

# ICDA 4

## 4th International Conference on Dosimetry and its Applications

16-20 OCTOBER 2023  
VALENCIA, SPAIN

Organized in cooperation with:



**IAEA**

International Atomic Energy Agency

Promoted by:



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Belén Juste (UPV, Spain, Co-Chair)

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Juan Diego Palma (CND, Spain)  
Juan Ignacio Villaescusa (Hospital Universitari la Fe de València, Spain)

### Message from the Conference Chairs:

Dear Colleague,

Welcome to Valencia! We are very pleased to host the 4th International Conference on Dosimetry and its Applications (ICDA-4) at the Polytechnic University of Valencia (UPV), a leading Spanish University of Engineering, Science and Technology.

The previous ICDA Conferences were held in Prague (ICDA-1, 2013), Surrey (ICDA-2, 2016) and Lisbon (ICDA-3, 2019). Building on the success of the previous Conferences, ICDA-4 is a major gathering of experts from several tens of countries, worldwide. It addresses a broad range of dosimetry topics. The involvement of experts from Spanish and foreign or international institutions has been of paramount importance for the success of this organization.

Special thanks are due to the members of the Organizing and Scientific Committee and all those who helped shaping the Conference Programme and Refresher Courses, as well as to the sponsoring institutions, organizations and corporations.

In these challenging times for Radiation Protection and Dosimetry, we anticipate that ICDA-4 will be a memorable event, rich of achievements, from the scientific as well as from the social point of views and formulate our best wishes that you profit from the Spanish hospitality and the charming atmosphere of Valencia.

Enjoy your stay in Valencia!

**Gumersindo Verdú & Belén Juste**

# Conference Programme Scheme

	Sunday October, 15th	Monday October, 16th	Tuesday October, 17th
		Poster session 1 (all day) Grey Cube. 8B Building. Posters room	Poster session 1 (all day) Grey Cube. 8B Building. Posters room
8:00 – 8:15			
8:15 – 9:00		<b>REGISTRATION</b> Blue Cube. 8B Building. Auditorium	
9:00 – 9:15	<b>Refresher courses</b> Red/Yellow Cube. 8E Building. Assembly Hall	<b>Opening &amp; Plenary Session I1.1</b> Blue Cube. 8B Building. Auditorium	<b>Plenary Session I2.1 – Radiation Protection and Dosimetry In Medicine</b> Blue Cube. 8B Building. Auditorium
9:15 – 10:15			<b>Plenary Session I2.2– New trends on radiotherapy dosimetry</b> Blue Cube. 8B Building. Auditorium
10:15 – 11:15			
11:15 – 11:40		<b>Coffee-Break</b>	<b>Coffee-Break</b>
11:45 – 13:00		<b>Plenary session I1.2 – Computational Dosimetry</b> Blue Cube. 8B Building. Auditorium	<b>Neutron Spectrum unfolding Dosimetry I</b> Blue Cube. 8B Building. Auditorium
		<b>Micro and Nanodosimetry</b> Yellow Cube. 8E Assembly Hall	
13:30 – 14:00	<b>Lunch-Break</b>	<b>Lunch-Break</b>	
14:00 – 14:45			
15:00 – 16:15	<b>Radiation Protection in Medicine I (Computed Radiography)</b> Blue Cube. 8B Building. Auditorium	<b>Computational Dosimetry and Phantoms I</b> Red Cube. 8E Building. Assembly Hall	<b>Internal Dosimetry and Biokinetic models I</b> Yellow Cube. 8E Assembly Hall
16:15 – 16:30	<b>Coffee-Break</b>	<b>Coffee-Break</b>	
16:45 – 18:15	<b>Radiation Protection in Medicine II (Computed Radiography)</b> Blue Cube. 8B Building. Auditorium	<b>Monte Carlo and hybrid methods in Dosimetry I</b> Red Cube. 8E Building. Assembly Hall	<b>Individual Dosimetry and Monitoring I</b> Yellow Cube. 8E Assembly Hall
20:00 – 21:00		<b>SOCIAL PROGRAMME</b> Concert at San Nicolas Church	
21:00 – 23:00			

Wednesday October, 18th	Thursday October, 19th	Friday October, 20th
Poster session 2 (all day) Grey Cube. 8B Building. Posters room	Poster session 2 (all day) Grey Cube. 8B Building. Posters room	Poster session 2 (all day) Grey Cube. 8B Building. Posters room
<b>IRPS Council meeting</b> Red Cube. 8E Building. Assembly Hall		
<b>Plenary session I3 – Hot Dosimetry topics I</b> Blue Cube. 8B Building. Auditorium	<b>Plenary Session I4.1 – Biodosimetry, radiobiology and retrospective Dosimetry</b> Blue Cube. 8B Building. Auditorium	<b>Plenary Session I5 – Nuclear Emergencies &amp; Hot Dosimetry topics II</b> Blue Cube. 8B Building. Auditorium
<b>Coffee-Break</b>	<b>Coffee-Break</b>	<b>Coffee-Break</b>
<b>Radiation Protection in Medicine IV (Radiotherapy)</b> Blue Cube. 8B Building. Auditorium	<b>Environmental Dosimetry, radioactivity measurement and monitoring II</b> Red Cube. 8E Building. Assembly Hall	<b>Monte Carlo and hybrid methods in Medical Dosimetry III</b> Yellow Cube. 8E Assembly Hall
<b>Dosimetry of radon exposures</b> Blue Cube. 8B Building. Auditorium	<b>Neutron Dosimetry II</b> Red Cube. 8E Building. Assembly Hall	<b>Biodosimetry, Radiobiology and Retrospective Dosimetry</b> Yellow Cube. 8E Assembly Hall
<b>Dosimetry in space applications</b> Blue Cube. 8B Building. Auditorium	<b>Radiation Protection in Medicine VI</b> Red Cube. 8E Building. Assembly Hall	<b>Neutron Dosimetry III</b> Yellow Cube. 8E Assembly Hall
<b>SOCIAL PROGRAMME</b> Lunch at Albufera & boat trip	<b>Lunch-Break</b>	<b>WRAP-UP &amp; CLOSING</b>
	<b>Radiation Shielding and Dosimetry at Accelerators II</b> Blue Cube. 8B Building. Auditorium	<b>Computational Dosimetry and Phantoms II</b> Red Cube. 8E Building. Assembly Hall
	<b>Coffee-Break</b>	
	<b>Dosimetry in radiological and nuclear emergencies and accidents II</b> Blue Cube. 8B Building. Auditorium	<b>Radiation Protection and Dosimetry in NORM Industries</b> Red Cube. 8E Building. Assembly Hall
	<b>Radiation Protection in Medicine V (Medical dosimetry &amp; staff)</b> Yellow Cube. 8E Assembly Hall	
	<b>SOCIAL PROGRAMME</b> Conference Dinner at Hotel las Arenas	

 Yellow Cube. 8E Assembly Hall
  Red Cube. 8E Building. Assembly Hall
  Grey Cube. 8B Building. Posters room
  Blue Cube. 8B Building. Auditorium

Refresher Courses

10:45  
–  
12:15

**Introduction to Radiobiology and Biodosimetry**

- Alegria Montoro
- Radiobiologist at Hospital Universitari La Fe de València, Spain
- Email: montoro\_ale@gva.es

The lecture will discuss biological effects of ionizing radiation and their potential health hazards along with the recent developments in radiobiology and its application in biodosimetry, radiation countermeasures, and radiation emergency preparedness. It will also familiarize attendees with demonstrations of methods and procedures used to estimate radiation exposures.

**Introduction to Biokinetic Models and Applications for Internal Dose Estimation**

- Emmanuel Matey Mate-Kole. Graduate Research Assistant – Nuclear and Radiological Engineering and Medical Physics. Radiological Engineering and Dosimetry (RED<sup>2</sup>) Laboratory
- Georgia Institute of Technology
- E-mail: ematekole3@gatech.edu

The lecture is tailored to discuss the fundamental concepts and methodology for dose assessment in internal dosimetry practices. Two primary computational models will be considered: (1) Biokinetic, which assess the distribution and excretion of incorporated radionuclide in the body and (2) Dosimetric, which combines radiation transport by converting energy deposited in the body into radionuclide specific dose.

12:15 – 12:30 Coffee-Break

12:30  
–  
14:00

**Introduction to neutron dosimetry**

- Eduardo Gallego, Universidad Politécnica de Madrid, Spain
- Gonzalo F. García Fernández, Universidad Politécnica de Madrid, Spain
- Lenin E. Cevallos Robalino, Universidad Politécnica Salesiana, Ecuador
- Email: eduardo.gallego@upm.es

Due to the complexity of the neutron interaction processes with human tissues, neutron dosimetry is a challenge. There is no ideal neutron dosimeter. The strong energy dependence of the implied nuclear reactions compels to develop dosimetry systems whose response is adapted to the fluence-to-dose conversion factors. Neutron spectrometry and realistic Monte Carlo simulations are always key tools to obtain a good assessment of the dose. These elements are delineated in the refresher course, together with their application for both ambient and personal dosimetry.

