



ICRP

**4TH INTERNATIONAL SYMPOSIUM ON THE
SYSTEM OF RADIOLOGICAL PROTECTION**

October 10-12 2017, Paris, France

ERPW

**2ND EUROPEAN RADIOLOGICAL
PROTECTION RESEARCH WEEK**

Preliminary programme schedule

DRAFT 08 | 09 | 2017

.....
**Newport Bay Club®
Convention Centre**

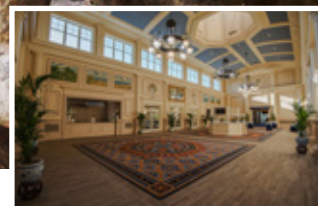
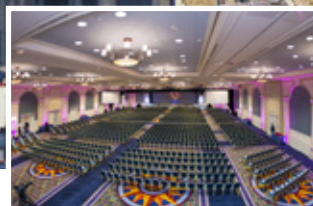
Disney business center
.....

www.icrp-erpw2017.com

HOSTED BY:

IRSN

INSTITUT
DE RADIOPROTECTION
ET DE SÛRETÉ NUCLÉAIRE



Preliminary programme schedule

MONDAY OCTOBER 9

08:00 - 18:00 REGISTRATION OPEN *Front desk*

TUESDAY OCTOBER 10

08:00 - 18:00 REGISTRATION OPEN *Front desk*

08:30 - 19:00 EXHIBITION & POSTER HALL *Portland*

10:30 - 12:30 **OPENING CEREMONY** *BALLROOM I, II*

10:30 Opening

*from Jean-Christophe Niel,
Director General of IRSN*

10:45 Welcome

*from Claire Cousins,
Chair of ICRP*

11:00 Welcome

*from Jacques Repussard,
on behalf of the European platforms*

11:15 Welcome

*from Daniel Iracane,
Deputy Director General of OECD/NEA*

11:30 TBP

12:00 TBP

12:30 - 14:00 Lunch *Cape Cod & Yacht Club & Providence*



14:00 - 15:30

**EURADOS & ICRP SESSIONS:
Advances in Dose Coefficients**

Ballroom I, II

Co-Chairs: Volodymyr Berkovskyy (ICRP C2, EURADOS WG 7, Ukraine),
Jean-François Bottollier-Depois (EURADOS WG11, France)

14:00 Introductory Presentation:
The Mandate and Work of ICRP Committee 2 on Dose from
Radiation Exposure,

John Harrison (ICRP MC & C2 Chair, UK)

14:15 Introductory Presentation: The Work Programme of
EURADOS on Internal and External Dosimetry,

Werner Rühm (EURADOS, Germany)

14:30 Computational Phantoms, ICRP/ICRU and further
developments,

Maria Zankl (EURADOS WG6, Germany)

15:00 New Mesh-type Phantoms and their Dosimetry
Applications Including Emergencies,

Chan Hyeong Kim (ICRP C2, Korea)

14:00 - 15:30

**ERPW SESSION 1:
Ethics in radiation protection**

Ballroom III, IV, V, VI

Co-Chairs: Gaston Meskens (SCK-CEN, Belgium),
Marie Claire Cantone (University of Milan, Italy)

14:00 A broader set of ethical principles, or values, for radiation
protection,

Friedo Zoelzer (University of South Bohemia, Czech Republic)

14:20 Health surveillance and management of populations
affected by a radiation accident - can ethics help?

Deborah Oughton (NMBU, Norway)

14:40 Ethical framework for radiation protection in medicine:
scenarios from diagnostic imaging,

Jim Malone (St James's Hospital Dublin, Ireland)

14:55 Ethical considerations on the empowerment of people
living in contaminated areas after a nuclear accident,

François Rollinger (IRSN, France)

15:10 Ethics, optimization, sustainability and radiation protection,

Graham Smith (GMS, UK)

15:30 - 16:00 Coffee break *Portland*

16:00 - 17:30

**EURADOS & ICRP SESSIONS (continuation):
Advances in Dose Coefficients**

Ballroom I, II

Co-Chairs: Volodymyr Berkovskyy (ICRP C2, EURADOS WG 7, Ukraine),
Jean-François Bottollier-Depois (EURADOS WG11, France)

16:00 ICRP Task Group 95 Internal Dose Coefficients,

François Paquet (ICRP C2, France)

