importance of Meteorological Condition on Environmental effect of Radioactive Material from a Nuclear Facility <u>Han, MH</u> ; Hwang, WT; Jeong, HJ; Kim, EH	P11.20
Characterization of Artificial Radionuclides and Sedimentation in Sediment Core of Crater Lake, Baengnokdam of Mt. Halla, Korea <u>Yim, SA</u> ; Byun, JI; Ko, SH; Kang, TW; Yun, JY	P11.21
Concentrations of Radionuclides in Soil and Assessment of the Environmental Gamma Dose <u>Pantelic, G</u> ; Eremic-Savkovic, M; Vuletic, V; Marinkovic, O	P11.22
Radionuclide Concentration Factors in the Mullet (Mugilidae) Species Mugil cephalus - from Seawater, Sediment and Mud with Detritus <u>Antovic, NM</u> ; Antovic, I	P11.24
Environmental Impact of Radioactive Discharges from the Ringhals Nuclear Power Plants into the Kattegat Sea <u>Sundell-Bergman, S</u> ; Weimer, R; Aronsson, D	P11.25
Providing Access to Environmental Radioactivity Measurements During Crisis and in Peacetime: Two Tools Developed in France by IRSN <u>Leprieur, F</u> ; Manificat, G; Guldner, B; Couvez, C	P11.26
Inventories, Input, and Transport of Iodine Isotopes in Germany <u>Daraoui, A</u> ; <u>Schwinger, M</u> ; Riebe, B	P11.27
Iodine-129 And Iodine-127 In Seawater Of The North Sea And In Precipitation From Northern Germany <u>Daraoui, A</u> ; Michel, R; Gorny, M; Jakob, D; Sachse, R; Tosch, L; Nies, H; Goroncy, I; Herrmann, J; Synal, HA; Stocker, M; Alfimov, V	P11.29
Radionuclides Contamination Within 60 Km from The Fukushima Daiichi Nuclear Power Complex after the Accident On March 11, 2011 <u>Momoshima, N</u> ; Sugihara, S; Ichikawa, R; Maekawa, A; Matsuzaki, T; Kawamura, H	P11.30
Participation of the IFIN-HH Dosimetry Laboratory for Personnel and Environment (LDPM) at the Proficiency Test AQUACHECK-2011. <u>Stochioiu, A</u> ; Luca, A; Sahagia, M; Tudor, I	P11.31



Impact of Refuelling of the Krsko Nuclear Power Plant on the 14C Activity in the Atmosphere and Plants <u>Krajcar Bronić, J</u> ; Obelić, B; Horvatinčić, N; Sironić, A; Barešić, J; Rajtarić, A; Breznik, B; Volčanšek, A	P11.32
Dose Rate Measurements of the Phosphogypsum Deposition Site and the Surrounding Environment <u>Bituh, T</u> ; Marovic, G	P11.33
Improved System for Collecting Stack Samples for Tritium and Carbon-14 Analysis <u>Wahl, LE</u> ; Jelinski, J	P11.35
137Cs Inventory in South Adriatic <u>Petrinec, B</u> ; Franic, Z	P11.36
“Data Mining” Of Environmental Radioactivity Surveillance Data <u>Fischer, HW</u>	P11.37
Dose Assessment to Marine Biota: Evaluation of Key Environmental Parameters <u>losjpe, M</u>	P11.38
Radiation and Ecological Conditions of the Offshore Waters nearby the Site for SNF and RW Temporary Storage at Andreeva Bay Shchelkanova, ES; <u>Filonova, AA</u> ; Titov, AV; Seregin, VA; Semenova, MP	P11.39
Strontium Biokinetic Model For Mouse-Like Rodent Malinovsky, GP; Yarmoshenko, IV; <u>Zhukovsky, MV</u>	P11.40
Assessment of Environmental Radioactivity in Natural Food Products from Northern Norway Gwynn, JP; Eikermann, IM; Møller, B; <u>Nalbandyan, A</u> ; Nilssen, J; Rudolfson, G	P11.41
137Cs Distribution in the Northern Adriatic Sea(2006-2011) <u>Pavičić-Hamer, D</u> ; Barišić, D	P11.42
Radiological Impact of the Hukushima Nuclear Accident on the Human and Biota in the Republic of Korea <u>Keum, DK</u> ; Jun, I; Lim, KM; Choi, YH	P11.43
High Background Radiation Area and Environmental Protection Programme <u>Zakeri, F</u> ; Akbari Noghabi, K; Sadeghizadeh, M; Kardan, MR	P11.44
Long-term Management in Norway, 1986-2011. Use of Caesium Binders and Special Feeding Program to Reduce Radiocaesium Concentration in Grazing Animals <u>Gjelsvik, R</u>	P11.45
Radiation Protection Considerations in the Primary Approval Phases of Major Projects <u>Hondros, J</u>	P11.46
Regulatory Radiation Protection Inspections at the Koeberg Nuclear Power Station (KNPS): Ensuring the safety of workers, the public and environment. <u>Majola, VKA</u>	P11.47
Investigation of a Pollutant Behavior in Coastal Area by using a Hydraulic Prototype Model Park, GH; Kim, KC; Lee, JY; Lee, JL; <u>Suh, KS</u>	P11.48

The Radiological Characterization of the Dosimetry Secondary Standard Center of IFIN-HH, Bucharest, Romania <u>Stochioiu, A</u> ; Bercea, S; Celarel, A; Tudor, I	P11.49
Using Modelling and Measuring Toolq to Build Relevant Environmental Monitoring Programmes <u>Mercat, C</u> ; Baldassarra, C	P11.50
Environmental Radioactive Air Sampling and Monitoring Program Considerations <u>Barnett, JM</u>	P11.51
Strengthening Environmental Radiation Monitoring Around Kwale Titanium Mining Site in Kenya <u>Shadrack, AK</u>	P11.52