Poster Session 1 (all day)

8:15  
–  
9:00

**Registration**

9:15  
–  
11:15

**Opening & Plenary Session I1.1**

Session chairs: Isabel Lopes (U. Coimbra, Portugal), Gumersindo Verdú (UPV, Spain)

**Opening**

I1.0 – Gumersindo Verdú (ICDA4 Chair, UPV) – ICDA4 Opening - Tribute Pepe Ródenas (15 min)

I1.1 – Isabel Lopes (U. Coimbra, Portugal) President IRPS & David Bradley (U. Surrey) (15 min)

I1.2 - Belén Pico (UPV research canceller). Congress wellcome (10 min)

I1.3 – Rodolfo Cruz Suarez (IAEA) - (20 min)

I1.4 – María Gracia (CND, Spain) - Implementation of the First Phase of the Spanish National Patient Dose Registry (20 min)

I1.5 – M. Antonia López Ponte (CIEMAT, Spain) - New Developments in Internal Dosimetry (20 min)

11:15 – 11:40 Coffee-Break

11:45  
–  
13:00

**Plenary session I1.2 – Computational Dosimetry**

Session chairs: Gumersindo Verdú (UPV, Spain), Facundo Ballester (UV, Spain)

I1.6 – Javier Vijande (UV, Spain) – Brachytherapy Monte Carlo simulation dosimetry (20 min)

I1.7 – Luis Martí BonMatí (Hospital Univesitario La Fe, Spain) - Spectral CT, Deep Learning and Parametric Radiotherapy (20 min)

I1.8 – Francesc Salvat (Univ. of Barcelona, Spain) - Bethe formula for the stopping power of charged particles. (20 min)

13:30 – 14:45 Lunch-Break

15:00  
–  
16:15

**Radiation Protection in Medicine I (Computed Radiography)**

Session chairs: Patricia Mayo (GDES, Spain), Sergio Gallardo (UPV, Spain)

O11.2-RPDM10 M.K.A Karim

O11.3-RPDM28 M. Khafaji

O11.4-RPDM37 S. Albahit

**Computational Dosimetry and Phantoms I**

Session chairs: V. Gimenez (UV, Spain), Sergio Morató (NCI, USA)

O12.1-CDP01 M. Abdelrahman

O12.2-CDP03 H. Rabus

O12.3-CDP06 J. Borbinha

O12.4-CDP08 Hugo Schelin

O12.5-CDP09 CT. Chantler

**Internal Dosimetry and Biokinetic models I**

Session chairs: Antonia López (CIEMAT, Spain), Matthias Port (Universität der Bundeswehr, Germany)

O13.1-DRNE05 B. Pérez López

O13.2-IDB02 N. Chavan

O13.3-IDB03 Zsófia Rékasi

O13.4-IDB04 M. Hajek

16:15 – 16:30 Coffee-Break

16:45  
–  
18:15

**Radiation Protection in Medicine II (Computed Radiography)**

Session chairs: Isabel Lopes (U. Coimbra, Portugal), Christopher Chantler (U. Melbourne)

O14.1- RPDM19. Hugo Schelin

O14.2- RPDM32. Q. Bouchez

O14.3- RPDM43 Wiam Elshami

O14.4- RPDM46. M.K.A Karim

O14.6- RPDM44 Wiam Elshami

**Monte Carlo and hybrid methods in Dosimetry I**

Session chairs: Rafael Miró (UPV, Spain), Frances Salvat (Univ. of Barcelona, Spain)

O15.1- MC05. S. Oliver

O15.2- MC26. M. Bailey

O15.3-MC23. B. Lefebvre

**Individual Dosimetry and Monitoring I**

Session chairs: M<sup>a</sup> Carmen Pujades (CND, Spain), David Bradley (U. Surrey)

O16.1-IDM01 S. Ketelhut

O16.2-IDM02 E. Mately Mate-Kole

Poster Session 1 (all day)

9:00 – 10:15	<p><b>Plenary Session I2.1 – Radiation Protection and Dosimetry In Medicine</b> Session chairs: Agustín Santos (Hospital Provincial de Castellón, Spain), José María Benlloch (UPV, Spain)</p> <p>I2.1 – Jenia Vassileva (IAEA) - Patient radiation dose monitoring in medical imaging (20 min) I2.2 – Gabriela Llosá (IFIC, Spain) - Individualized treatment verification based on photon emission (20 min) I2.3 – Carmen Serrano (VisionRT, Spain) - SGRT: From motion management to Cherenkov detection (20 min)</p>		
10:20 – 11:15	<p><b>Plenary Session I2.2 – New trends on radiotherapy dosimetry</b> Session chairs: Jose Pérez Calatayud (Hospital Universitari la Fe de València, Spain), Gabriela Llosá (IFIC, Spain)</p> <p>I2.4 – Francesco Romano. (Istituto Nazionale di Fisica Nucleare ) - Ultra-high dose rate dosimetry: Challenges and opportunities for FLASH radiation therapy (20 min) I2.5 – Sam Beddar, (Texas MD Anderson Cancer Center, USA) - Scintillation Dosimetry: Past, Present and Future Applications in Radiation Therapy (20 min) I2.6 – José María Benlloch (UPV, Spain) - A critical view to RadioTherapy: potential longterm threats to RT (20 min)</p>		
11:15 – 11:40 Coffee-Break			
11:40 – 13:10	<p><b>Neutron Spectrum unfolding Dosimetry I</b> Session chairs: Eduardo Gallego (UPM, Spain), R. Miró (UPV, Spain)</p> <p>O21.1-ND10 S. Rivera Vázquez O21.2-ND02 Lenin E. Cevallos-Robalino O21.3-ND17 A. Calamida O21.4-ND14 C. Domingo O21.5-ND16 A. Calamida</p>	<p><b>Environmental Dosimetry, radioactivity measurement and monitoring I</b> Session chairs: Marina Sáez (UPV, Spain), Isabel Lopes (U. Coimbra, Portugal)</p> <p>O22.1-EDR02 C. Chardeur O22.2-EDR05 JF. Benavente O22.3-EDR08 C. Trull O22.4-EDR09 A. Cerezo</p>	<p><b>Micro and Nanodosimetry</b> Session chairs: Anna Selva (INFN, Italy), Sofia Carlos (UPV, Spain)</p> <p>O23.1-MND01 H. Rabus O23.2-MND04 L. Eliasson O23.3-MND05 L. Thomas O23.4-MND06 A. Bianchi O23.5-MND07 V. Conte</p>
13:30 – 14:45 Lunch-Break			

15:00  
–  
16:15

**Radiation Shielding and Dosimetry at Accelerators I**

Session chairs: Sergio Morató (NCI, USA), Francesco Romano (INFN, Italy)

- O24.1-RDSA01 M. Carmo Lopes
- O24.2-RDSA02 Hiroki Matsuda
- O24.3-RDSA03 Lukas Jägerhofer
- O24.4-RDSA04 Po-Wen Fang
- O24.5-RDSA05 Hayo Zutz

**Monte Carlo and hybrid methods in Image Dosimetry II**

Session chairs: Sergio Gallardo (UPV, Spain), Jorge Fernández (U. Bologna, Italy)

- O25.1-MC22 D. Sier
- O25.2-MC02 M. L. Kuhlmann
- O25.3-MC07 M.M. Peña-Acosta
- O25.4-MC29 Jorge E. Fernandez

16:15 – 16:30 Coffee-Break

16:45  
–  
18:15

**Radiation Protection in Medicine III (Radiotherapy)**

Session chairs: Pedro Vaz (IST, Portugal), Sergio Morató (NCI, USA)

- O26.1-RPDM53 Bianca V. Sabino
- O26.2-RPDM71 Luigi Russo
- O26.3-RPDM66 A. Verde Nolasco
- O26.4-RPDM21 A. Abbas
- O26.5-RPDM24 A. Bataller
- O26.6-RPDM06 V. K. Asfora

**Radiation Protection and Dosimetry in Industry**

Session chairs: B. Mora (GDES, Spain), Jorge Fernández (U. Bologna, Italy)

- O27.1-RPDI03 Chih-chi, Lin
- O27.3-RPDI09 Jack Glover
- O27.5-RPDI08 Y.Xie

20:00 – 21:00 Social Programme - Concert at San Nicolas Church

Poster Session 2 (all day)

9:00  
–  
11:15

**Plenary Session I3 – Hot Dosimetry topics I**  
Session chairs: Jorge Fernández (U. Bologna, Italy), Pedro Vaz (IST, Portugal)

I3.1 – Salvatore di Maria (Instituto Superior Tecnico (IST), Portugal) - X-ray dosimetry in breast imaging (20 min)

I3.2 – David Bradley (U. Surrey) - Development of Real-time Radioluminescence Sensors for Medical, Industrial and Security Applications (20 min)

I3.3 – Helena Janžekovič. (Slovenian Radiation and Nuclear Safety Inspection Service) - Dosimetry of Radon exposures. (20 min)

I3.4 – Anna Selva (INFN, Italy) - Energy imparted and ionization yield at the nanometer scale: a broken relationship? (20 min)

I3.5 – Stefano Agosteo (Politécnico Milano, Italy) - Radiation Shielding and Dosimetry at Accelerators (20 min)

11:15 – 11:40 Coffee-Break

11:40  
–  
13:15

**Radiation Protection in Medicine IV (Radiotherapy)**

Session chairs: David Bradley (U. Surrey), Facundo Ballester (UV, Spain)

O31.1-RPDM11 Mario A. Vico

O31.2-RPDM13 Tsz-Yui Chan

O31.3-RPDM39 Shakardokht M. Jafari

O31.4-RPDM34 G. F. García-Fernánd

O31.5-RPDM51 Radu Alin Vasilache

**Environmental Dosimetry, radioactivity measurement and monitoring II**

Session chairs: Sebastián Martorell (UPV, Spain), Shaheen Dewji (Georgia Institute of Technology, USA)

O32.1-EDR10 N. F. Taveira

O32.2-EDR11 L. Takahashi

O32.3-EDR14 C. Pereira

O32.4-EDR17 Yehia Manawi

O32.5-EDR03 Jonathan Eakins

O32.6-EDR07 Ignasi Reichardt

**Monte Carlo and hybrid methods in Medical Dosimetry III**

Session chairs: Christopher Chantler (U. Melbourne, Australia), Javier Vijande (UV, Spain)

O33.1-MC04 N. Rodrigues

O33.2-MC06 S. Oliver

O33.3-MC25 A.M. Zamora-Vinaroz

O33.4-MC28 V. García Balcaza

O33.5-MC24 A.M. Zamora-Vinaroz

O33.6-MC32 V. Giménez

13:15 – 18:00 Social Programme - Lunch at Albufera & Boat trip

Poster Session 2 (all day)

9:00 – 11:15  
**Plenary Session I4.1 – Biodosimetry, radiobiology and retrospective Dosimetry**  
Session chairs: Alegria Montoro, (Hospital Universitari La Fe de València, Spain) and Matthias Port (Bundeswehr Institute of Radiobiology, Germany)

I4.1 – Matthias Port. (Bundeswehr Institute of Radiobiology, Germany) - Biodosimetry and clinical dosimetry to support medical management as part of radiation emergency preparedness. (20 min)

