



## REPROLAM CYCLE OF SEMINARS ON CODES OF MONTE CARLO

REPROLAM's Computational Dosimetry area is organizing a series of seminars that will begin in October.

**"Fundamentals of the Monte Carlo Method applied to the field of radiological protection and IAEA Nuclear Data Libraries. Its use in codes applied to occupational RP".**

October 3. 10:00 a.m. to 1:00 p.m. Argentina time

**"Introduction to OPENMC code".**

October 4, 10:00 a.m. to 1:00 p.m. Argentina time

Link for registration that will redirect you to a TEAMS group.

<https://www.surveymonkey.com/r/59R9NPJ>

If you wish to enter the seminars directly, you must use the following link by copying and pasting the address directly into your browser:

<https://teams.microsoft.com/join/19%3atIQNS7Ew7E7cW-cUVEVgdMm3kC2nR8hnUD39ctZG3M2k1%40thread.tacv2/1662123321314?context=%7b%22Ti d%22%3a%22a2f21493-a4d1-4b7f-ad07-819c824f5c4a%22%2c%22Oid%22%3a%223a8e0d19-c009-4d12-9c95-88d9ae1c4449%22%7d>

**REPROLAM WEBINAR:  
MEDICAL AND OCCUPATIONAL EXPOSURES IN THE WORLD:  
THE LATEST RESULTS PUBLISHED BY UNSCEAR  
OCTOBER 31, 2022 - 11 HOUR BRASILIA**



**Lidia Vasconcelos de Sá**  
Head of Medical Physics Service  
Institute of Radioprotection and Dosimetry. Brazil



**Denison de Souza-Santos**  
Dosimetry Division.  
Institute of Radioprotection and Dosimetry. Brazil

The United Nations Scientific Committee on the Effects of Atomic Radiation - UNSCEAR - has the objective of evaluating and reporting on the sources of ionizing radiation and its effects on human health and the environment, providing the scientific basis that will guide governments in their national policies.

New reports on medical exposures and exposures will be addressed in the webinar occupational data published by UNSCEAR in 2021 and 2022 respectively. Emphasis will be placed on the methodology used and the main results of the research carried out, highlighting the practices with the highest level of exposure, including the comparison with the previous reports of the Committee.

A greater understanding of the highest risk practices is sought, as well as the areas that require research and development actions. Another objective is to encourage the participation of the countries of Latin America and the Caribbean in the investigations that are carried out to know the current situation of the region in relation to what is practiced worldwide.

**Link : [meet.google.com/ust-ifmj-mhe](https://meet.google.com/ust-ifmj-mhe)**

## REPROLAM SUMMARY: INTERNATIONAL CONFERENCE ON OCCUPATIONAL RADIATION PROTECTION IN GENEVA

International Conference on Occupational Radiation Protection that took place in Geneva from 5-10 September 2022 was organized by the IAEA in collaboration with the International Labour Organization and hosted by the Government of Switzerland. The event brought together around 700 radiation experts from 105 countries and representatives from regulatory bodies, workers' associations and employers' organizations, to identify emerging challenges and opportunities for workers in operations involving containing or handling radioactive material. Many Latin-American professionals and members of **REPROLAM** participated in this conference.

During the week, participants identified and discussed ways of strengthening the protection of workers across a broad range of workplaces, such as industrial, medical, research and educational facilities, nuclear power plants and nuclear fuel cycle facilities, and workplaces involving exposure to naturally occurring radioactive material, radon and cosmic rays. Key emerging challenges identified were around the application of new radiation technology in the medical area, new technology as nuclear reactors come to the end of their operation life, and steps to address the robust integration of safety elements in the design of new types of nuclear reactors.

Opportunities highlighted included the potential for developments in technology to allow for more effective monitoring, assessment and implementation of protection of workers exposed to radiation; machine learning, and virtual reality environments that avoid exposure to real risks.