## Poster sessions C-D: Area 12

Type:	Poster Session
Topic:	Fukushima
Date and time:	Wednesday 16 May 2012, 10:30-11:30 hours Thursday 17 May 2012, 13:15-14:15 hours
Room:	Hall 4
Lessons for Health Physics Professionals after Fukushima Dai-Ichi Accident <u>Singh, V</u> ; Managanvi, SS	P12.01
In-vivo measurements at German Competent Incorporation Measuring Bodies in the wake of Fukushima <u>Gerstmann, UC</u> ; Fischer, P; Breustedt, B; Lohnert, D; Bartenstein, P; Sonnenschein, W; Niggerman, G; Mester, J; Kriens, M; Loscher, S; Leisner, B; Eschner, W; Geworski, L; Keller, KD; Neudert, N; Spross, T; Lassmann, M; Kirchner, U; Lieberz, W; Hill, P	P12.02
In-vivo measurements at German Competent Incorporation Measuring Bodies in the wake of Fukushima <u>Gersmann, U</u>	P12.03
Openness to society in the context of Fukushima accident <u>Repussard, J</u> ; Rollinger, F	P12.04
Risk Perception Toward Nuclear Power in Taiwan After Fukushima 2011 <u>Chang, P</u>	P12.05
Regional Fukushima Fallout in Germany – Data and Models <u>Fischer, HW</u> ; Pittauerová, D; Ulbrich, S; Hettwig, B	P12.06
Experience Of TCC IBRAE RAN In Scientific And Technical Support And Radiation Emergency Response <u>Pavlovski, O</u> ; Bolshov, L; Arutyunyan, R; Osipiyants, I; Panchenko, S; Pripachkin, D; Gulyaev, A; Krasnoperov, S; Aron, D; Zaryanov, A	P12.07
Construction of Precise Contamination Maps in the Fukushima Region <u>Saito, K</u>	P12.08
Measurements and Calculations of Beta Dose Rates on the Contaminated Ground at the Fukushima Daiichi Nuclear Power Plant Site <u>Tsujimura, N</u> ; Yoshida, T; Furuta, S	P12.09
Information: Lessons learnt from Fukushima crisis Bigot, MP; <u>Baumont, G</u>	P12.10



Temporal Changes of Transfer of Fallout Radionuclides by Fukushima NPP Accident from Tree Crown to Litter Layer and Forest Soil <u>Yuichi, O</u> ; Kato, H; Wakahara, T; Tsujimura, M; Kawamori, A	P12.11
Artificial radionuclides in the troposphere of Seville (Spain) due to the Fukushima accident, associated fallout and impact on the trophic chain <u>García-Tenorio, R</u> ; Manjón, G; Mantero, J.; Vioque, I.; Galván, J.	P12.12
Fallout Of 131I, 134CS And 137CS In Southern Sweden, Following The Fukushima Nuclear Accident Ören, ÜÖ; <u>Hansson, MH</u> ; Rääf, CLR	P12.13
Egyptian Guidelines for Goods Imported from Japan After Fukushima accident <u>Gomaa, MAM</u> ; Abdelazim, ME; El Fouly, H	P12.14
Radioactivity of Aerosol and Fallout in Belgrade – Consequences of Fukushima Reactor Accident <u>Nikoliæ, J</u> ; Panteliæ, G; Todoroviæ, D; Jankoviæ, M	P12.15
Experiences in Japan - Providing Radiation Protection Advice in a Crisis <u>Patel, B</u> ; Kockerols, P	P12.16
The Fukushima Accident Through the “Corriere Della Sera” Website <u>GIUFFRIDA, D</u>	P12.17
Environmental Consequences of Major Nuclear Accidents: The IAEA Outlook on Lessons Learned <u>Berkovskyy, V</u> ; Telleria, D; Proehl, G	P12.18
The Fukushima Accident: Reflection in the Media and the Public Opinion in Belgium Perko, T; <u>Turcanu, C</u> ; Geenen, D	P12.19
Monitoring the External and Internal Contamination of People Returning from Japan to Belgium after the Fukushima Nuclear Accident. Camps, J; <u>Lebacqz, AL</u> ; Vidmar, T; Vanhavere, F; Perko, T; van der Meer, K; Verledens, A; Willems, P; Van Bladel, L; Vandecasteele, C; De Beule, K	P12.21
Evaluation of Internal Exposure of the Worker and the Residents Caused by the Fukushima Nuclear Accident Takada, C; Kurihara, O; <u>Tsujimura, N</u> ; Kanai, K; Nakagawa, T; Miyauchi, H; Murayama, T; Maruo, Y; Momose, T; Furuta, S	P12.22
Landscape-Level Model Predictions Of 131I, 134Cs And 137Cs Transfer Through Terrestrial Systems In The 80-Km Fukushima-Daiichi Area Using The Symbiose Platform <u>Gonze, MA</u> ; Simon-Cornu, M; Metivier, JM; Garcia-Sanchez, L; Mourlon, C; Parache, V	P12.23
Learning From Experience at Fukushima: A UK Regulatory Perspective on Flood Risk Assessment and Management <u>Mayall, A</u> ; Allmark, TB; Hill, R; Ford, PJ; McGoff, A; Fadipe, D	P12.24
The Importance of the Time-Series in the Determination of the Influence of the Accidental Radioactive Contamination: “Fuskushima” Detection in Madrid <u>Gasco Leonarte, C</u> ; Simon, MA; Heras, MC; Trinidad, JA; Suarez, JA; Suanez, AM; Caro, A; Romero, B; Fernandez, E; Sanz, B; Diaz, MB; Arana, FM; Garcia, JA; Gonzalez, A; Garcia, JA; Jimenez, JA; Hernaiz, G	P12.25

The Particle Size Distribution Of Radioactive Aerosols After The Fukushima Accident <u>Mala, H</u> ; Rulik, P; Mihalik, J; Hyza, M	P12.26
RPII Radiation Monitoring Section Response to the Fukushima Accident and Lessons Learned Currivan, L; <u>McGinnity, P</u> ; Kelleher, K; Somerville, S; Hanley, O; O'Colmáin, M; León Vintró, L; McMahon, C	P12.27
Development of KURAMA and the Car-borne Survey in Fukushima <u>Tanigaki, M</u> ; Okumura, R; Takamiya, K; Sato, N; Yoshino, H; Yoshinaga, H; Yamana, H	P12.28
Learning From Experience At Fukushima: A UK Regulatory Perspective on Emergency Preparedness <u>Attwood, CA</u> ; Little, S; Watson, I	P12.29
Arrangements for Nuclear Emergency Preparedness and Response in the UK – Lessons Learnt from Fukushima <u>Dicks, PJ</u> ; Little, S; Temple, C; Etheridge, B; Powell, B; Mayor, A	P12.30
Special Environmental Monitoring Around Tokai-mura after the Accident of the Fukushima Dai-ichi Nuclear Power Station <u>Fujita, H</u> ; Nagaoka, M; Kono, T; Kawasaki, M; Okura, T; Tsujimura, N; Sumiya, S; Momose, T; Furuta, S	P12.31
Wet deposition of radionuclides and assessment of scavenging coefficients in France following the Fukushima accident <u>Depuydt, G</u>	P12.32
Spatial and Temporal Evolutions of the Airborne 137Cs Level at European Scale after Fukushima and Comparison with the Situation after Chernobyl <u>Masson, O</u> ; Depuydt, G; Gurriaran, R; De Vismes-Ott, A; Paulat, P; Saey, L	P12.33
Food Safety Regulations Implemented Following the Fukushima Nuclear Accident Hamada, N; <u>Ogino, H</u>	P12.34
Decontamination of the Contaminated Water by the Fukushima Nuclear Accident. <u>Ohtani, H</u> ; Lu, X; Fukushi, M; Nyui, Y	P12.35
Decontamination of the Ground by the Fukushima Nuclear Accident. <u>Ohtani, H</u> ; Lu, X; Fukushi, M	P12.36
Comparison of Radioactive Fallout in the United States from the Fukushima and Chernobyl Accidents <u>Harris, JT</u> ; Miller, DW; Flegel, SW; Jensen, J	P12.37
Airborne Radioiodine In Northern Serbia From Fukushima <u>Bikit, I</u> ; Todorovic, N; Mrdja, D; Nikolov, J; Krmar, M; Veskovic, M; Slivka, J; Hansman, J; Forkapic, S; Jovancevic, N	P12.38
Analysing The IRSN Risk Perception Barometer After The Fukushima Nuclear Accident <u>El Jammal, MH</u>	P12.39
In-Situ Dose Evaluations For Fukushima Population In 2011 Reveal A Low Doses And Low Dose Rates Nuclear Incident <u>Takada, JT</u>	P12.40