I4.2 – Francois Trompier (IRSN, France). What can really do EPR retrospective dosimetry? Feedback experience on 25 years of radiological accident management (20 min)

I4.3 – Alegria Montoro (Hospital Universitari La Fe de València, Spain) - Experience in biodosimetry of nuclear medicine patients and in children of Chernobyl (20 min)

I4.4 – Christophe Badie (Public Health England) - Gene expression based biodosimetry in blood and skin tissues (20 min)

I4.5 – Joan Francesc Barquinero (Vicepresident RENE) - RENE - The biodosimetry network in Europe (20 min)

I4.6 – David Endesfelder (Bfs, Germany) -Uncertainty assessment for various exposure scenarios in biological dosimetry (20 min)

11:15 – 11:40 Coffee-Break

11:40 – 13:10  
**Dosimetry of radon exposures**  
Session chairs: L. Quindós (UNICAN, Spain), Helena Janžekovič (Slovenian Nuclear Safety Administration)

- O41.1-DRE02 A. Noverques
- O41.2-DRE03 M. Jaroslaw Wasikiewicz
- O41.3-DRE04 L.Takahashi
- O41.4-DRE05 D. Rábago
- O41.5-DRE06 B. Ruvira
- O41.6-DRE07 J.E. Martínez-Ferri

**Neutron Dosimetry II**  
Session chairs: Eduardo Gallego (UPM, Spain), R. Miró (UPV, Spain)

- O42.1-ND08 Katsumi Aoki
- O42.2-ND04 Miroslav VOYTCHEV
- O42.3-ND01 Xandra Campo Blanco
- O42.4-ND09 S. Rivera Vázquez
- O42.5-ND13 A. Tarifeno-Saldivia
- O42.6 ND06 Bradley Crouch

**Biodosimetry, Radiobiology and Retrospective Dosimetry**  
Session chairs: Alegria Montoro (Hospital Universitari La Fe de València, Spain), François Trompier (IRSN, France)

- O43.2-BRRD03 A. Krleski
- O43.3-BRRD06 D.R. Guerreiro
- O43.4-BRRD04 Celia Fernández
- O43.5-BRRD05 Hamid Osman

13:30 – 14:45 Lunch-Break

15:00 – 16:15

**Radiation Shielding and Dosimetry at Accelerators II**

Session chairs: S. Gallardo (UPV, Spain), Stefano Agosteo (Politécnico Milano, Italy)

- O44.1-RDSA06 Eike Hohmann
- O44.2-RDSA07 Roman Galeev
- O44.3-RDSA08 D. Villani
- O44.4-NDE02 Gonzalo F. García

**Computational Dosimetry and Phantoms II**

Session chairs: Facundo Ballester (UV, Spain), A. Calamida (INFN-LNF, Italy)

- O45.1-CDP05 S. Di Maria
- O45.2-CDP02 S. Morato
- O45.3-RPDM63 Amir Entezam
- O45.4-CDP04 Laura C. Takahashi

16:15 – 16:30 Coffee-Break

16:45 – 18:15

**Dosimetry in radiological and nuclear emergencies and accidents II**

Session chairs: Sebastián Martorell (UPV, Spain), Jose Peiró (CSN, Spain)

- O46.1-DRNE04 J.F. Navarro
- O46.2-DRNE03 M. Discher
- O46.3-DRNE06 Rafael Rodríguez
- O46.4-DRNE01 N. Alegria

**Radiation Protection and Dosimetry in NORM Industries**

Session chairs: Marina Saez (UPV, Spain), David Bradley (U. Surrey)

- O47.1-RPDN01 M. Sáez Muñoz
- O47.2-RPDN02 A. J. Sevilla
- O47.3-RPDN03 A. López Ponte
- O47.4-DRE01 Laura C Takahashi

**Radiation Protection in Medicine V (Medical dosimetry & satff)**

Session chairs: S. Carlos (UPV, Spain), Christopher Chantler (U. Melbourne, Australia)

- O48.1-RPDM25 R. Rodríguez
- O48.2-RPDM50 M. Ginjaume.
- O48.3-RPDM56 A. Basaif
- O48.4-RPDM22 C. Talacimon

21:00 – 23:00 Conference Dinner

Poster Session 2 (all day)

9:00 – 11:15	<p><b>Plenary Session I5 – Nuclear Emergencies &amp; Hot Dosimetry topics II</b> Session chairs: Eduardo Gallego (UPM, Spain), G. Verdú (UPV, Spain)</p> <p>I5.1 – Eduardo Gallego (UPM, Spain) - Dosimetry issues in Radiological and Nuclear Emergency Preparedness and Response (20 min)</p> <p>I5.2 – Wolfgang Raskob (University of Karlsruhe, Germany) - Decision making in a nuclear and radiological emergency and how monitoring supports this (20 min)</p> <p>I5.3 – Lorezo Isolan (INFN, Italy) - Monte Carlo Analysis of dosimetric issues in space exploration. (20 min)</p> <p>I5.4 – Amir A. Bahadori (Kansas State University, USA) - Space Radiation Protection in the Modern Era: New Approaches to Familiar Challenges (20 min)</p> <p>I5.5 – Shaheen Dewji (Georgia Institute of Technology, USA) - Transforming Internal Dose Assessment: Unleashing the Power of Mathematical, Multiphysics, and AI Integration (20 min)</p>
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11:15 – 11:40 Coffee-Break

11:40 – 13:00	<p><b>Dosimetry in space applications</b> Session chairs: Lorezo Isolan (INFN, Italy), Amir A. Bahadori (Kansas, USA)</p> <p>O51.1-DSA01 Aamir Farooq O51.3-DSA03 B. Crouch</p>	<p><b>Radiation Protection in Medicine VI</b> Session chairs: Maria Gracia (CND, Spain), Rafael Miró (UPV, Spain)</p> <p>O52.1-RPDM72 Amjad Alyahyawi O52.2-RPDM40 Ali Aamry O52.3-RPDM49 M.I. Sayyed O52.4-RPDM01D. Villani</p>	<p><b>Neutron Dosimetry III</b> Session chairs: Shaheen Dewji (Georgia Institute of Technology, USA), Eduardo Gallego (UPM, Spain)</p> <p>O53.1-ND12 Michał Gryziński O53.2-ND11 Michał Kuć O53.3-ND05 R. Méndez-Villafañe O53.4-ND15 C. Domingo</p>
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13:00 – 14:15 WRAP-UP & CLOSING

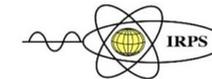
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Sunday October, 15

## REFRESHER COURSES

**10:45-12:15 Introduction to Radiobiology and Biodosimetry**

Alegría Montoro  
Hospital Universitari La Fe de València, Spain

**Introduction to Biokinetic Models and Applications for Internal Dose Estimation**

Emmanuel Matey Mate-Kole  
Radiological Engineering, Detection, and Dosimetry (RED<sup>2</sup>) Laboratory

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**12:15-12:30 Coffee break**

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**12:30-14:00 Introduction to neutron dosimetry**

Introduction to neutron dosimetry.  
Eduardo Gallego Gonzalo, Universidad Politécnica de Madrid, Spain  
F.García Fernández, Universidad Politécnica de Madrid, Spain  
Lenin EL. Cevallos Robalino, Universidad Politécnica Salesiana, Spain

Monday October, 16

8:15 - 9:00 **Registration**

9:15-11:15 **Opening Plenary Session I1.1**

Session chairs: Isabel Lopes (U. Coimbra, Portugal), Gumersindo Verdú (UPV, Spain)

**Opening**

I1.0 – Gumersindo Verdú (ICDA4 Chair, UPV) - ICDA4 Opening - Tribute Pepe Ródenas (15 min)

I1.1 – Isabel Lopes (U. Coimbra, Portugal) President IRPS & David Bradley (U. Surrey) (15 min)

I1.2 – Belén Pico (UPV research canceller). Congress welcome (10 min)

I1.3 – Rodolfo Cruz Suarez (IAEA) - (20 min)

I1.4 – María Gracia (CND, Spain) - Implementation of the First Phase of the Spanish National Patient Dose Registry (20 min)

I1.5 – M. Antonia López Ponte (CIEMAT, Spain) - New Developments in Internal Dosimetry (20 min)

11:15 – 11:40 **Coffee break**

11:45-13:00 **Plenary session I1.2 – Computational Dosimetry**

Session chairs: Gumersindo Verdú (UPV, Spain), Facundo Ballester (UV, Spain)

I1.6 – Javier Vijande (UV, Spain) - Brachytherapy Monte Carlo simulation dosimetry (20 min)

I1.7 – Luis Martí BonMatí (Hospital Universitario La Fe, Spain) - Spectral CT, Deep Learning and Parametric Radiotherapy (20 min)

I1.8 – Francesc Salvat (Univ. of Barcelona, Spain) - Bethe formula for the stopping power of charged particles. (20 min)

13:30-14:45 **Lunch break**

15:00-16:15 **Oral presentations**

**Radiation Protection in Medicine I (Computed Radiography)**

Session chairs: Patricia Mayo (GDES, Spain), Sergio Gallardo (UPV, Spain)

**O11.2-RPDM10** Optimizing radiation dose of CT abdomen via modification of acquisitions protocols with figure of merit assessment - M.K.A Karim, N.A.A Yusof, S.Paiman, S.M.S Said, N.H Norsudin, M.WT Chew

**O11.3-RPDM28** Establishment of a local Diagnostic Reference level for Paediatrics Computed Tomography in Saudi Arabia - Mawya Khafaji, Rashid Barnawi, Salma Amoudi, Hassan Gabbani, Rayan Alhazmi, Rayan Ahyad, Khalid Alsafi, Khuld Saeedi, Abdelmoneim Sulieman6, Hasan Salah Ibrahim7, David Bradley, Sarah Albahiti

**O11.4-RPDM37** Repeated pediatric computed tomography examinations: Assessment of cumulative radiation dose and radiogenic risks - Sarah Albahiti, Mawya Khafaji, Rashid Barnawi, Salma Amoudi, Khalid Alsafi, Abdelmoneim Sulieman, Hasan Salah Ibrahim, David Bradley