***“The conference participants identified a number of actions to enhance the protection of workers, including trainings in ORP for occupationally exposed workers; improving commitments to safety culture at management levels and promoting a safety culture among workers, and continuing the exchange of operating experiences.”***



## **WEBINAR: QUALITY CONTROL PROCEDURES FOR DIAGNOSTIC RADIOLOGY AND MAMMOGRAPHY**

DATE: OCTOBER 6 AND 7, 2022 - FROM 4:00 PM TO 6:00 PM (VIENNA TIME)

Webinar to raise the level of compliance with radiation protection requirements with regards to occupational and medical exposure, including calibration capabilities, as well as requirements for emergency preparedness and response.

To register copy and paste the following link in your browser:

[https://teams.microsoft.com/registration/kxTyotGkf0utB4Gc-gk9cSg,XNFaQPTSxUuPjTE3old9fw,XVET3LFsREKTVXaUOYO6Aw,vgagR3MK9kqNk5x7D-fGgw,hilrwhoZbUCtanJ\\_4gS-Yw,JS8k0tPX0EQJhhDiyXJc?mode=read&tenantId=a2f21493-a4d1-4b7f-ad07-819c824f5c4a](https://teams.microsoft.com/registration/kxTyotGkf0utB4Gc-gk9cSg,XNFaQPTSxUuPjTE3old9fw,XVET3LFsREKTVXaUOYO6Aw,vgagR3MK9kqNk5x7D-fGgw,hilrwhoZbUCtanJ_4gS-Yw,JS8k0tPX0EQJhhDiyXJc?mode=read&tenantId=a2f21493-a4d1-4b7f-ad07-819c824f5c4a)



## **EUROPEAN RADIATION PROTECTION WEEK ERPW 2022**

OCTOBER 9 TO 14, 2022, ESTORIL, PORTUGAL

ERPW-2022 will be a major gathering of experts, addressing burning and emerging topics and multidisciplinary issues in Radiation Protection, at times when integration and harmonization of RP and the effective implementation of a European Radiation Research Area are at stake. The European research platforms will be closely involved in the organization of the event, together with the international organizations and institutions and several hundreds of participants are expected to attend and contribute to the Programme.

For more information and registration: <https://erpw2022-portugal.eu/>

## XII REGIONAL CONGRESS OF RADIOLOGICAL AND NUCLEAR SAFETY X IRPA REGIONAL CONGRESS RADIATION PROTECTION: ADAPTING TO NEW SCENARIOS FROM OCTOBER 23 TO 27, 2022 - SANTIAGO, CHILE



We remember the XII REGIONAL CONGRESS OF RADIOLOGICAL AND NUCLEAR SAFETY - X IRPA REGIONAL CONGRESS that will be held in Santiago de Chile from October 23 to 27 of this year.

### ROUND TABLES AND TECHNICAL SESSIONS

#### Radiological and Nuclear Safety Culture

“New ways of inhabiting the nuclear sector: Opportunities and challenges”

#### Medicine:

Artificial intelligence in Radiotherapy / R&D and the role of manufacturers in the universe of low doses in CT / 10 years of the Bonn call to action: We listen in Latin America / The limit of optimization in Nuclear Medicine

#### Woman in Nuclear

Collective Strategies to Put Gender Equality into Practice

#### Industry:

Balance and gender equity

#### Epidemiology and Radiobiology:

Biological effects at low doses and low dose rates / Long-term effects

#### Regulation and FORUM:

Biological effects at low doses and low dose rates, long-term effects

#### Networks and training:

Synergy in Latin America and the Caribbean / Training and dissemination in Radiological Protection

#### Innovation and Technology:

New technologies and approaches, Artificial Intelligence / R&D Platform in Spain: an example to follow

#### Non-ionizing radiation:

WHO framework, UV radiation, state of the art in the management of SAR in MR, Non-Ionizing Radiation Reference Framework

#### Education and training:

Experience is not always learning

AND MUCH MORE!