Preliminary Study of Dose Equivalent Evaluation with Optically Stimulated Luminescent Dosimeters for Residents in Marumori <u>Yoshida-Ohuchi, H</u> ; Kino, Y; Hirasawa, N; Kobayashi, I; Okazaki, T; Sekiguchi, H; Suzuki, A	P12.41
Fission Product Activity Measurements in Air Particulate Filters Collected after Fukushima Accident at Palermo, Italy Rizzo, S; <u>Tomarchio, E</u>	P12.42
Radiological Screening In South Africa Of Commercial Cargo Originating From Japan <u>van der Merwe, NJ</u> ; Swart, R	P12.43
Measurement on Air Filters from an Airplane Arriving from Tokyo Following the Fukushima Accident <u>Berg, K</u> ; Frederiksen, PK; Andrasevic, M; Breddam, K; Waltenburg, H	P12.44
Estimation of Marine Source-term Following Fukushima Dai-ichi Accident <u>Bailly Du Bois, P</u> ; Laguionie, P; Boust, D; Korsakissok, I; Didier, D; Fievet, B	P12.45
Using Artificial Radionuclides to Assess Coastal Circulation Models: case-studies of La Hague (France) and Fukushima (Japan) <u>Laguionie, P</u> ; Bailly Du Bois, P; Garreau, P; Dumas, F; Theetten, S; Solier, L	P12.46
The Transfer of Artificial Radionuclides in Milk and Meat after Fukushima Releases <u>Saey, L</u> ; Pourcelot, L; Parache, V; Roussel-Debet, S; Gurriaran, R; Masson, O; Renaud, P	P12.47
The Evaluation of the Dry Deposition Velocity of Iodine after Fukushima releases <u>Parache, V</u> ; Pourcelot, L; Saey, L; Roussel-Debet, S; Gurriaran, R; Masson, O; Renaud, P	P12.48
Radiological Consideration Regarding Logistical Management of Radioactive Surface Contamination after Fukushima Nuclear Accident <u>Ogino, H</u> ; Ichiji, T; Hattori, T	P12.49
Radiation Dose Measured by a Car Borne Survey Method and $\gamma$ Ray Spectrometry by NaI Detector in Fukushima Prefecture, Japan <u>Sugihara, S</u> ; Momoshima, N; Ichikawa, R; Maekawa, A; Matsuzaki, T; Kawamura, H	P12.50
Radioactivity in Zagreb and Fukushima Nuclear Accident <u>Marović, G</u> ; Franić, Z; Sencar, J	P12.51
Accident, Radiological consequences, and Management of the Consequences: The Fukushima Nuclear Accident <u>Mutava, VM</u>	P12.52
Impact of Fukushima Nuclear Accident on External Dose Monitoring in Japan <u>Romanyukha, A</u> ; King, D; Kennemur, LK	P12.53
Contingency Plans for Monitoring People Returning to the UK after the Accident at the Fukushima Nuclear Power Plants <u>Etherington, G</u> ; Youngman, MJ; Scott, JE; Smith, JRH	P12.54



Towards Comprehensive Radiological Protection for Public Using Background-Cancer-Risk Based Approach <u>Hattori, T</u>	P12.55
Lessons to be Learned from Fukushima <u>Higson, DJ</u>	P12.56
Relative Changes in Airborne Radionuclide Concentrations Observed in Chiba after The Fukushima Accident <u>Janik, M</u> ; Ishikawa, T; Sorimachi, A; Sahoo, S.K; Iwaoka, K; Yonehara, H	P12.57
Environmental Dose Rate Monitoring System For The Field Of Dispersed Cesium-137 <u>Koshida, KK</u> ; Matsubara, KM	P12.58
The Reductive Effect of a Mask for Pollinosis against Internal Exposure of Radioactive Materials Scattered by the Fukushima Daiichi Nuclear Disaster <u>Higaki, S</u> ; Hirota, M; Nogawa, N	P12.59
Development of a Counting Geometry for the FastScan Whole Body Counter that is Independent of Subject size for Small Children to Large Adults <u>Bronson, FL</u>	P12.60
Aerial radiological monitoring of East Japan after the Fukushima Daiichi NPP accident <u>Sanada, Y</u> ; Kondo, A; Sugita, T; Torii, T	P12.61
Evaluation of Internal Doses for Chronic Intakes after the Fukushima Daiichi Nuclear Power Plant Accident <u>Hato, S</u> ; Kimura, M; Kinase, S	P12.62
Development of The NIRS External Dose Calculation System for The Fukushima Residents Affected by The Nuclear Power Plant Accidents <u>Akahane, K</u> ; Yonai, S; Fukuda, S; Miyahara, N; Yasuda, H; Iwaoka, K; Matsumoto, M; Fukumura, A; Akashi, M	P12.63
The Experience of Risk Communication Activities Using Q&A Web Site About Radiation in Daily Life After Fukushima Daiichi Nuclear Power Plant Accident <u>Kono, T</u> ; Oginno, H; Hayakawa, H; Shimo, M; Taniguchi, K; Ban, N	P12.64
Development of radioactive databases and contamination map system <u>Seki, A</u> ; Takemiya, H; Takahashi, F; Tanaka, K; Takahashi, Y; Takemura, K; Tsuzawa, M; Saito, K	P12.65
Time Variation of Dose Rate and Gamma Spectrum of the Radionuclides Deposited on the Ground Due to the Fukushima Nuclear Crisis <u>Sorimachi, A</u> ; Hosoda, M; Tazoe, H; Tokonami, S; Yamada, M; Monzen, S; Osanai, M; Kashiwakura, I	P12.66



## Refresher Courses and Workshops

The Refresher Course programme provides delegates with the opportunity to update their knowledge in specific areas of radiation protection science and practice. There are two types of course:

- Courses aimed at providing a broad overview of the current state of a given topic, thereby giving delegates not working directly in that field a sound understanding of the current status.
- Courses aimed at giving experienced practitioners a more detailed understanding of up-to-date developments in a field.