16:30 EURADOS Work on Internal Dosimetry,

Bastian Breustedt (EURADOS WP7, Germany)

17:00 Panel Discussion

16:00 - 17:35

**ERPW SESSION 2:
Management of emergency and post-accident situations: how
to optimize population evacuation zones and related decision
making processes?**

Ballroom III, IV, V, VI

Co-Chairs: Damien Didier (IRSN, France),
Florian Gering (BfS, Germany)

16:00 Evacuation in nuclear emergency: lessons from Fukushima
Daiichi accident,

Nobuhiko Ban (NRA, Japan)

16:20 SHAMISEN recommendations and procedures for
preparedness and health surveillance of populations affected by
a radiation accident,

Elisabeth Cardis (ISGlobal, Spain)

16:40 To leave or not to leave? Insights from an empirical study
on expected evacuation behaviour,

Catrinel Turcanu (SCK-CEN, Belgium)

16:55 Decision making in return to the evacuation zone based on
the integrating cancer risk,

Hiroshi Yasuda (Hiroshima University, Japan)

17:10 Role of citizen measurements in radiation protection,
emergency preparedness and response - its pros and cons,

Petr Kuca (SURO, Czech Republic)

18:00 - 19:30 ERPW / ICRP reception *Foyer*

19:30 - 21:00 ICRP VIP reception (invitation only) *Nantucket I, II, III*



Preliminary programme schedule

WEDNESDAY OCTOBER 11

08:00 - 18:00 REGISTRATION OPEN *Front desk*

08:30 - 19:00 EXHIBITION & POSTER HALL *Portland*

09:00 - 10:30

MELODI & ICRP SESSIONS: Effects, Risks, and Detriment at Low Dose and Low Dose-Rate

Ballroom I, II

*Co-Chairs: Simon Bouffler (ICRP MC, UK),
Thomas Jung (MELODI/BfS, Germany)*

09:00 Introductory Presentation: The
Mandate and Work of ICRP Committee 1
on Radiation Effects,
*Werner Rühm (ICRP MC & C1 Chair / Helmholtz
Zentrum, Germany)*

09:15 Introductory Presentation:
Radiation Protection Research in Europe
– Progress and Perspectives of the
Multidisciplinary Integration Policy,
Jacques Reussard (MELODI, France)

09:30 Evidence for Dose and Dose-rate
Effects in Human and Animal Radiation
Studies,
Mark Little (NIH, USA)

10:00 Cancer Risk from Paediatric CT
Scanning: Implications for Radiation
Protection in Medicine,
*Ausra Kesminiene (IARC, France),
Elisabeth Cardis (IS Global, Spain)*

09:00 - 10:30

ERPW SESSION 3: Why is radioecology an essential science when analyzing human population exposure?

Ballroom III, IV

*Co-Chairs: Nicholas Beresford (CEH, UK),
Marie Simon-Cornu (IRSN, France)*

09:00 Artificial neural network for
prediction of Sr-90 soil to plant transfer
factor,
Maria Angélica Wasserman (CNEN, Brazil)

09:15 Comparison of tritium
environmental measurement results with
air dispersion modeling using Lagrangian
Particle Dispersion Model,
*Benjamin Zorko (Jozef Stefan Institute,
Slovenia)*

09:30 Dynamic modeling of radionuclide
transfer between water and biota to
estimate seafood contamination,
Bruno Fiévet (IRSN, France)

09:45 Sensitivity of the modelling of the
transfers of radionuclides in freshwaters
to the liquid-solid exchanges,
Patrick Boyer (IRSN, France)

10:00 Human food chain modelling within
the CONFIDENCE project,
Nicholas Beresford (CEH, UK)

10:15 Application of the system of
radiological protection of the environment
in the IAEA Safety Standards - a position
paper,
Diego Miguel Telleria (IAEA)

09:00 - 10:30

ERPW SESSION 4: Benefit vs. risk in diagnostic and interventional radiology, nuclear medicine, and radiotherapy

Ballroom V, VI

*Co-Chairs: Christoph Hoeschen (OvGU,
Germany), Ulrike Kulka (BfS, Germany)*

09:00 Benefit vs. risk in diagnostic and
interventional radiology,
Reinhard Loose (ICRP)