**Computational Dosimetry and Phantoms I**

Session chairs: Vicent Gimenez (UV, Spain), Sergio Morató (NCI, USA)

**O12.1-CDP01** Computational Personal Dosimetry: Status and New Applications - Filip Vanhavere, Pasquale Lombardo, Mahmoud Abdelrahman, Olivier Van Hoey, Daniel Santiago, Federica Roberto, Sita Pinasti

**O12.2-CDP03** Chances and challenges of machine learning in computational radiation dosimetry - Hans Rabus, Miriam Schwarze, Leo Thomas

**O12.3-CDP06** Data Science Pipeline for Development of Patient-Specific Phantoms and S-value Calculation in Radiopharmaceutical Therapy - Jorge Borbinha, Ana Cravo Sá, Durval Costa, Paulo Ferreira, Pedro Vaz, Salvatore Di Maria

**O12.4-CDP08** Investigation of the correlation between technical parameters in pediatric digital radiographic images utilizing the CDRAD Contrast-Detail Phantom - Priscila Resmer Castilho, Paula Vosiak, Hugo Reuters Schelin, Valeriy Denyak, Rosiane Guetter Mello, Adriano Legnani, Sergei Anatolyevich Paschuk

**O12.5-CDP09** How Intensities can be calibrated by theory - Chantler, CT

**Internal Dosimetry and Biokinetic models I**

Session chairs: Antonia López (CIEMAT, Spain), Matthias Port (Universität der Bundeswehr, Germany)

**O13.1-DRNE05** Thyroid monitoring of exposed population at risk of intakes of radioiodine isotopes due to a nuclear or radiological emergency - B. Pérez López, J. Valencia Villar, J. F. Navarro Amaro, M.A. López Ponte

**O13.2-IDB02** Extracellular Decorporation of DTPA in Hepatocytes - Niranjana Chavan, Bastian Breustedt

**O13.3-IDB03** Developing a Biokinetic Model to Estimate Thyroid Dose Based on Individual Characteristics - Zsófia Rékasi, Annamária Pántya, Tamás Pázmándi, Péter Zagyvai, Katinka Kőrösi

**O13.4-IDB04** Application of Internal Dosimetric Analyser Software Toolkit to Special Dose Assessment in the Event of Radiological Emergencies - J.G. Hunt, A. Capote-Cuellar, R. Cruz Suárez, P. Kenny, G. Lafranco, M. Hajek

16:15 – 16:30 **Coffee-Break**

16:45 - 18:15 **Radiation Protection in Medicine II (Computed Radiography)**

Session chairs: Isabel Lopes (U. Coimbra, Portugal), Christopher Chantler (U. Melbourne)

**O14.1- RPDM19 Study of Radiation Dose in Conventional Pediatric Radiological Examinations** - Paula Vosiak, Priscila Castilho, Akemi Yagui, Hugo Schelin, Valeriy Denyak, Rosiane Mello and Sergei Paschuk

**O14.2- RPDM32 Computed radiography for total body irradiation: image quality and clinical feasibility** - Quentin Bouchez, Geert Pittomvils, Tom Boterberg, Marc van Eijkeren, Dirk Vandenbroucke, Paul Leblans, Barbara Vanderstraeten

**O14.3- RPDM43 Assessment of Extremity Dose for Medical Staff Involved in Positron Emission Tomography/Computed Tomography Imaging** - R. Uslu Erdemir, M.M. Abuzaid, Baris Cavli, H.O. Tekin, Wiam Elshami

**O14.4- RPDM46 Impact of low-dose protocols on Computed Tomography of lung cancer screening on the intrinsic performance metrics: A phantom study** - M.K.A Karim, M.E Khalidi, M.T Chew, M.M.A Kechik, D. Mazlan, K.H.Ng

**O14.6- RPDM44 Reduction Radiation Dose for Paediatric patients undergoing CT examination Using Iterative** - Fatema Salah Alhumood, Noura Mohammed Aldhuhoori, Mustafa Abdi Awes Wiam Elshami, Bashar Issa

**Monte Carlo and hybrid methods in Dosimetry I**

Session chairs: Rafael Miró (UPV, Spain), Frances Salvat (Univ. of Barcelona, Spain)

**O15.1- MC05 Brachytherapy planning system based on Monte Carlo simulations with MCNP6** - Díaz, Oliver S, Juste B, Miró R, Verdú G

**O15.2- MC26 Energy-range relationships for industrial high-energy electron beam irradiators, utilising Monte Carlo modelling with realistic beams, and compared with measurements** - Mark Bailey, Emily Craven, Arne Miller

**O15.3-MC23 Real-time radiation monitoring at laser-driven ion accelerators using a scintillator stack detector** - Benoit Lefebvre, Valeria Istokskaia, Roberto Versaci, Lorenzo Giuffrida, Veronika Olšovcová

**Individual Dosimetry and Monitoring I**

Session chairs: Ma Carmen Pujades (CND, Spain), David Bradley (U. Surrey)

**O16.1-IDM01 Building the foundation for a novel European Metrology Network for radiation protection via the joint network project supportBSS** - S. Ketelhut, B. Khanbabae, A. Röttger, O. Hupe, H. Zutz, C. Adam-Guillermin, J. Alves, S. Bell, R. Bernat, M. Caldeira, M. Derlacinski, D. Glavič-Cindro, M.-R. Ioan, R. Nylund, L. Persson, M. Pinto, A. Sabeta, V. Sochor, A. Veres, B. Wens15, M. Živanović

**O16.2-IDM02 Incorporating Uncertain Biokinetic Parameters in Stochastic Modeling of Particle Deposition Patterns in the Human Respiratory Tract for Defense and Consequence Management Applications** - Emmanuel Matey Mate-Kole, Shaheen Azim Dewji

Tuesday October, 17

**9:00 - 10:15 Plenary Session I2.1 – Radiation Protection and Dosimetry In Medicine**

Session chairs: Agustín Santos (Hospital Provincial de Castellón, Spain), José María Benlloch (UPV, Spain)

I2.1 – Jenia Vassileva (IAEA) - Patient radiation dose monitoring in medical imaging (20 min)

I2.2 – Gabriela Llosá (IFIC, Spain) - Individualized treatment verification based on photon emission (20 min)

I2.3 – Carmen Serrano (VisionRT, Spain) - SGRT: From motion management to Cherenkov detection (20 min)

**10:20 - 11:15 Plenary Session I2.2– New trends on radiotherapy dosimetry**

Session chairs: Jose Prez Calatayud (Hospital Universitari La Fe de Valencia, Spain), Gabriela Llosá (IFIC, Spain)

I2.4 – Francesco Romano. (Istituto Nazionale di Fisica Nucleare). Ultra-high dose rate dosimetry: Challenges and opportunities for FLASH radiation therapy (20 min)

I2.5 – Sam Beddar, (Texas MD Anderson Cancer Center, USA) Scintillation Dosimetry: Past, Present and Future Applications in Radiation Therapy (20 min)

I2.6 – JosMaría Benlloch (UPV, Spain) A critical view to RadioTherapy: potential longterm threats to RT (20 min)

**11:15 – 11:40 Coffee-Break**

**11:40 - 13:10 Neutron Spectrum unfolding Dosimetry I**

Session chairs: Eduardo Gallego (UPM, Spain), Rafael Miró (Spain)

**O21.1-ND10 Design and development of the extended-range Bonner Sphere Spectrometer at Ciemat** - S. Rivera Vázquez, R. Méndez-Villafañe, X. Campo Blanco, Francisco González Sánchez

**O21.2-ND02 Validation of the SpecUnPy code for thermalized neutron fields** - Igor Andrade Machado, Roberto García-Baonza, Lenin E. Cevallos-Robalino, Marco A. S. Lacerda

**O21.3-ND17 Directional neutron spectrometry with a new instrument based on a collimated cylindrical moderator** - J.M. Gómez-Ros, R. Bedogni, A. Calamida, C. Domingo, M. Moraleda, A. Pietropaolo, L. Russo, I. Sarasola

**O21.4-ND14 Experimental determination of the neutron spectrum in the HOTNES thermal source using a Bonner Sphere Spectrometer with passive detectors** - C. Domingo, R. Bedogni, M.A. Caballero-Pacheco, S. Loreti, J.M. Gómez-Ros, A. Pietropaolo

**O21.5-ND16 Neutron measurements at high-elevation within the SAMADHA project** - A. Calamida, R. Bedogni, A. Fontanilla, A.I. Castro-Campoy, L. Russo, V. Monti, E. Mafucci, C. Vigorito, S. Vernetto, J.M. Gómez-Ros, A. Pietropaolo

**Environmental Dosimetry, radioactivity measurement and monitoring I**

Session chairs: Marina Sáez (UPV, Spain), Isabel Lopes (U. Coimbra, Portugal)

**O22.1-EDR02 Design of a low dose rate calibration facility for environmental radiation protection dosimetry** - Jean-Marc Bordy, Clementine Chardeur, Kaoutar Lahal and Johann Plagnard

**O22.2-EDR05 Implementation of numerical method based on Artificial Intelligence for Identifying Behavioral Patterns in Dosimetry Measurements** - O. Arquerizo, J. Berenguer-Antequera, Begoña Pérez López, JF. Benavente

**O22.3-EDR08 Analysis of radon progeny presence in LSC vials for their re-utilization depending on the vial's material** - Trull Hernandis C., Noverques Medina A., Juste Vidal B., Sancho Fernández M., Verdú Martín G.