Courses will be held each morning before the start of the Congress. The courses have been accredited by the American Academy of Health Physics for Continuing Education Credits.

### Monday 14 May, 08:00 – 09.00

RC1: Biological effects of radiation. *Lomond Auditorium*  
Professor Mary Helen Barcellos-Hoff

RC2: An Effective Communication Tool for the Public: The International Nuclear and Radiological Event Scale - INES. *Alsh*  
Dr Cynthia Jones

RC3: Radiation detriment: evolution of its estimation and its role in the RP system. *Boisdale*  
Dr Thierry Schneider

RC4: Optical radiation safety. *Dochart*  
Dr John O'Hagan

RC5: Design of medical facilities: radiotherapy shielding design. *Carron*  
Dr John Harrison

### Tuesday 15 May, 08.00 – 09.00

RC6: Conducting effective stakeholder involvement. *Carron*  
Dr Helen Grogan

RC7: Fundamental principles and recent developments in internal dosimetry. Dr *Alsh*  
George Etherington

RC8: Training workers in RP for a safer work environment. *Boisdale*  
Mrs Vivra Nilsson

## Tuesday 15 May, 08.00 – 09.00

RC9: EMF Measurements for health and risk assessment. Dr Carolina Calderon and Mr Darren Addison *Dochart*

RC10: Radiation protection issues for novel radionuclide therapies. Wendy Waddington *Lomond Auditorium*

## Wednesday 16 May, 08.00 – 09.00

RC11: Supporting stakeholder needs for information and facts. Dr Brooke Rogers *Carron*

RC12: Radiation protection in NORM industries. Ms Karin Wichterey *Alsh*

RC13: Safety and security in the transport of radioactive materials. Stephen Whittingham *Boisdale*

RC14: Considerations in estimating public doses from nuclear facilities. Ms Kelly Jones *Dochart*

RC15: Radiation protection and pregnancy in the medical environment. Dr Ernest Osei *Lomond Auditorium*

## Thursday 17 May, 08.00 – 09.00

RC16: Using new technologies in support of stakeholder involvement. Sven Nagel *Carron*

RC17: Optimisation of RP for the decommissioning of facilities. Mr Pascal Deboodt *Alsh*

RC18: Introduction to Post Closure Safety Assessment of near-surface disposal facilities. Dr Japie van Blerk *Boisdale*

RC19: Emergency management according to new IAEA BSS. Dr Elena Buglova *Dochart*

RC20: Radiation protection in interventional X-ray procedures. Professor Eliseo Vano *Lomond Auditorium*



## Friday 18 May, 08.00 – 09.00

- RC21: Introduction to Post Closure Safety  
Assessment of deep geological disposal facilities. *Firths Bar*  
Dr Matthew Kozak
- RC22: External dosimetry. *Gala*  
Mr Rodolfo Cruz Suarez
- RC23: Optimisation of radiation protection for radon exposure in homes. *Clyde Auditorium*  
Dr Christophe Murith
- RC24: Radiation Protection of the environment. *Leven*
- RC25: Radiation protection and dosimetry in paediatric CT. *Forth*  
Keith Strauss

## Medical Sector Practical Workshops

### Wednesday 16 May afternoon

These workshops will be led by experts in the relevant fields, and will involve hands on experience of solving routine radiation protection problems.

**Workshop 1:** Room design in Diagnostic Radiology. Professor Jim Malone.

**Workshop 2:** Patient dose calculation in Computed Tomography. Sue Edyvean.

## Technical Visits

We have been pleased to offer a number of Technical Visits for your interest. The local visits will take place on the afternoon of Wednesday 16th May. Most of the visits are within 90 minutes of the congress centre, but two (Sellafield and the UK Low Level Waste Repository) are at a considerable distance, and have been provided as a one day visit prior to the congress.

### Hunterston A Power Station (Decommissioning)

Hunterston A, a twin Magnox reactor site situated on the beautiful North Ayrshire coast and owned by NDA, is half way through its decommissioning programme. This was Scotland's first civil nuclear generating station; it operated between 1964 and 1990 and was fully defuelled by 1995. The primary goal at Hunterston A is to complete the complex decommissioning

programme in line with Government policy and NDA strategy in a way that protects people and the environment. The site is managed by Magnox Ltd, a Company owned by Energy Solutions.

On visiting Hunterston A, you can expect to learn about a range of decommissioning projects including retrieval and processing of wastes. A tour of the intermediate level waste store will highlight a robustly constructed facility and the graphite pathfinder project (GPP) team are available to discuss this emerging and exciting feasibility study. This location is approximately 90 minutes from the Congress Centre.

## Hunterston B (AGR) Power Station

The visit to Hunterston B Power Station operated by British Energy (an EDF Company) will provide the delegate with an overview of the main radiological protection issues associated with the operation of Advanced Gas cooled Reactors (AGRs). The visit will include a formal presentation and a chance for open discussion with Station Radiological Protection practitioners, and a visit to the plant to witness at first hand, radiological controls and practices in operation.

## Centre for Radiation, Chemical and Environmental Hazards (CRCE), Health Protection Agency (Glasgow)

The Health Protection Agency (HPA) is dedicated to protecting people's health in the United Kingdom. Combining public health, scientific expertise and research within one organisation, the Agency protects against threats to health from infections, environmental hazards and emergencies which can include chemical, biological, radiological and nuclear threats.

Visitors will be able to discuss the radiation protection services provided by the six professional Radiation Protection Advisers (RPAs) who carry out advisory work, occupational level safety training, statutory testing of radiation sources and monitoring instruments, and surveys of work with ionising and non-ionising radiation. Their experience covers use of radiation in light and heavy engineering, security, the petrochemical industry (onshore and offshore), universities, and other work places such as vets and dentists. Solar ultraviolet monitoring stations are also maintained across Scotland. Tours will be provided of the Department's state of the art facilities for testing radiation measuring instruments. Health physics equipment that supports routine and emergency response work will be demonstrated.



Tours will be provided of the radiometric and analytical chemistry laboratories and the Department's Emergency Operations Centre. Senior staff will discuss their experience from genuine emergency and exercise scenarios.

## HM Naval Base, Clyde

HM Naval Base Clyde, at Faslane, is some 25 miles north west of Glasgow and is home to the United Kingdom's strategic nuclear deterrent and the headquarters of the Royal Navy in Scotland. The Naval Base primarily comprises of the Naval Base at Faslane itself and the Royal Naval Armaments Depot (RNAD) at nearby Coulport. HM Naval Base Clyde's key role is to support the Royal Navy in maintaining Continuous At Sea Deterrence. This is achieved by ensuring that at least one Vanguard Class SSBN submarine is on patrol at sea every day of every year. The visit to the Base will include a guided tour of the nuclear accident response facilities, solid waste handling facilities, liquid processing facilities, the submarine berths themselves and the Shiplift.