09:20 Benefit vs. risk in nuclear medicine,
Klaus Bacher (Ghent University, Belgium)

09:40 Benefit vs. risk in radiotherapy,
Catharine West (University of Manchester, UK)

10:00 Psychosocial analysis of radiation
protection in the medical field:
perspective for IRSN,
Manon Britel (IRSN, France)

10:10 Risk projection in pediatric
computed tomography - methods, limits
and value for clinical practice,
Neige Journy (INSERM, France)

10:20 Age-related biological effects of
dental cone-beam CT exposure,
Niels Belmans (SCK-CEN, Belgium)

10:30 - 11:00 Coffee break *Portland*



11:00 - 12:30

MELODI & ICRP SESSIONS

(continuation):

Effects, Risks, and Detriment at Low Dose and Low Dose-Rate

Ballroom I, II

Co-Chairs: Simon Bouffler (ICRP MC, UK), Thomas Jung (MELODI/BfS, Germany)

11:00 Cancer Risk following Alpha Emitter Exposure,

Margot Tirmarche (ASN, France)

11:30 Human Radio-sensitivity and Prospects for Prediction,

Preetha Rajaraman (ICRP C1 / US NCI, India)

12:00 Panel Discussion

11:00 - 12:30

ERPW SESSION 5:

Medical radiation incidents/accidents

Ballroom III, IV

Co-Chairs: Guy Frija (University of Paris Descartes, France), Colin Martin (University of Glasgow, Scotland)

11:00 Incidents/accidents in diagnostic and interventional radiology,

John Damilakis (University of Crete, Crete)

11:20 Incidents/accidents in nuclear medicine,

Klaus Bacher (Ghent University, Belgium)

11:40 Incidents/accidents in radiotherapy,

Juliana Toma-Dasu (Karolinska Institute, Sweden)

12:00 Retrospective dose assessment of medical radiation exposure: investigation on the ESR dosimetry of nails,

Chryzel Angelica Gonzales (Hiroshima University, Japan)

12:15 An automatable micro-PCC assay for biological dosimetry in cases of large-scale radiation exposures,

Georgia Terzoudi (Institute of Nuclear & Radiological Sciences & Technology, Energy & Safety, Greece)

11:00 - 12:30

ERPW SESSION 6:

Internal dosimetry

Ballroom V, VI

Co-Chairs: Maria Antonia Lopez (CIEMAT, Spain), Augusto Giussani (BfS, Germany)

11:00 Child and adult thyroid monitoring after reactor accident: recommendations from European specialists,

David Broggio (IRSN, France)

11:30 Medical aspects of internal dosimetry,

Christoph Hoeschen (OvGU, Germany)

12:00 Quantification of uncertainty on lifetime dose assessment for workers occupationally exposed to uranium intakes through a EURADOS intercomparison,

Estelle Davesne (IRSN, France)

12:15 Radon dosimetry and lung cancer risk assessment for workers: ICRP's approach,

James Marsh (PHE, UK)

12:30 - 14:00 **Lunch** Cape Cod & Yacht Club & Providence

14:00 - 15:30

EURAMED & ICRP:

Advanced Radiotherapy: Benefits and Radiation Protection due to Developments in Imaging, New Technologies, and Stratification

Ballroom I, II

Co-Chairs: Pierre Scalliet (former ICRP C3, Belgium), Virginia Tsapaki (EURAMED, Greece)

14:00 Introductory Presentation:

The Mandate and Work of ICRP Committee 3 on Radiological Protection in Medicine,

Colin Martin (C3 Vice-Chair, UK)

14:15 Introductory Presentation:

EURAMED's Vision on Medical Radiation Protection (Research),

Christoph Hoeschen (EURAMED)

14:30 Multimodal Imaging for Dosimetry and its Benefit,

Vincent Gregoire (Université Catholique de Louvain, Brussels, Belgium)

15:00 The Need of Image Guidance in Radiation Therapy and its Implementation,

Geoffrey Ibbott (MD Anderson Center, Houston, Texas, USA)

14:00 - 15:30

ERPW SESSION 7:

What are the evidences for trans/multigenerational radiation-induced effects and are they of concern?

Ballroom III, IV

Co-Chairs: Nele Horemans (SCK-CEN, Belgium), Christelle Adam-Guillermoin (IRSN, France)

14:00 Do changes in oxidative stress response, photosynthesis and whole genome methylation induced in plants exposed to enhanced radiation for multiple generations persist in a transgenerational setup?