**O22.4-EDR09 Studying the viability of using gamma spectrometry detectors to monitor in real time the presence of 234Th in the environment in presence of variable natural radioactivity** - Agustín Cerezo, Elena Prieto, Ignasi Reichardt, Ramón Casanovas and Marçal Salvadó

**Micro and Nanodosimetry**

Session chairs: Anna Selva (INFN, Italy), Sofia Carlos (UPV, Spain)

**O23.1-MND01 Approaches to conceptual unification of micro- and nanodosimetry** - Hans Rabus, Carmen Villagrasa, Anna Selva, Valeria Conte

**O23.2-MND04 Experimental nanodosimetry – variance-covariance measurements using a single ion chamber** - Linda Eliasson Jan Lillhök, Torbjörn Bäck, Robert Billnert-Maróti, Christian Iacobaeus

**O23.3-MND05 Radial dependence of X-ray induced ionization clusters around a gold nanoparticle** - Leo Thomas, Hans Rabus, Miriam Schwarze

**O23.4-MND06 An innovative multi-site microdosimeter for clinical beam characterization** - A. Bianchi, A. Selva, A. Minarello, F. Pasquato, M. Rossignoli, V. Conte

**O23.5-MND07 Exploring nanoscale ionization distribution and biological damage: novel insights from 1 nm simulations** - V. Conte, A. Bianchi, A. Selva

**13:30 – 14:45 Lunch-Break**

### 15:00 - 16:15 Radiation Shielding and Dosimetry at Accelerators I

Session chairs: Sergio Morató (NCI, USA), Francesco Romano (INFN, Italy)

**O24.1-RDSA01** Evaluating the Performance of a New Plastic Scintillator Detector for Small Field Dosimetry of Photon Beams in Conventional Linear Accelerators - Marziyeh Tahmasbi, Miguel Capela, Tania Santos, Josefina Mateus, Tiago Ventura, Sergio Panzuela, José Macias, Maria do Carmo Lopes

**O24.2-RDSA02** Radiation shielding for NanoTerasu – a compact 3 GeV next generation synchrotron radiation facility in Japan - Hiroki Matsuda, Masayuki Hagiwara, Akihiro Takeuchi1, Toshiro Itoga, Hiroyuki Konishi

**O24.3-RDSA03** Adding a cyclotron-based 5th treatment room to the MedAustron ion therapy center - Lukas Jägerhofer, Michael Deutsch, Claudia Lenauer, Marta Mumot, Lukas Pfaffenbichler

**O24.4-RDSA04** Shielding and activation studies for a concrete-iron-concrete sandwich structure wall in the CMUH proton therapy facility - Po-Wen Fang, Ying-I Hsieh, An-Cheng Shiau, Rong-Jiun Sheu

**O24.5-RDSA05** Novel pulsed high-energy photon reference field for dosimeter testing - Hayo Zutz, Julian Busse, Rolf Behrens, Harald Dombrowski, Liset de la Fuente-Rosales, Oliver Hupe

### Monte Carlo and hybrid methods in Image Dosimetry II

Session chairs: Sergio Gallardo (UPV, Spain), Jorge Fernández (U. Bologna, Italy)

**O25.1-MC22** Measurement and Modelling of x-ray absorption to High Accuracy - Sier, Chantler, Tran

**O25.2-MC02** A new Monte Carlo particle source for the calculation of dose distributions in computer tomography - Marie-Luise Kuhlmann, Stefan Pöjttinger

**O25.3-MC07** Image quality of sparse module PET scanners using normalization corrections and Monte Carlo tools - Miriam Magela Peña-Acosta, Sergio Romero, María Lorduy-Alos, Sergio Gallardo, Gumersindo Verdú

**O25.4-MC29** Recovering of an X-ray Spectrum from Detector Influence - Jorge E. Fernandez and Francesco Teodori

### 16:15 – 16:30 Coffee-Break

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### 16:45 - 18:15 Radiation Protection in Medicine III (Radiotherapy)

Session chairs: Pedro Vaz (IST, Portugal), Sergio Morató (NCI, USA)

**O26.1-RPDM53** Development of a physical simulator for dosimetric experiments in ophthalmic brachytherapy - Bianca V. Sabino, Carla P. Ricardo, Clarice A. Costa, Luciana B. Nogueira, Tarcísio P. R. Campos

**O26.2-RPDM71** A novel active dosimeter for Flash Radiotherapy - L. Russo, A. Calamida, A. Fontanilla, A.I. Castro-Campoy, R. Bedogni

**O26.3-RPDM66** Proposition of an in-vivo dosimetry system based on Cherenkov light measurement in radiotherapy treatments - Arnie Verde Nolasco, Cláudia Pereira Bezerra

**O26.4-RPDM21** Monte Carlo multiscale modelling of photon and proton distribution in heterogenous tissue - Ahmad Abbas, Richard Hugtenburg

**O26.5-RPDM24** Personalized dosimetry in <sup>177</sup>Lu-DOTATATE/DOTATOC treatment with a single measurement to the patient after 4 days. Theoretical-practical analysis of the proposal of Hnscheid et al. with patients at La Fe hospital in Valencia, Spain - Andrés Bataller Martí Andrei C. Marín, María de las Mercedes Vázquez Martínez, Javier Ricardo Caón Sánchez, Stefan Prado Wohlwend, Pilar Bello Arques, Irene Torres Espallardo.

**O52.3-RPDM06** Characterization of a Commercial PIN Diode for Radiotherapy Photon Beam Dosimetry - Iandra T. Silva, Karen Pieri, Lucas D. Albino, Thiago S. Fontana, Matheus F. dos Santos., Ernesto Roesler, Viviane K. Asfora, Charles Oliveira, Josemary A. C. Goralves, Carmen C. Bueno, Helen J. Khoury

### Radiation Protection and Dosimetry in Industry

Session chairs: Benjamín Mora (GDES, Spain), Jorge Fernández (U. Bologna, Italy)

**O27.1-RPDI03** Assessing radiation damage to semiconductor devices from low-energy X-rays: A study using TLD-400 dosimeters - Chih-chi, Lin, Che-hsing, Chu and Tsi-chian, Chao

**O27.3-RPDI09** Radiation safety standards for security x-ray screening of people - Jack Glover

**O27.5-RPDI08** Enhancing Beta Spectrum Unfolding in mixed Beta/Gamma Radiation Fields: Combining Iterative and Machine Learning Approaches - Y.Xiea, S.H. Byuna

### 20:00 – 21:00 Social Programme - Concert at San Nicolas Church

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Wednesday October, 18

**9:00 - 11:15 Plenary Session I3 – Hot Dosimetry topics I**

Session chairs: Jorge Fernández (U. Bologna, Italy), Pedro Vaz (IST, Portugal)

I3.1 – Salvatore di Maria (Istituto Superior Tecnico (IST), Portugal) - X-ray dosimetry in breast imaging (20 min)

I3.2 – David Bradley (U. Surrey) - Development of Real-time Radioluminescence Sensors for Medical, Industrial and Security Applications (20 min)

I3.3 - Helena Janžekovič. (Slovenian Radiation and Nuclear Safety Inspection Service) - Radon Exposure and European Union Regulations (20 min)

I3.4 – Anna Selva (INFN, Italy) - Energy imparted and ionization yield at the nanometer scale: a broken relationship? (20 min)

I3.5 – Stefano Agosteo (Politecnico Milano, Italy) - Radiation Shielding and Dosimetry at Accelerators (20 min)

**11:15 – 11:40 Coffee-Break**

**11:40 - 13:15 Radiation Protection in Medicine IV (Radiotherapy)**

Session chairs: David Bradley (U. Surrey), Facundo Ballester (UV, Spain)

**O31.1-RPDM11 Lu PSMA on ambulatory basis, a radiation safety approach** - Mario A. Vico Escribano, Oscar J. Pellicer Valero, Veronica Cotanda Ricart, Mireia Pallarés Ripollés, Victor de los Dolores Alemany, Víctor Gonzalez Perez, Carmen Guardino de la Flor, Mireia Hernández Trujillo, Vicente Crispín Contreras

**O31.2-RPDM13 Establish a simulation system and develop a mini-ridge filter for proton FLASH beamline** - Tsz-Yui Chan, Aamir Farooq, I-Chun Cho, Kang-Hsing Fan, Tsi-Chian Chao

**O31.3-RPDM39 Verification of electron radiotherapy treatment using micro silica glass bead TLDs** - Shakardokht M Jafari, Kai H. Ng, Antony L. Palmer

**O31.4-RPDM34 Calculation of ambient instantaneous dose rates (AIDR) depending on the mode of delivery in a single proton therapy treatment** - Gonzalo F. García-Fernández, Alejandro Carbe-Fernández

**O31.5-RPDM51 Metrology of high dose rate high energy photon beams: standardization of dosimetry for UHDR beams in medical and research applications** - Radu Alin Vasilache

**Environmental Dosimetry, radioactivity measurement and monitoring II**

Session chairs: Sebastián Martorell (UPV, Spain), Shaheen Dewji (Georgia Institute of Technology, USA)

**O32.1-EDR10 Natural radioactivity in the rocks of the main quarries in Belo Horizonte- MG, Brazil** - Taveira N.F., Correa B.B.G., Santos T.O, Takahashi L., Menezes M., Brito W., Passos R., Hereen A.

**O32.2-EDR11 Radon exhalation in different granulometries of granites from Belo Horizonte-Brazil** - Taveira N., Takahashi L., Lamounier, Menezes M., Brito W., Passos R., Hereen A.