## GSE Systems Power Station Simulation Training Centre at University of Strathclyde (Glasgow)

The home to the only academic, fully flexible GSE Power Station simulator suite designed for training in Europe. This \$4 million simulation training and education centre offers a unique facility that provides the basis for research and education in the areas of real-time simulation, power station control and advanced diagnostics. The simulator replicates actual control rooms with instrumentation and controls driven by computer models that replicate a plant's actual response to normal operating conditions.

## The ALPHA-X Laboratory, University of Strathclyde (Glasgow)

This laboratory is furnished with a pair of femtosecond lasers and "target areas" situated in a suite of well equipped, shielded laboratories. This equipment is used to investigate the interaction of intense electromagnetic fields with matter. The main activity of the ALPHA-X project is to develop laser-plasma accelerators and utilise these as drivers of compact radiation sources. One of the lasers is the highest power short-pulse laser system in any UK university laboratory (pulse energy of 1 J, wavelength 800 nm and pulse duration 35 fs) that can deliver 30TW of peak power to the experiments, which makes possible studies at field intensities in excess of  $10^{19}$  Wcm<sup>-2</sup>. The visit to the laboratory will entail a tour of the laser facilities

and the ALPHA-X beam line area. Laser-plasma accelerators are extremely compact and the entire beam line area covers only an area of 10 m x 3.5 m. With a bit of luck, the accelerator will be operational during the visit so visitors may witness first hand the generation of 100 – 200 MeV electron beams and associated bright X-ray pulses!

## Sellafield Nuclear Site (One Day Visit)

Sellafield has been home to nuclear operations since the early 1950's, primarily focused on nuclear generation, storage and chemical separation of nuclear fuel. Today the highest priority for the site is accelerating high-hazard and risk reduction of the legacy facilities on the largest and most complex nuclear cleanup site in the world, with 170 major nuclear facilities and 2200 other buildings housing activities that cover the entire nuclear fuel cycle. It is home to some of the most innovative and complex nuclear decommissioning projects in the world. The tour will give an opportunity to see the contrast between the oldest and newest of the operating plants on the site and will also include a coach tour to view the major construction projects.

## UK Low Level Waste Repository, Drigg (One Day Visit)

This visit will allow the participants to view the development of LLW management in the UK since the start of the nuclear programme in the UK. Key aspects are the learning gained through operation and the development of regulation within the nuclear industry and the impact of regulations from other industries both within the UK and across Europe. Through the development of the facility over 50+ years it has been optimised through both necessity and regulation. More recent changes have been developed in collaboration with both local and national stakeholders which has had a dramatic impact on the facility now proposed and the way in which it is managed. Despite the limited and minimal radiological risk from a technical perspective it is nevertheless NUCLEAR waste and is therefore very much in the public eye. As well as touring the operational site, the visit will focus on the development of both the UK national policy for LLW management and the Post Closure Safety Case for the repository.



## Publication of Proceedings

All papers, poster PDFs and presentations will be published on the IRPA website following the Congress. Selected presentations will be available as podcasts or audio/slide productions.

A Congress Output which clarifies state-of-the-art knowledge, current direction and emerging challenges in all the areas of radiation protection addressed at the Congress will be distilled into a discussion document, which after the Congress will be posted on the IRPA13 website for consultation. The finalised Output will then be published in the SRP's Journal of Radiological Protection.

## IRPA Business Programme

IRPA will conduct many aspects of its formal business during the Congress. The Associate Societies Forum will be held on Sunday 13 May, the General Assembly on Wednesday 16 May, and other committees will meet as necessary. For further information on the IRPA business programme, including all papers, please go to the IRPA website [[www.irpa.net](http://www.irpa.net)].

## The Congress Venue

The 13th International Congress of the International Radiation Protection Association – IRPA13 is taking place in the Scottish Exhibition and Conference Centre (SECC), Glasgow, UK.

The SECC is located right in the heart of the city on the banks of the River Clyde and provides purpose-built conference and exhibition facilities of the highest standard, while its level of service represents the best traditional Scottish warmth and hospitality. For further information on the Conference Centre please visit [www.secc.co.uk](http://www.secc.co.uk).

<b>Hall 4</b>	Registration, Exhibition, Posters and Catering
<b>Clyde Auditorium</b>	Opening Ceremony, Plenary Sessions and Parallel Sessions
<b>Forth Room and Gala Room</b>	Parallel Sessions
<b>Lomond Auditorium</b>	Parallel Sessions and Refresher Courses
<b>Alsh, Boisdale, Dochart and Carron Rooms*</b>	Parallel Sessions and Refresher Courses





**\*The Dochart and Carron rooms are directly above the Boisdale and Alsh rooms**



# General information

## Registration Opening Times

The registration desks are located in Hall 4 at the Scottish Exhibition and Conference Centre:

<b>Sunday 13 May 2012</b>	16.00–20.00 hours <i>Hall 4</i>
<b>Monday 14 May 2012</b>	07.00–18.30 hours <i>Hall 4</i>
<b>Tuesday 15 May 2012</b>	07.00–18.30 hours <i>Hall 4</i>
<b>Wednesday 16 May 2012</b>	07.00–18.30 hours <i>Hall 4</i>
<b>Thursday 17 May 2012</b>	07.00–17.00 hours <i>Hall 4</i>
<b>Friday 18 May 2012</b>	07:30–14.00 hours <i>Clyde Auditorium foyer</i>

## Opening Ceremony

The Opening Ceremony and Sievert Lecture will be held in the Clyde Auditorium on Monday 14 May from 09.00 hrs to 11.00 hours.

## Transportation

Glasgow Prestwick Airport is a 45 minute drive by direct motorway link from the SECC. Glasgow's International Airport is a 15 minute drive from the SECC, and provides direct access to and from major European and North American cities.

*Public transport is available to and from the SECC:*

**Scotrail:** From Glasgow Central Station (low level), there is a regular train service to the "Exhibition Centre" station, which is linked to the SECC by a covered walkway. The train departs approximately every 9 minutes but you should check out this link for further information - <http://www.scotrail.co.uk/timetables-routes/171/205>. You should refer to the Glasgow - Milngavie and the Helensburgh Central – Glasgow part of the timetable for the relevant train times. The train service to Edinburgh departs from Glasgow Queen Street station.

**Bus:** First Bus 62 service and Arriva 26 service operate each day, approximately every 10 and 20 minutes respectively, at

the main entrance to the SECC site. These services run from Argyle Street (62) and Finnieston Street, at the Clyde Arc Bridge (26). Both services travel to Glasgow City Centre and return, as follows:

First bus 62 via St Vincent Street, West George Street and Union Street

Arriva 26 via Broomielaw, Oswald Street and Glasgow Central train station.