Nele Horemans (SCK-CEN, Belgium)

14:25 Investigating chronic low-dose ionising radiation (LDIR) in higher plants: Transgenerational effects on morphology and physiology,

Nicol Caplin (University of the West of England, UK)

14:40 Molecular and metabolic mechanisms of transgenerational effects of radionuclides in Daphnia,

Frédéric Alonzo (IRSN, France)

14:55 Zebrafish exposure to environmentally relevant concentration of depleted uranium impairs progeny development at the molecular and histological levels,

Olivier Armant (IRSN, France)

15:10 TBP

14:00 - 15:30

ERPW SESSION 8:

Biomarkers and cohorts suitable for exploring low-dose/low-dose-rate exposure effects and individual susceptibility (humans, animals and plants)

Ballroom V, VI

Co-Chairs: Almudena Real (CIEMAT, Spain), Michaela Kreuzer (BfS, Germany)

14:00 Cohorts for radiation research with focus on low-dose/low-dose-rate exposure effects and individual susceptibility,

Olivier Laurent (IRSN, France)

14:30 Biomarkers for radiation research with a focus on human susceptibility,

Catharine West (University of Manchester, UK)

15:00 Cognitive and cerebrovascular effects induced by low dose ionizing radiation 'CEREBRAD',

Rafi Benotmane (SCK-CEN, Belgium)

15:15 Development of quality assurance guidance and procedures for collecting a biobank of samples patients exposed to medical radiation,

Päivi Roivainen (University of Eastern Finland)

15:30 - 16:00 **Coffee break** Portland



Preliminary programme schedule

16:00 - 17:30

EURAMED & ICRP (continuation):

Advanced Radiotherapy: Benefits and Radiation Protection due to Developments in Imaging, New Technologies, and Stratification

Ballroom I, II

Co-Chairs: Pierre Scalliet (former ICRP C3, Belgium), Virginia Tsapaki (EURAMED, Greece)

16:00 Specific Radioprotection Issues with Proton Therapy,

Tom Depuydt (Katholieke Universiteit Leuven, Leuven, Belgium)

16:30 Targeted Alpha Particle Therapy: Imaging, Dosimetry and Radiation Protection,

Michael Lassmann (University Clinic of Wuerzburg, Germany)

17:00 Panel Discussion

16:00 - 17:00

ERPW SESSION 9:

Use of observatory sites for integrated long-term research activities

Ballroom III, IV

Co-Chairs: Juan-Carlos Mora (CIEMAT, Spain), Nathalie Vanhoudt (SCK-CEN, Belgium)

16:00 RED FIRE: Radioactive environment damaged by fire: a forest in recovery,
Nicholas Beresford (CEH, UK)

16:15 Transfer and effects studies in the Chernobyl exclusion zone observatory site within the TREE project,
David Copplestone (University of Stirling, UK)

16:30 Monitoring of contaminated forests from early post-accident phase to long term, an unavoidable tool to assess RNs cycling in forests,
Frederic Coppin (IRSN, France)

16:45 Research opportunities at the Belgian NORM observatory site,
Nathalie Vanhoudt (SCK-CEN, Belgium)

17:00 - 18:00

ERPW SESSION 11:

Radioactive iodine: gaps and knowledge needed for nuclear crisis integrated management

Ballroom III, IV

Co-Chairs: Jochen Tschiersch (HMGU, Germany), Olivier Masson (IRSN, France)

17:00 Radioactive Iodine: Reducing uncertainty of exposure assessment following nuclear emergencies,
Jochen Tschiersch (HMGU, Germany)

17:10 Reconstruction of accidental radioactive releases: Possible contributions of short-lived iodine isotopes to the source term and radiological consequences,
Martin Sogalla (GRS, Germany)

17:20 Guidelines for development of monitoring strategies following a radioactive accident,
James Marsh (PHE, UK)

17:30 Monte Carlo study of parameters influencing thyroid monitoring of I-131 after a nuclear accident,
Jose M. Gomez-Ros (CIEMAT, Spain)

17:40 Using animal thyroids as ultra-sensitive biomonitors for environmental iodine-131,
Georg Steinhäuser (Leibniz University Hanover, Germany)