**O32.3-EDR14 Monitoring Natural Radioactivity in Groundwater: The Protocol Applied in The Metropolitan Region of Belo Horizonte, Brazil** - Carla Pereira Ricardo, Mario Roberto Martins de Souza Silva Braga, Maximiliano Jesús Moreno Zapata, Maria Ángela de Barros Correia Menezes, Helena Eugênia Leonhardt Palmieri, Zildete Rocha, Arno Heeren de Oliveira

**O32.4-EDR17 Measurement of Natural Radioactivity in Soil and Vegetation Samples from Farming Lands and Estimation of their Health Effects** - Jaber Al-Marri, Mosab Subeh, Alfatih Osman, Yehia Manawi, Huda Al-Sulaiti

**O32.5-EDR03 Estimation of H\*(10) and E using the Hp(d) detectors of the Ukhsa Personal TLD** - Jonathan Eakins, Rick Tanner

**O32.6-EDR07 Detector-specific separation of spectral components from repetitive measurements in environmental radiation monitoring** - Ignasi Reichardt, Agustín Cerezo, Elena Prieto, and Marçal Salvadó

**Monte Carlo and hybrid methods in Medical Dosimetry III**

Session chairs: Christopher Chantler (U. Melbourne, Australia), Javier Vijande (UV, Spain)

**O33.1-MC04 Feasibility of a Linear Accelerator Commissioning in a Radiotherapy Facility using Monte Carlo: An uncertainty analysis** - Nuno Rodrigues, Pedro Teles, Leonel Lourenço

**O33.2-MC06 Dose distribution calculation in treatments with Lu-177 using Monte Carlo simulation.** - V. Ribes, S. Oliver, B. Juste1, R. Miro, G. Verdu

**O33.3-MC25 Simulation of Bragg curves of proton beams in condensed-phase materials of interest in protontherapy** - Ana María Zamora-Vinaroz, Pablo de Vera, Isabel Abril, Rafael Garcia-Molina

**O33.4-MC28 PyMCGPU-IR: A Novel Application for Personal Dosimetry in Interventional Procedures Using Computational Methods** - Víctor García Balcaza, Mercè Ginjaume, Anna Camp, Una O'Connor, Anja Almen3, Filip Vanhavere4, Maria A. Duch

**O33.5-MC24 Dose point kernels for iodine radionuclides in liquid water obtained by simple yet reasonably accurate Monte Carlo simulations** - Ana María Zamora-Vinaroz, Mario Mompean-Herrero, Pablo de Vera, Rafael Garcia-Molina

**O33.6-MC32 Extensions of PenRed for Computed Tomography Simulation and Brachytherapy Treatments** - V. Gimenez-Alventosa, S. Oliver

**13:15 – 18:00 Social Programme - Lunch at Albufera & Boat trip**

Thursday October, 19

9:00 - 11:15 **Plenary Session I4.1 – Biodosimetry, radiobiology and retrospective Dosimetry**

**Session chairs:** Alegria Montoro, (Hospital Universitari La Fe de València, Spain) y Matthias Port (Bundeswehr Institute of Radiobiology, Germany)

I4.1 – Matthias Port. (Bundeswehr Institute of Radiobiology, Germany) - Biodosimetry and clinical dosimetry to support medical management as part of radiation emergency preparedness. (20 min)

I4.2 –Francois Trompier (IRSN, France). What can really do EPR retrospective dosimetry? Feedback experience on 25 years of radiological accident management (20 min)

I4.3 – Alegria Montoro (Hospital Universitari La Fe de València, Spain) - Experience in biodosimetry of nuclear medicine patients and in children of Chernobyl (20 min)

I4.4 – Christophe Badie (Public Health England) - Gene expression based biodosimetry in blood and skin tissues (20 min)

I4.5 – Joan Francesc Barquinero (Vicepresident RENEb) - RENEb – The biodosimetry network in Europe (20 min)

I4.6 - David Endesfelder (Bfs, Germany) -Uncertainty assessment for various exposure scenarios in biological dosimetry (20 min)

11:15 – 11:40 **Coffee-Break**

11:40 - 13:20 **Dosimetry of radon exposures**

**Session chairs:** G. Verdú (UPV, Spain), Helena Janžekovič (Slovenian Nuclear Safety Administration)

**O41.1-DRE02 Radon chamber operation and sensitivity analysis of air radon detectors** - Aina Noverques Medina; Belén Juste Vidal; María Sancho Fernández; Gumersindo Verdú Martín.

**O41.2-DRE03 The Effect of Radon Concentration on Integrated Exposure for Passive Detectors Measurements** - Jaroslaw M. Wasikiewicz

**O41.3-DRE04 Evaluation of thoron concentration in an underground gallery of a labor building** - I. N. Ferreira, L. C. Takahashi, R. G. Passos

**O41.4-DRE05 Methodology for radon dose assessment in tourist caves** - Daniel Rábago, Luis Quindós, Carlos Sainz, Ismael Fuente and Santiago Celaya

**O41.5-DRE06 Study of the use of wallpaper to mitigate radon exhalation from building materials** - B. Ruvira, B. García-Fayos , B. Juste , J.M. Arnal, G. Verdú

**O41.6-DRE07 Study of radon progeny inhalation protection by using facial masks** - J.E. Martínez, B. Juste, G. Verdú

**Neutron Dosimetry II**

**Session chairs:** Eduardo Gallego (UPM, Spain), R. Miró (UPV, Spain)

**O42.1-ND08 A new concept for neutron dosimetry in ion beam radiotherapy: Feasibility study** - Katsumi Aoki and Shusuke Yonai

**O42.2-ND04 Developing and using international standardS for Neutron ambient dose equivalent rate meters** - Miroslav VOYTCHEV, Radoslav RADEV

**O42.3-ND01 Analysis of the standard calibration method for neutron monitors** - Xandra Campo Blanco, Roberto Mndez Villafæ, Sergio Rivera Vázquez, Francisco González Sánchez

**O42.4-ND09 Neutron Personal Dosimetry: Exploring Ciemat Track-Based Methods** - S. Rivera Vázquez, A. M. Romero Gutiérrez, M. Moraleda Chaves, J. M. Gómez- Ros, R. Rodríguez

**O42.5-ND13 Ambient neutron dosimetry in high energy and pulsed neutron fields** - A. Tarifeno-Saldivia

**O42.6 ND06 Simulated Neutron Dose on Multiple Cell Culture Configurations** - Bradley Crouch, Samuel Tompkins, Kuan-Lun Ho, Shih-Kang Fan, Amir A. Bahadori

**Biodosimetry, Radiobiology and Retrospective Dosimetry**

**Session chairs:** Alegria Montoro (Hospital Universitari La Fe de Vahcia, Spain), François Trompier (IRSN, France)

**O43.2-BRRD03 Luminescence Characteristics of Fortified Nutrient Salts for Application in Retrospective Dosimetry** - Aleksandar Krieski, Ivana Sandeva1,Margarita Ginovska, Hristina Spasevska1, Lihnida Stojanovska-Georgievaska, Sonja Petkovska, Martin Jovchevski

**O43.3-BRRD06 New radiobiology detector using scintillating arrays** - D.R. Guerreiro, J. M. Sampaio, L.Peralta, J. G. Saraiva, C. Rodrigues

**O43.4-BRRD04 Genotoxic Effects of ablative treatment with I131 determined through the analysis of dicentric in peripheral blood lymphocytes. Can it influence the clinical management of patients with differentiated thyroid carcinoma?** - Celia Fernández Martín , María Jesús Prieto Rodríguez, Javier Orcajo Rincón, Laura Reguera Berenguer, Alvaro Soza Marañón, Cristina González Ruiz, Carmen Durán Barquero, Isabel Gómez Fernández, Miguel Ángel Lozano Barriuso Juan Carlos Alonso Farto, Mercedes Moreno Domene

13:30 – 14:45 **Lunch-Break**

15:00 - 16:15 **Radiation Shielding and Dosimetry at Accelerators II**

Session chairs: S. Gallardo (UPV, Spain), Stefano Agosteo (Politecnico Milano)

**O44.1-RDSA06 Calibration of the Online Dose Monitoring System at the Free-Electron Laser SwissFEL** - Eike Hohmann, Roman Galeev, Christine Harm, Lisa Pedrazzi, Marco Tisi2 Nick Walter, Sabine Mayer

**O44.2-RDSA07 Investigation of the neutron radiation field inside the accelerator tunnel during operation of the Swiss Light Source (SLS)** - Roman Galeev, Eike Hohmann, Nick Walter, Sabine Mayer

**O44.3-RDSA08 Dosimetry at low and ultra-high dose rates at FLASHlab@PITZ** - Felix Riemer, Namra Aftab, Zohrab Amirkhanyan, Prach Boonpornprasert, Dmytro Dmytriiev, Anna Grebinyk, Andreas Hoffmann, Ekkachai Kongmon, Mikhail Krasilnikov, Xiangkun Li, Frieder Mueller, Anne Oppelt, Chris Richard, Frank Stephan, Grygorii Vashchenko, Daniel Villani, Steven Worm, Deepa Angal-Kalinin, James Jones, Roger Jones, Hannah Wanstall

**O44.2-RDSA07 Comparative analysis of shielding activation in three types of Compact Proton Therapy Centers (CPTC)** - Gonzalo F. García-Fernández, scar Cabellos de Francisco, Lenin E. Cevallos-Robalino, Eduardo Gallego

**Computational Dosimetry and Phantoms II**

Session chairs: Facundo Ballester (UV, Spain), Alessandro Calamida (INFN-LNF, Italy)

**O45.1-CDP05 Age-dependent dose assessment for 177Lu and 161Tb in pediatric Targeted Radiopharmaceutical Therapy** - S. Valente, J. Borbinha, P. Vaz, S. Di Maria

**O45.2-CDP02 Anatomically Predictive Extension, a new realistic extension of partial CT scans of pediatric patients** - Sergio Morato Rafet, Keith T. Griffin, Choonik Lee, Monjoy Saha, Matthew M. Millie

**O45.4-CDP04 Simulation of radon progeny deposition in human airway applying Computational Fluid Dynamic** - Laura C. Takahashia, Maria Ángela. B. C. Menezesb, Talita O. Santosc, André A. C. Santosc, Marcos P. B. Filhoe, Guilherme A. M. Vidalf, Tiago A. S. Vieirag and Ricardo G. Passosh

16:15 – 16:30 **Coffee-Break**

16:45 - 18:15 **Dosimetry in radiological and nuclear emergencies and accidents II**

Session chairs: Sebastián Martorell (UPV, Spain), Jose Peiró (CSN, Spain)

**O46.1-DRNE04 EURADOS Intercomparison of age-dependent thyroid phantoms for thyroid monitoring in nuclear or radiological emergencies** - J.F. Navarro, B. Pérez, M.A. López, J. Boeckx, V. Rovenska, S. Helbig, T. Torvela, T. Beaumont, M. Kowatari, D. Frank, A.L. Lebacqz, O. Meisenberg, P. Fojtik, D. Broggio

**O46.2-DRNE03 Investigating luminescence signals of dietary supplements and electronic devices for emergency dosimetry** - Michael Discher, Anna Mrozik, Dorota Kuznik, Pawel Bilski

**O46.3-DRNE06 Comparison of dose measurements using environmental and personal dosimeters in real scenarios to deal with radiological and nuclear emergencies** - Rafael Rodríguez, Ana María Romero, JosLuis López-Moyano

**O46.4-DRNE01 Python-based program designed to simulate the effects of nuclear detonations** - Natalia Alegría, Erlantz Ospedes, Andima Freire, Igor Pealva

**Radiation Protection and Dosimetry in NORM Industries**

Session chairs: Marina Saez (UPV, Spain), David Bradley (U. Surrey)

**O47.1-RPDN01 An approach for the indirect determination of U-238 and Th-232 content in ceramic products based on gross alpha and gross beta measurement** - M. Sáez-Muoz A. J. Sevilla, R. Trujillo, A. Sánchez, J. Ortiz, S. Martorell

**O47.2-RPDN02 Determination of internal doses to workers exposed to suspended radioactive dust in the ceramic industry by radiochemical methods** - A. J. Sevilla, M. Sáez-Muoz, A. Sánchez, J. Ortiz, S. Martorell.