**Taxis:** Taxis are available for hire outside the SECC and the adjacent Crowne Plaza Glasgow Hotel.

## Delegate Travel Card

All full delegates and accompanying persons will receive an SPT Travel Card when registering for the IRPA13 Congress in Hall 4 at the SECC. Note that this is quite wide-ranging and covers travel on most buses and local trains, including out to Loch Lomond (Balloch) and the Clyde coast. Accompanying Persons in particular are encouraged to make the best possible use of this option. This travel card is valid from Sunday 13 through to Friday 18 May 2012, instructions of use will be provided with the card. Please note this is included within the full delegate registration fee, not the day delegate fee.

## Abstract Book

The abstract book is available on the congress USB and on the website.

## Badges

The name badge issued to delegates at registration serves as an admission pass to all scientific sessions, the exhibition and social events. Delegates are asked to ensure that they wear their name badge at all times. If your badge is lost, a new badge will be issued. The administration cost for a new badge is £2.50

## Bank

An ATM machine is located on the Concourse at the SECC. Branches of all the major UK banks may be found in the centre of Glasgow. Generally, weekday opening hours for banks are 09:15 – 16:45 hrs, although this does vary. A limited number are open on Saturday mornings.

For exchanging foreign currency and traveller cheques the banks usually provide the most competitive rate. However, it is also possible to change money in airports, larger rail



stations, travel agents, some larger hotels (if you are a resident) and in most Post Offices; there is usually a handling fee and commission. The Glasgow Tourist Board located in George Square is open from 09:30 – 18:00 hrs every day, including Saturday and Sunday for the purposes of exchanging foreign currency and travellers cheques.

## Business and Information Centre

There is a Business Centre on the Concourse, which provides fax and photocopying services. These services are used at the delegates' own expense. Photocopying is available for £0.10 per page for black and white, and £0.20 per page for colour. Faxing is £2.00 for the first sheet and £0.50 per page thereafter. The Business & Information Centre will be open during the Registration opening hours. Local and tourist information is also available here.

## Car Parking

Delegate car parking is available at the SECC at a cost of £6.00 per car, per day.

## Cloakroom and Left Luggage Facilities

There will be cloakroom facilities available at the SECC during the registration opening hours. There is a charge of £1.00 per item left. Left luggage facilities will be available on Friday 18 May 2012 on the concourse.

## Credit Cards

Commonly accepted credit cards in hotels, restaurants and stores are American Express, Visa, Mastercard and Diners.

## Disclaimer

All best endeavours will be made to present the programme as printed. However, IRPA13 and its agents reserve the right to alter or cancel, without prior notice, any arrangements, timetables, plans or other items relating directly or indirectly to the congress, for any cause beyond its reasonable control. IRPA13 and its agents are not liable for any loss or inconvenience caused as a result of such cancellation. Delegates are advised to take out their own travel insurance and to extend their policy to cover personal possessions as the Congress does not cover individuals against cancellation of bookings or theft or damage to belongings. Tours run by third parties may be subject to cancellation should minimum numbers not be achieved.

## Electricity

The voltage in the United Kingdom is 220-240V.

## Exhibition

An exhibition of related products, services and technologies is being held concurrently with the Congress. The exhibition will be located within Hall 4 at the SECC.

Monday 14 May 2012	09:00–17:00	Exhibition Open
Tuesday 15 May 2012	09:00–17:00	Exhibition Open
Wednesday 16 May 2012	09:00–17:00	Exhibition Open
Thursday 17 May 2012	09:00–17:00	Exhibition Open

Full details of the Exhibition are included on page 154.

## First Aid

A fully staffed first aid post is open at all times during the Congress opening hours. The first aid room is situated on the Concourse at the SECC.

## Internet Facilities



There are free wireless facilities available throughout the SECC and there is also an Internet Café in the exhibition in Hall 4 which is sponsored by EDF Energy.

## Language

The official language of the Congress is English. Simultaneous translation is not available.

## Lost Property

Enquiries regarding items lost or found can be made at the Registration Desks located in Hall 4.

## Lunches and Refreshments



**CANBERRA**

Refreshment breaks are sponsored by Canberra. Coffee and Tea will be served during the morning and afternoon breaks in Hall 4. Tea and coffee are included in your registration fee. Cash catering for lunch will be available in Hall 4 and there are also various other cash catering facilities available at the SECC including a coffee and snack bar and a restaurant.



There are also several restaurants in close proximity to the SECC – Yen (India Quay), Crowne Plaza Hotel and the Hilton Garden City Inn Hotel.

Please refer to the programme pages for official break times.

## Mail

There is a mail box located outside the east entrance of the SECC, which is emptied daily. Stamps are sold at the newsagent situated on the Concourse. The nearest Post Office is located at:

- 1170 Argyll Street, Glasgow G3. Tel: 0141 248 7611

## Messages and Correspondence

Messages for delegates should be handed in at the Registration Desks in Hall 4. Notification of messages will be displayed on the message board situated next to the registration area in the Hall 4. Please check the board daily and pick up your messages – they may be urgent.

Mail can be forwarded to delegates at the SECC. Mail should be addressed:

c/o IRPA13 2012, Hall 4, Scottish Exhibition and Conference Centre, Glasgow, G3 8YW, Scotland, UK.

## Posters

Poster sessions will take place at the exhibition area located in Hall 4. The Poster presenters will be in attendance at their posters during the following poster session times:

Monday 14 May	16:00-17:00 hours	Poster Session A
Tuesday 15 May	16:00-17:00 hours	Poster Session B
Wednesday 16 May	10:30-11:30 hours	Poster Session C
Thursday 17 May	13:15-14:15 hours	Poster Session

For further information on Posters, please refer to page 60.

## Public Telephones

Public telephones (coin, credit card and cardphone operated) are located at various points on the Concourse. Phone cards can be purchased at the newsagent.

## Security

Any security problems or concerns should be reported to a uniformed member of staff.

## Shops

Most stores in central Glasgow are open from 09:00 – 17:30 hrs Monday – Wednesday and Friday – Saturday. Most large department stores and boutiques are open until 19:00 hrs on Thursday evenings and some stores also open from 11:00 hrs – 16:00 hrs on Sundays.

There is also a newsagent on the concourse of the SECC.

## Smoking Policy

On Sunday March 26, 2006 Scotland introduced a new law which bans smoking in public places. The law includes all enclosed or partly enclosed public areas. Therefore smoking is not allowed anywhere within the SECC or any of the social venues.

## Social Media

To link to the IRPA13 Facebook and Twitter accounts please visit the following:

- Facebook: <http://www.facebook.com/IRPA-13>
- Twitter: <http://twitter.com/#!/IRPA13>

Please note the Twitter account will be used for questions and answers during certain sessions within the congress programme. These sessions will be communicated separately with the relevant hash tag that should be used when directing questions to the Session Chair during the session.