17:50 Chernobyl to Fukushima: what has changed with regard to radioactive iodine monitoring and measurement? What remains to do?
Olivier Masson (IRSN, France)

16:00 - 17:00

ERPW SESSION 10:

Harmonization of practices enabling patient dose repositories

Ballroom V, VI

Co-Chairs: Guy Frija (University of Paris Descartes, France), Graciano Paulo (Coimbra Health School, Portugal)

16:00 Current regulatory and technological opportunities,
Guy Frija (University of Paris Descartes, France)

16:15 Harmonization of practices in medical imaging: the way forward,
Graciano Paulo (Coimbra Health School, Portugal)

16:30 Challenges in developing dose repository systems,
John Damiakakis (University of Crete, Crete)

16:45 Discussion

17:00 - 18:00

ERPW SESSION 12:

Dosimetry in complex fields

Ballroom V, VI

Co-Chairs: Jean-François Bottollier-Depois (IRSN, France), Marco Caresana (POLIMI, Italy)

17:00 Pulsed neutron fields: inter-comparison of various detectors,
Marco Caresana (POLIMI, Italy)

17:20 The commissioning of new pulsed high-energy electron accelerator facility SwissFEL in Switzerland from a radiation protection point of view,
Eike Hohmann (PSI, Switzerland)

17:40 Diagnostic reference levels of CT radiation dose in whole-body PET/CT: an Indian scenario,
Ashish Jha (Tata Memorial Hospital, India)

19:30 - 20:00 ICRP-ERPW cocktail Dome

20:00 - 22:00 Gala Dinner Dome



THURSDAY OCTOBER 12

08:00 - 18:00 REGISTRATION OPEN *Front desk*

08:30 - 18:00 EXHIBITION & POSTER HALL *Portland*

09:00 - 10:30

NERIS & ICRP SESSION: Post-Accident Recovery

Ballroom I, II

Co-Chairs: Jacques Lochard (ICRP Vice-Chair, France), Christophe Murith (NERIS, Switzerland)

09:00 Introductory Presentation: The New Mandate and Work of ICRP Committee 4 on Implementation of the Commission's Recommendations,

Donald Cool (ICRP MC & C4 Chair / EPRI, USA)

09:15 Introductory Presentation: The Work Programme of NERIS in Post-Accident Recovery,

Thierry Schneider (NERIS Chair, CEPN, France)

09:30 Medical and Health Surveillance in Post-Accident Recovery: Lessons Learned in Fukushima,

Koichi Tanigawa (Fukushima Medical University, Japan)

10:00 The Role of Individual Dosimetry for Affected Residents in Post-Accident Recovery - From the Fukushima Experience, *Wataru Naito (National Institute of Advanced Industrial Science and Technology, Japan)*

09:00 - 10:30

ERPW SESSION 13:

Eye lens exposure and monitoring

Ballroom III, IV, V, VI

Co-Chairs: Lara Struelens (SCK-CEN, Belgium), Isabelle Clairand (IRSN, France)

09:00 The European epidemiological study on radiation-induced lens opacities among interventional cardiologists: final results of the EURALOC project,

Lara Struelens (SCK-CEN, Belgium)

09:20 Cataract avoidance with proton therapy in ocular melanomas: need for revised dose volume limits to the lens?

Juliette Thariat (Centre Antoine Lacassagne, France)

09:35 INSTRA - an integrated lifetime study in mice assessing lens opacities and other biological endpoints after exposure to low doses of ionizing radiation,

Jochen Graw (HMGU, Germany)

09:50 LDLensRad: Towards a full mechanistic understanding of low dose radiation induced cataracts,

Elizabeth Ainsbury (PHE, UK)

10:05 Monitoring of radiation doses during coronary angiography and percutaneous transluminal coronary angioplasty procedures performed using flat panel detector,

Gourav Kumar Jain (SMS Medical College, Hospital Department of Radiological Physics, India)

10:30 - 11:00 Coffee break *Portland*

11:00 - 12:30

NERIS & ICRP SESSION (continuation): Post-Accident Recovery

Ballroom I, II

Co-Chairs: Jacques Lochard (ICRP Vice-Chair, France), Christophe Murith (NERIS, Switzerland)