**O47.3-RPDN03 Determination of long half-life radioisotopes by mass spectrometry techniques in NORM Materials** - Ana I Barrado, Fernando Jimenez, Estefanía Conde, Altug Hasözbe, Marta Fernandez, Jose Manuel Cobo

**O47.4-DRE01 Radiometric study in indoor environments: radon and gamma monitoring** - Laura C. Takahashia, Talita O. Santosc, Peterson L. Squairc, Rafael S. P. Almeida, Carolina S. Lamouniere, Isabela N.S. Ferreiraf and Ricardo G. Passosh

**Radiation Protection in Medicine V (Medical dosimetry & satff)**

Session chairs: Sofia Carlos (UPV, Spain), Christopher Chantler (U. Melbourne)

**O48.1-RPDM25 Thermoluminescence study of a novel Yb3+/Tm3+-coactivated CaF2 material for radiation dosimetry applications** - Rafael Rodríguez, JosLuis Plaza

**O48.2-RPDM50 Measurement Campaigns to Identify Healthcare and Research Workplaces Prone to Receiving Annual Lens Doses Exceeding 6 mSv** - MercGinjaume, Roberto M. Sánchez Casanueva, Anna Torras González, Eliseo Vaó, JosM. Fernández Soto, María Roig Costa, M. Luisa Tormo, Maria A. Duch

**O48.3-RPDM56 Phenomena observed in use of a pulse-by-pulse Radioluminescence dosimetry system in electron EBRT** - A. Basaif, Adebisi Oresegun, H.T. Zubair, Hafiz Zin, K.Y. Choo, Sian Lun Lau, Yuen-Yi Wong, Elfed Lewis, H.A. Abdul-Rashid a, D.A. Bradley

**O48.4-RPDM22 Feasibility Study of Fricke Xylenol Gel as a Dosimeter for Low Dose Rate Brachytherapy Sources** - Cristhian Talacimon, Ilca Medeiros, Lara Teodoro, Maria Rigo, Maysa Gesserame, Paulo Tavares, Priscila Rodrigues, Thuanu Nogueira, Wilmmmer Rosero, Oriando Rodrigues Jr, Carlos Zeituni, Maria Rostelato

21:00 – 23:00 **Conference Dinner**

Friday October, 20

### 9:00 - 11:15 Plenary Session I5 – Nuclear Emergencies & Hot Dosimetry topics II

Session chairs: Eduardo Gallego (UPM, Spain), Gumersindo Verdú (UPV, Spain)

I5.1 – Eduardo Gallego (UPM, Spain) - Dosimetry issues in Radiological and Nuclear Emergency Preparedness and Response (20 min)

I5.2 – Wolfgang Raskob (University of Karlsruhe, Germany) - Decision making in a nuclear and radiological emergency and how monitoring supports this (20 min)

I5.3 – Lorezo Isolan (INFN, Italy) - Monte Carlo Analysis of dosimetric issues in space exploration. (20 min)

I5.4 – Amir A. Bahadori (Kansas State University, USA) - Space Radiation Protection in the Modern Era: New Approaches to Familiar Challenges (20 min)

I5.5 – Shaheen Dewji (Georgia Institute of Technology, USA). Transforming Internal Dose Assessment: Unleashing the Power of Mathematical, Multiphysics, and AI Integration (20 min)

### 11:15 – 11:40 Coffee-Break

### 11:40 - 13:00 Dosimetry in space applications

Session chairs: Lorezo Isolan (INFN, Italy), Amir A. Bahadori (Kansas, USA)

**O51.1-DSA01 Exploring Single Event Effects (SEE) of Protons and Carbon Ions: Bridging Knowledge Gaps and Establishing Benchmarks** - Aamir Farooq, I-Chun Cho, Cher Ming Tan, Chien-Yu Lin, Tsi-Chian Chao

**O51.3-DSA03 Charge Distribution Effects in Active Radiation Shielding** - B. Crouch, D. Nikolic, L. Stegeman, S. Madzunkov, D. Fry, and A. Bahadori

### Radiation Protection in Medicine VI

Session chairs: Maria Gracia (CND, Spain), Rafael Miró (UPV, Spain)

**O52.1-RPDM72 Radiation response of marble-glass materials in medical radiation dosimetry** - Amjad Alyahyawi, A. Bradley

**O52.4-RPDM01 Computed Tomography Imaging analysis of a fused filament fabrication (FFF) 3D printed neck-thyroid phantom for multidisciplinary purposes** - D. Villani, M. Savi, O. Rodrigues Jr., M.P.A. Potiens and L. L. Campos

### Neutron Dosimetry III

Session chairs: Shaheen Dewji (Georgia Institute of Technology, USA), Eduardo Gallego (UPM, Spain)

**O53.1-ND12 Mixed radiation (neutron) measurements in experimental facility by nuclear reactor (dose rate from mGy/h up to Gy/s)** - Michał Gryziński, Michał Kuć, Maciej Maciak

**O53.2-ND11 Two-dimensional neutron beam profile measurement in the MARIA research reactor before the H2 beam shutter assembly** - Michał Kuć, Szymon Domański, Michał A. Gryziński, Jarosław Grzyb, Maciej Maciak, Maciej Wiliński

**O53.3-ND05 Development of a graphite pile to produce a neutron thermal field at the CIEMAT - Neutron Standards Laboratory** - R. Méndez-Villafañe, S. Rivera Vázquez, X. Campo Blanco, Francisco González Sánchez

**O53.4-ND15 Designing and testing a soil moisture monitor system based on neutron moderating cylinders** - C. Domingo, M. S. Alatawi, M. A. Caballero Pacheco, A. Calamida, A. Fontanilla, L. Russo, A. Pietropaolo, R. Ayad, and R. Bedogni

### 13:00 – 14:15 WRAP-UP & CLOSING

**Poster Session 1**  
**Monday 16th and Tuesday 17th, October**

EDR - Environmental Dosimetry, Radioactivity Measurement and monitoring	Autor	Poster Number
Study of radioactivity in tailings from niobium mining in Araxá city of MG - Brazil	Elydio J.D. Soares	EDR-01
Evaluation of adsorbent materials for chemical elements control in acid uranium mine drainage	Mariana de Oliveira Reis	EDR-04
How to select a dosimeter?	Ilca Marli Moitinho Amaral Medeiros	EDR-06
Investigation of dietary supplements composition using kayzero neutron activation analysis at the Training Reactor VR-1	Milan Stefanik	EDR-12
The new deep and surface soil transfer model in the GENII-LIN multipurpose health physics code	Francesco Teodori	EDR-15
Thermoluminescence glow curve analysis of GdAlO <sub>3</sub> :Dy beta induced	D. Nolasco-Altamirano	EDR-19
Thermally and optically stimulated luminescence of GdAlO <sub>3</sub> :Dy <sup>3+</sup> beta irradiated	T. Rivera-Montalvo	EDR-20

RPDM - Radiation Protection and Dosimetry in Medicine	Autor	Poster Number
Step-by-step of 3D printing a head-and-neck phantom: proposal of a methodology using fused filament fabrication (FFF) technology	Matheus Savi	RPDM-02

Integral Dose Comparison of VMAT and IMRT for Rectal Cancer Treatment: A Dosimetric Analysis	Chi-Yuan Yeh	RPDM-03
Dosimetric Analysis of High-Resolution Chest Protocols for Pediatric Patients on an Aquilion ONE VISION Edition®	Fillipe M. de Jesus	RPDM-04
Development and Characterization of the CsI:Tl scintillator grown by the Bridgman technique for use as a radiation detector	Karoline Feitoza Suzart	RPDM-05
Dosimetric parameters and radiation tolerance of epitaxial diodes for diagnostic radiology and computed tomography X-rays	Josemary A. C. Gonçalves	RPDM-08
Study of bolus material for impart dosimetric use in radiotherapy	Mariana de Oliveira Reis	RPDM-09
Study on knowledge and practices in radiological protection in health care institutions (IPS) in the city of Medellin	Angela María Montoya Muñoz	RPDM-12
Quality control of the stereotactic radiosurgery procedure with the Alanine-EPR Dosimetry	Helen Khoury	RPDM-14
Performance evaluation of activity meters using the in-situ calibration methodology with <sup>99m</sup> Tc	Elaine Wirney	RPDM-15
Dosimetric approach of Au-198 nanoparticles with radiochromic film	Maria Rigo	RPDM-16
Assessment of new dose metrics in pediatric computed tomography	M. Freitas	RPDM-17
Typical values of CTDI, DLP and SSDE for pediatric computed tomography in Brazil	M. Freitas	RPDM-18
Attenuation images of Optical CT using Fricke xylenol solution for dose mapping in radiotherapy	Tavares, Paulo V. S.	RPDM-20
Investigating a dopant for mitigating the natural degradation of Fricke Xylenol Gel dosimeters	Cristhian Talacimon	RPDM-23