There is an IRPA13 Congress electronic application available for download, instructions will be sent out to each delegate separately. Note that this runs on tablets as well as phones. This will be added to continuously on the run up to the congress, please note the application should upload any updates automatically to your device.

In addition there is a Glasgow App which gives customers and visitors to the city finger-tip access to real-time special offers and discounts for businesses in the city, as well as listing attractions, bars, cafés, going out, looking good, restaurants and of course shopping. You can download the current version



of the app at [www.glasgowstylemile.com](http://www.glasgowstylemile.com) or directly from iTunes at <http://itunes.apple.com/gb/app/glasgow-style-mile/id378731232?mt=8>

## Taxis

Taxis are available for hire outside the SECC or the adjacent Crowne Plaza Hotel. The cost of a taxi to the city centre is approximately £4.00.

## Tipping

Tipping is not as widespread or regulated in Scotland as it is in other parts of the world. Tipping is at your discretion, a reward for service. It is customary to tip hotel porters (50 pence – 75 pence per piece of luggage) and taxis (10% of the fare). A gratuity of about 10% is usual in restaurants if good service is received and it is not already included on the bill.

## Useful Websites

Glasgow City Marketing Bureau	<a href="http://www.seeglasgow.com">www.seeglasgow.com</a>
Scottish Tourist Board	<a href="http://www.visitscotland.com">www.visitscotland.com</a>
Scottish Exhibition and Conference Centre	<a href="http://www.secc.co.uk">www.secc.co.uk</a>
British Airport Authority, Glasgow Airport	<a href="http://www.glasgowairport.com">www.glasgowairport.com</a>
Glasgow Buses	<a href="http://www.firstgroup.com">www.firstgroup.com</a>
National Express	<a href="http://www.nationalexpress.com">www.nationalexpress.com</a>
ScotRail	<a href="http://www.firstgroup.com">www.firstgroup.com</a>
Rail Europe	<a href="http://www.raileurope.com">www.raileurope.com</a>

## Value Added Tax (VAT)

Value Added Tax and similar taxes are charged on most goods and services in the United Kingdom. At the time of going to press, VAT in the United Kingdom is 20%.

VAT must be paid on goods or services at the point of sale. Business travellers within Europe, subject to certain conditions, may reclaim VAT for Congress registration fees, accompanying persons' registration fees etc. This applies to both non-European business travellers visiting Europe and to European business travellers to other EU countries. For further information please contact Customs and Excise on departure at the Airport.



## Weather

Weather during May in Glasgow can be pleasant with an average temperature of 14°C although an umbrella is a sensible precaution as the weather in Scotland can be unpredictable.

## Social Programme

### Welcome Reception

**Sunday 13 May 2012, 19:00-20:30 hours**

The Welcome Reception will be held at the Glasgow Science Centre which is situated across the river footbridge from the SECC. The evening will allow delegates to relax and socialise, renewing old friendships and making new ones prior to the Congress week commencing. This event is inclusive within the registration fee for all delegates and accompanying persons.

### Opening Ceremony and Sievert Lecture

**Monday 14 May 2012, 09:00-11:00 hours**

The Opening Ceremony will take place in the Clyde Auditorium within the SECC, it will be followed directly by The Sievert Lecture.

### Accompanying Persons Reception

**Monday 14 May 2012, 11:00-11:30 hours**

The Accompanying Persons Reception will take place in the Alsh Room.

### Young Professionals Reception

**Monday 14 May 2012, 18:30-20:30 hours**

The Young Professionals Reception will take place in Firths Bar within the SECC. This event is invite only. Firths Bar is located at the rear of the Clyde building adjacent to the link corridor.



## SRP Annual Dinner

**Monday 14 May 2012**

The Annual Dinner of the UK host Society for IRPA13, the Society for Radiological Protection, will take place at Arta, the Mediterranean themed bar and club in the heart of the City Centre. The three course meal will be followed by dancing and casino entertainment. Coach transportation from the main hotels will be provided. Please note you need a ticket to attend this event.

## Scottish Evening

**Tuesday 15 May 2012**

The Scottish Evening is an informal evening which will take place simultaneously at two locations within Glasgow, Oran Mor and the Grand Central Hotel, where delegates will have the opportunity to socialise and learn some traditional Scottish dances. Drinks and a light buffet will be served. Please note you need a ticket to attend this event.

## Gala Dinner

**Thursday 17 May 2012**

The IRPA13 Gala dinner will be hosted in true Celtic style at The Thistle Hotel, in the heart of the City. On arrival delegates will be received with a welcome drink prior to being seated and served with a Scottish themed menu. A paying bar will be available after the meal, providing delegates with ample opportunity to socialise and make new acquaintances. Entertainment with a Scottish flavour will be provided during the evening. Please note you need a ticket to attend this event.

## Farewell Wee Dram

**Friday 18 May 2012**

Delegates and Accompanying Persons are invited to participate in a Wee Dram of Whisky to celebrate the end of the Congress. This will take place immediately after the Closing Ceremony in the SECC.

## Sightseeing Tours

### Charles Rennie Mackintosh Trail (Accompanying Persons Tour). Tuesday 15 May, 13.30 – 17.00 hours

An introduction to the life and works of Glasgow's most famous architect Charles Rennie Mackintosh. We will focus on the exteriors of some of his best known works including Queen's Cross Church (the only church he designed and now the home of the CRM Society), the Glasgow School of Art and Scotland Street School. We will also have an interior visit to The Glasgow Style gallery at Kelvingrove Art Gallery & Museum with its displays of furniture, decorative objects and paintings which set Mackintosh's work in the context of Glasgow at the turn of the century.

### Glasgow City Tour. Monday 14 May, 14.00 – 17.00 hours

This introduction to Glasgow will cover a panoramic tour of the City Centre, including the River Clyde, the historic Cathedral and Merchant City, the Georgian grandeur of Blythswood Square, Kelvingrove Art Gallery and the University Campus. We drive through the Clyde Tunnel to visit the Burrell Art Collection in Pollok Country Park with the chance to see the largest herd of Highland Cattle in Britain.

### Glengoyne Distillery & Loch Lomond. Tuesday 15 May, 09.30 – 12.30 hours

Travelling from Glasgow we drive to the foot of the Campsie Fells and visit Glengoyne Distillery, where we will see how Scotland's national drink is produced. For those who wish there is even a taste of the end product! At Balloch we'll make a stop to enjoy the panoramic views from Loch Lomond Shores in the Loch Lomond National Park before returning to Glasgow.

### Loch Lomond (Including sail on the Loch). Wednesday 16 May, 14.00 – 17.00 hours

From Glasgow we travel along the banks of the river Clyde to Helensburgh and then by way of scenic Glen Fruin to Loch Lomond and on to Tarbet. Here we will board a cruiser for a sail on the Loch, in the shadow of Ben Lomond. Our final drive takes us along the banks of the Loch, with magnificent views to the islands, on our homeward journey to Glasgow.