11:00 The Role of Experts in Post-Accident Recovery: Lessons from Chernobyl and Fukushima,

Jean-Christophe Gariel (IRSN, France)

11:30 The Irish Approach to Post-Accident Preparedness, *Ciara McMahon (Environmental Protection Agency, Ireland)*

12:00 Panel Discussion

11:00 - 12:30

ERPW SESSION 14:

Individualized approaches for radiation protection

Ballroom III, IV, V, VI

Co-Chairs: Hildegard Vandenhove (SCK-CEN, Belgium), Elizabeth Ainsbury (DH-PHE, UK)

11:00 Challenges of individualized radiation protection: Identification of individual radiation sensitivity

Ulrike Kulka (BfS, Germany)

11:20 Individual radiation protection approaches in medical applications,

Wolfgang Doerr (University of Vienna, Austria)

11:40 Individual approaches in emergency scenarios, *Andrzej Wojcik (University of Stockholm, Sweden)*

12:00 Individual Sensitivity; Neither the issue or its solution should be thought of as radiation specific, *Christopher Kalman (NHS Forth Valley, UK)*

12:15 Reduced contrast volumes in small patients and more uniform inter-patient image quality with personalized contrast protocols in abdominal CT, *Marie-Sofie Walgraeve (AZ Sint-Jan Brugge-Oostende, Belgium)*

12:30 - 14:00 Lunch *Cape Cod & Yacht Club & Providence*



Preliminary programme schedule

13:30 - 15:00

ALLIANCE & ICRP SESSION: Integrated Protection of People and the Environment

Ballroom I, II

Co-Chairs: Carl-Magnus Larsson (ICRP MC, Australia),
Chris Burbidge (ALLIANCE, Ireland)

13:30 Introductory Presentation: Integration of Radiological Protection of the Environment into the System of Radiological Protection,

Kathryn Higley (ICRP C4 / Oregon State University, USA)

13:45 Introductory Presentation: ALLIANCE Perspectives on Integration of Humans and the Environment into the System of Radiological Protection,

Hildegard Vandenhove (ALLIANCE /SCK•CEN, Belgium)

14:15 Integrated Protection of People and the Environment: The View from Japan,

Kazuo Sakai (ICRP C1 / Tokyo Healthcare University, Japan)

14:30 Implementation of the Integrated Approach in Different Types of Exposure Scenarios,

David Coplestone (ICRP C4 / Stirling University, UK)

14:00 - 15:00

MELODI AWARD CEREMONY

Ballroom III, IV, V, VI

14:00: Introduction and prize giving

Jacques Repussard, MELODI Chair

14:10: Presentation from the MELODI award winner

An Aerts (SCK-CEN, Belgium)

15:00 - 15:30 Coffee break *Portland*

15:30 - 17:00

ALLIANCE & ICRP SESSION (continuation): Integrated Protection of People and the Environment

Ballroom I, II

Co-Chairs: Carl-Magnus Larsson (ICRP MC, Australia),
Chris Burbidge (ALLIANCE, Ireland)

15:30 The Australian Recent Proactive Approach to Radiation Protection of the Environment: How Integrated is it with Radiation Protection of Humans?

Gillian Hirth (ICRP C4 / ARPANSA, Australia)

16:00 Radiosensitivity in Non-Human Species and Transgenerational Effects,

Christelle Adam-Guillermin (ALLIANCE/IRSN, France)

16:30 Panel Discussion

15:30 - 17:00

SUMMARY, ROUND TABLE WITH THE PLATFORMS CHAIRS

Ballroom III, IV, V, VI

15:30 Towards the development of the joint and individual roadmaps for radiation protection research

Nathalie Impens (SCK-CEN, Belgium) and others authors

15:45 Feedback from the platforms chairs

16:30 Debate with the assembly

17:00 - 18:00 **CLOSING CEREMONY** *Ballroom I, II*

17:00 Concluding remarks

from Claire Cousins (ICRP)

17:10 Concluding remarks

from Jacques Repussard (ERPW)

17:20 Presentation

by Cameron Jeffries (ARPS, Australia) to welcome participants to ICRP 2019 in Adelaide

17:35 Presentation

by XXX (XXX, Croatia) to welcome participants to ERPW 2018 in XXX

17:50 Concluding remarks and farewell

from the host Jean-Christophe Niel (IRSN)