Poster Session 1  
Monday 16th and Tuesday 17th, October

Characterization of FXG dosimeters with gold nanoparticles for brachytherapy applications	Priscila Rodrigues	RPDM-27
Computational evaluation of the bucky components influence on the estimation of normalized glandular dose in digital mammography	Maria da Penha Albuquerque Potiens	RPDM-29
Optimisation Of Radiation Protection Procedures In Angiography System Commissioning	Martin Jovchevski	RPDM-30
A new natural detector (Curcuma Longa L.) for photodynamic therapy (PDT) measurements with blue LED irradiations: Application of Convolutional Neural Networks (CNN) and Multilayer Perceptron (MLP)	Linda V.E. Caldas	RPDM-31
Connecting Monte Carlo multiscale dose distribution outcome with brain cancer VMAT and Gamma knife treatment	Ahmad Abbas	RPDM-33
Natural detector irradiated with blue LEDs for measurements in Photodynamic Therapy (PDT) via Spectroscopy (UV-Vis), Design of Experiments (DOE) and Multiple Linear Regression (MLR)	Maria Beatriz A. França	RPDM-35
Validation of a radiotherapy sector with an END-TO-END test in an anthropomorphic phantom for radiosurgery from a 3D printer	Linda V. E. Caldas	RPDM-36
Evaluation of capabilities of a new measurement algorithm based on recombination chambers and methods, for radiation protection in medicine	Michał Kuć	RPDM-38
Analyzing the Effect of Proton Beam Nozzle Design on Dose Distribution in Small Proton Fields	Aamir Farooq	RPDM-42
The variation of the Thermal Index (TI) and Mechanical Index (MI) During Routine Obstetric Examination	Wiam Elshami	RPDM-45
Occupational ionizing radiation exposure monitoring in several medical departments	Nada A. Alomairy	RPDM-47
Assessment of Secondary Radiation Dose in Radiology Units	Nada A. Alomairy	RPDM-48
Assessment of patients doses and radiation risks during vascular CT abdomen examinatons in Saudi Arabia	Abdelmoneim Suliemana	RPDM-52

Radiation dose Assessment and Suggestion of Diagnostic Reference Level for Chest and Skull Radiography and Computed Tomography in Sudan	H. Osman	RPDM-54
Assessing the Impact of Different Breast Sizes on Heart Radiation Dose in Dual-Energy Computed Tomography with Various Scan Modes Using Optically Stimulated Luminescence Dosimeter	Lu-Han Lai	RPDM-55
Assessment of annual personal equivalent dose, skin and eye lens doses during interventional radiology	Abdelmoneim Sulieman	RPDM-57
Assessment of pediatric radiation doses during computed tomography facial bones examination	Hassan Salah Ibrahim	RPDM-58
Estimate Radiation Dose and Cancer Risk in Adult Computed Tomography Angiography for Upper and Lower Extremity CT Procedure	Hassan Salah Ibrahim	RPDM-59
Radiation dose and diagnostic reference level for certain computed tomography angiography procedures	Hassan Salah Ibrahim	RPDM-60
Establishment of Diagnostic reference level for computed tomography examinations in elected hospitals in Saudi Arabia	Mohammed Alkhorayef	RPDM-61
Image Quality and Radiation dose for patients who underwent radiological examinations at the emergency department	Nissren Tamam	RPDM-62
Estimating Effective Dose Measurements During Common Computed Tomographic Procedures	Rufida Elbushra Eisa Ahmed	RPDM-64
Dose Distribution of ELEKTA VERSA HD: Experimental Measurement	Sy Minh Tuan Hoang	RPDM-65
Study on the radiation exposure of Portable X-ray Fluorescence	A. J.Potiens Jr	RPDM-67
Evaluation of patient effective doses in interventional orthopedic procedures	Rufida Elbushra Eisa Ahmed	RPDM-68
Evaluation of Patient organ and effective doses and radiogenic risks Dose during computed tomography procedures	Mohammed Albogami	RPDM-70
Exploring the impact of Bi2O3 Particle Size on the Efficacy of Dimethylpolysiloxane for Medical Gamma/X-rays Shielding Applications	Aljawhara H. Almuqrin	RPDM-73

Poster Session 1

Monday 16th and Tuesday 17th, October

Effect of concentration of CuO on radiation shielding characteristics of Polyethylene terephthalate (PET)	Dalal A. Alorain	RPDM-74
Estimation of cardiologists annual exposure in Saudi Arabia	Mohammed Alkhoaryefa	RPDM-75

RPDI - Radiation Protection and Dosimetry in Industry	Autor	Poster Number
EPR characterization of thulium-yttria micro rods	Santos, S. C.	RPDI-01
Online electron beam monitoring with a diode-based dosimetry system in routine quality control	Carmen C. Bueno	RPDI-02
Investigation of radiation doses and dose constraint values of non-medical planned exposure radiation practices in Taiwan	Fang-Yuh Hsu	RPDI-05
Thermoluminescence and phototransferred thermoluminescence of radiation dosimeters: analysis of the effect of UV light for transfer of charges from deep traps	Patrícia L. Antonio	RPDI-06
OSL and PTOSL of dosimetric materials: observation of the luminescence after exposure to 90Sr+90Y source and LEDs in ultraviolet range	Patrícia L. Antonio	RPDI-07

Poster Session 2

Wednesday 18th, Thursday 19th and Friday 20th, October

DRNE - Dosimetry in Radiological and Nuclear Emergencies and accidents	Autor	Poster Number
Feasibility study of using earbuds and wireless headphones for retrospective dosimetry	Michael Discher	DRNE-02
Event reconstruction model of Ru-106 release from October 2017 using the HYSPLIT and JRODOS-MATCH models	Piotr Kopka	DRNE-07

CDP - Computational Dosimetry and Phantoms	Autor	Poster Number
Fetal dose assessment and the Taiwanese pregnancy phantom validation for occupational exposure in nuclear medicine	Fang-Yuh Hsu	CDP-07

BRDR - Biodosimetry, Radiobiology and Retrospective Dosimetry	Autor	Poster Number
Development of multi-wavelength optically stimulated luminescence reader	Hyunseok Leea	BRRD-02

IDM - Individual Dosimetry and Monitoring	Autor	Poster Number
Effects of Resinterization on the Physical, Morphological and Dosimetric Properties of the Alox-520 detector	D.S. Calheiro	IDM-03

Poster Session 2

Wednesday 18th, Thursday 19th and Friday 20th, October

Design and characterization of the eye-lens dosimeter of Centro Nacional de Dosimetría according to the IEC62387 standard	M.C. Pujades-Claumarchirant	IDM-05
Annual occupational doses to the lens in interventional procedures	I. Mas	IDM-06
The Trial of The Proficiency Testing of eye lens dosimeters in Taiwan	Ying-Lan Liao	IDM-08
Analysis of IST-LPSR participation in Intercomparison exercises for individual monitoring services in the period 2008 - 2022	J.S. Santos	IDM-09
Improving standardization in radiation protection dosimetry and supporting reference laboratories in the European Partnership Project GuideRadPROS	Steffen Ketelhut	IDM-10
Mechanistic study of the acidic aqueous solution of chrome alum as high dose and high dose rate chemical dosimeter: Steady state, pulse radiolysis and conductometry studies	Fouad Abolaban	IDM-11
Evaluating Dose Responses in High-Energy Photon and Electron Beams Using Badge-Type Optically Stimulated Luminescence Dosimeters with Different Badge Housings	Lu-Han Lai	IDM-15

NDE - Nuclear Data and Evaluation	Autor	Poster Number
Spectra measurement of <sup>238</sup> Pu- <sup>13</sup> C source	Markéta Koplová	NDE-01
Cyclotron-based p( <sup>27</sup> )Be neutron source for activation experiments	Milan Stefanik	NDE-03

MND - Micro and Nano Dosimetry	Autor	Poster Number
First measurements with the Ion Counter nanodosimeter at HIT	Miriam Schwarze	MND-02
Simulation of the mixed radiation fields from carbon ion beams used for measurements with the Ion Counter nanodosimeter at HIT	Milan Stefanik	MND-03
Microdosimetry calculations of intra-cellular TRT using Auger emitting isotopes	Teresa Palmer	MND-08
Angular dependence of the PTW microdiamond in edge on mode	Richard P. Hugtenburg	MND-09

MC - Monte Carlo and hybrid methods in Dosimetry and Radiation Measurement	Autor	Poster Number
Effectiveness of Volumetric Repainting Strategies in Reducing Interplay Effect in Liver Cancer Patients : A Monte Carlo Simulation Study	I-Chun Cho	MC-01
Simulation and Measurement of Secondary Fragmentation of Carbon Ion Beams	F. Alqahtani	MC-03
PET image reconstruction and dosimetry from voxelized phantoms with GATE	M.M. Peña Acosta	MC-08
Monte Carlo simulation of spatially fractionated radiation therapy collimators for radiobiology studies	Letícia Rocha de Souza	MC-09
The development of patient-specific quality assurance (PSQA) for a proton wobbling nozzle using PTSim Monte Carlo code	Tsi-Chian Chao	MC-10
Small field dosimetry employing the thermoluminescence technique using a 3D printed phantom	Almeida, S. B.	MC-11

Using a Monte Carlo simulation to analyze the ideal activity for a phosphorus-32 polymeric brachytherapy source for paraspinal tumors	Lara El Hajj Teodoro	MC-12
Characterization of a 3D Prototyping Semi-Automated Filter Holder System for RQR and RQA radiation qualities	Almeida Junior, J.N.	MC-13
Monte Carlo Simulation of GRID collimators	Gabriela Fleck Godoi	MC-14
A methodology for automated radioactive waste characterization	Ademar J. Potiens Jr	MC-15
Validation of Fricke xylene gel dosimetry through comparisons between MCNP and TOPAS simulations	Priscila Rodrigues	MC-16
Implementation of ICRU Report 90 to Re-evaluate the Dosimetry Standards in Taiwan	Yi-Chun Lin	MC-17
Discrete Range Modulation Method (DRM method) for Carbon Ion Radiography – A Monte Carlo Study	Tsi-Chian Chao	MC-18
Logfile-based Patient-Specific QA for Continuous Line Scanning Proton Therapy System in CGMH Linkou branch	Tsi-Chian Chao	MC-19
Comparison between a simple analytical method and Monte-Carlo simulations on heterogeneities in low rate brachytherapy	Jaume Mingarro	MC-20
Investigating Secondary Neutrons Production from Carbon Ion Beams for Radiotherapy	F. Alqahtani	MC-21
Thermoluminescent dosimetry planning through MNCP	Thuany Nogueira	MC-31

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