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## Edinburgh. Wednesday 16 May, 09.30 – 17.30 hours

We travel to Edinburgh past historic Linlithgow, where we can see over to Linlithgow Palace, the birthplace of Mary Queen of Scots. On the outskirts of Edinburgh we will enjoy morning coffee & shortbread in the shadow of the magnificent Forth Bridges before a panoramic look at the sweeping Georgian terraces and crescents of the New Town, followed by an interior visit to Edinburgh Castle. After lunch the remainder of the afternoon is free for shopping and/or sightseeing.

## Inverness, Loch Ness & Highlands. Saturday 12 – Sunday 13 May

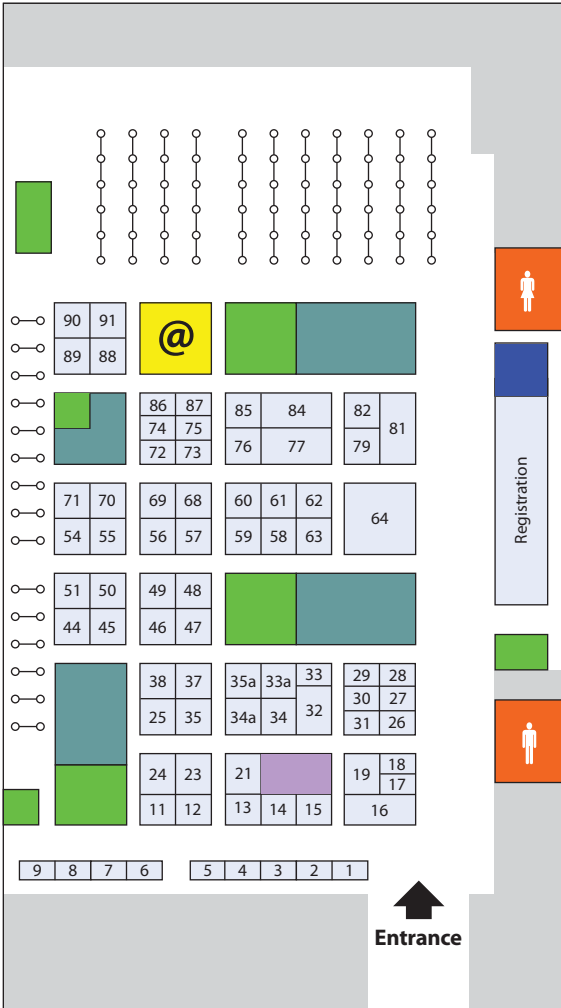
This two day tour will let you explore one of Scotland's most popular cities, at your own pace; go monster spotting by Loch Ness and see some spectacular scenery. This really is essential Scotland!

**Day One.** We make our way to lonely Rannoch Moor and into Glen Coe, Scotland's most famous glen and the scene of the terrible massacre in 1692. We will make a stop in the midst of this awe-inspiring scenery where you can enjoy the magic of this special place. From Fort William the striking scenery of the Great Glen unfolds ahead of us – first Loch Lochy, then Loch Oich and finally Loch Ness. We will tour through in the attractive village of Fort Augustus then drive the entire length of Loch Ness. We will make a stop at Urquhart Castle, where you visit the Castle and take a cruise on the loch. Shortly we will arrive in Inverness, our home for tonight. Dinner and overnight in Inverness.

**Day Two.** This morning we have an enjoyable excursion through the Black Isle to the picturesque village of Cromarty. Later we will spend some time dolphin spotting by the Moray Firth before crossing the Kessock Bridge and making our way back to Inverness. Later there is free time in Inverness for shopping or sightseeing. As we depart Inverness we make our way through the gentle Spey Valley then on through stunning scenery as we drive over the Drumochter Pass. Keep a close watch for the deer that often come down to the roadside to graze. There are wonderful views of majestic Blair Castle before we make a stop in the heart of the Perthshire countryside. From here we make our way homewards to our journey's end.



# Technical Exhibition



Catering



Internet area



Toilets



Lounge area



Recruitment and education forum



Accompanying persons lounge

Exhibitor	Stand No.
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AMT-SYBEX	56
Atkins	32
Atomtex SPE	79
Auswertungsstelle im Helmholtz Zentrum München	71
AUTOMESS GMBH	57
Babcock International Group	33a
Baltic Scientific Instruments	54
Berthold Technologies (UK) Ltd	6
Canberra Industries	81
Congrex UK Ltd	27
College of Radiographers	73
Croft Associates Ltd	7
Doseco Oy	5
DxTerity Diagnostics	62
Eckert & Ziegler Nuclitec GmbH	48
EnergySolutions EU Ltd	35a
ENVINET GmbH	29
F&J SPECIALTY PRODUCTS, INC	85
FOMA BOHEMIA Ltd	69
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GEN II Engineering & Technology Training Limited	Recruitment and Education Forum: Stand 20
Georadis s.r.o.	25
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Ingles Buchan (Textiles) Ltd	30
Institute of Isotopes Co., Ltd	21
Institute of Physics and Engineering in Medicine   IPEM	87
IOP Publishing	Recruitment and Education Forum: Stand 20
RIO DE JANEIRO 2020 - SBPR – Sociedade Brasileira de Proteção Radiologica	74



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Landa Sistemas, SL.	12
LANDAUER EUROPE	24
Ludlum Measurements, Inc	38
Maney Publishing	11
Mirion Technologies	64
France Mirion Technologies (MGPI) SA	64
Nuclear Energy Institute	63
Nucleonica GmbH	Recruitment and Education Forum: Stand 20
Nuvia	68
Office For Nuclear Regulation (ONR)	Recruitment and Education Forum: Stand 20
ORTEC (Advanced Measurement Technology)	45
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Panasonic Industrial Devices Sales Europe GmbH	2
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PREMIUM ANALYSE	14
RADeCO Inc	37
Radiation Detection Company	84
Radosys Ltd	88
Rolls-Royce	16
RPS Planning + Development	82
S&W Technologies Inc.	72
SAPHYMO	47
SARAD GmbH	3
Scientific Lesser	91
Scientific Technical Centre RADEK Ltd. (STC RADEK Ltd.)	35



Exhibitor	Stand No.
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South African Radiation Protection Association/ South African radiation Protection Society (SARPA/SARPS)	17
Southern Scientific Limited	89
SRCL	4
The Society for Radiological Protection	26
The UK Environment Agencies	34a
Thermo Fisher Scientific Messtechnik GmbH	77
Tracerco	1
Transpire, Inc.	34
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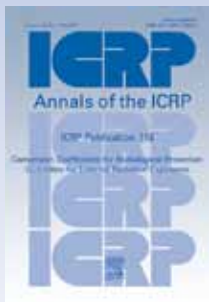
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