Organizado en cooperación con:



More details at: <https://www.sochipra.cl/congreso-regional-santiago-de-chile-2022/>



## EURADOS REPORT 2022-02 PUBLISHED: "EVALUATION OF THE IMPACT OF THE NEW ICRU OPERATIONAL QUANTITIES AND RECOMMENDATIONS FOR THEIR PRACTICAL APPLICATION"



The International Commissions on Radiation Units and Measurements (ICRU) and on Radiological Protection (ICRP) have published a joint report, as ICRU Report 95, recommending new operational quantities for use in radiological protection. The new quantities have been devised to address known problems with the existing ones, including the need to cover a wider range of radiation types and energies, for example arising from the increasing use of proton therapy in clinical procedures. Also related to changing practices is the increased importance of doses at diagnostic x-ray energies below about 80 keV, where the more frequent use of interventional procedures renders less acceptable the over-estimation given by the existing quantities. The new operational quantities are conceptually different from the existing ones, being defined using the same anthropomorphic voxel phantoms as are used to derive the protection quantities. ICRP have carried out a consultation process and ICRU have revised the report in the light of comments received.

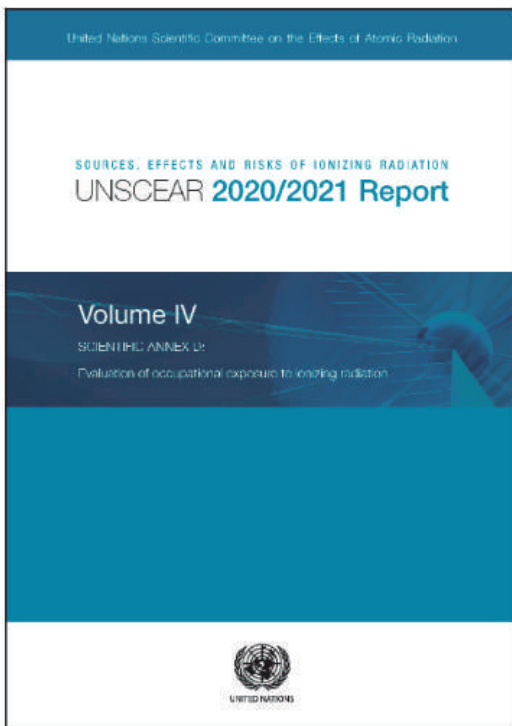
As part of its strategic research agenda, EURADOS seeks to contribute to the development and understanding of fundamental dose concepts, such as the topic of operational quantities. Accordingly, we have carried out a project to evaluate the impact of the proposed quantities and to make recommendations for their application. The task group included experts drawn from across the various EURADOS working groups.

This report analyses the differences between the new and existing quantities before going on to examine the impact and application in the areas of: radiation protection practice, dosimeter and instrument design, calibration and reference fields, European and national regulation, and current published standards.

The new quantities will achieve the benefits of wider radiation type and energy coverage, and of improving representativeness in the diagnostic/ interventional photon energy range. The biggest negative impact will be in the area of dosimeter and instrument design. Here, the changes needed to achieve good responses to the new operational quantities will range from simple re-calibration to radical re-design; and some types of dosimeter may become obsolete. Significant investments are therefore required to achieve the aforementioned benefits.

<https://eurados.sckcen.be/news-overview/eurados-report-2022-02-published-evaluation-impact-new-icru-operational-quantities-and-recommendations-their-practical-application>

## UNSCEAR 2020/2021 REPORT VOLUME IV SOURCES, EFFECTS AND RISKS OF IONIZING RADIATION



The United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) established by the General Assembly in 1955 assesses the levels and effects of exposure to ionizing radiation on human health and the environment.

This is the fourth of four volumes of scientific annexes provide the supporting scientific deliberations for the UNSCEAR 2020/2021 report to the General Assembly.

This volume includes the scientific annex D “Evaluation of occupational exposure to ionizing radiation”, which presents the estimated average annual effective and collective doses to workers for each major work sector and sub-sector involving the use of ionizing radiation; estimated worldwide level of occupational exposure for different sectors involving exposure to natural sources and to human-made sources of radiation; and analysis of temporal trends in occupational exposure. It is based on data provided by United Nations Member States and international organizations, as well as peer reviewed literature and national reports on radiation exposure to workers.

Sales No. E.22.IX.4,  
ISBN: 978-92-1-139209-8,  
e-ISBN: 978-92-1-001006-1

[https://www.unscear.org/unscear/en/publications/2020\\_2021\\_4.html](https://www.unscear.org/unscear/en/publications/2020_2021_4.html)