



**Florence [Italy]**  
**27|30 January 2020**

## The 2020 EURADOS ANNUAL MEETING

The EURADOS Annual Meeting 2020 (AM2020) was held from 27 to 30 January 2020 at the Hotel Mediterraneo in Florence, Italy. The meeting received the grant from AOU Careggi, the largest hospital in Tuscany.

EURADOS would like to thank AOU Careggi, Francesco Rossi and his team for their commitment and enthusiasm to make this AM such a wonderful event.



# The NUMBERS

**347**  
registered  
participants

**191**  
participants  
from sponsor  
organizations

**8**  
working  
groups

**62**  
Voting  
members at the  
32nd General  
Assembly

**32**  
Countries

**28**  
European  
Countries

**73**  
Total voting  
members of  
EURADOS

**4**  
Countries  
outside  
Europe

# The 13th EURADOS WINTER SCHOOL

## Eye lens dosimetry

January 30, 216 participants

**Presentations published on the EURADOS website. A Report is in preparation.**

| Topics  | Speaker   |
|---|---|
| Eye lens exposure to IR: current understanding, radiobiology and dose limits  | <b>Liz Ainsbury</b><br>PHE (UK)                         |
| Risk of radiation-induced cataract and lens opacities : results from epidemiological studies                          | <b>Sophie Jacob</b><br>IRSN (France)                    |
| Eye lens dosimetry approaches within the European EURALOC epidemiology project  | <b>Lara Stuelens</b><br>SCK-CEN (Belgium)               |
| Interventional cardiology procedure involving eye lens exposure   | <b>Martina Nesti</b><br>Ospedale di Arezzo (Italy)      |
| Dosimetric units and quantities for eye lens monitoring, standards, type testing, calibration procedures and phantoms | <b>Rolf Behrens</b><br>PTB (Germany)                    |
| Occupational exposure of the eye lens in interventional procedures: how to assess and manage radiation dose           | <b>Olivera Ciraj-Bjelac</b><br>Vinca (Serbia)           |
| Eye lens monitoring: how is it implemented up to now in different countries?  | <b>Eleftheria Carinou</b><br>EEAE (Greece)              |
| Radiation protection devices of the eye lens in medical staff   | <b>Jérémie Dabin</b><br>SCK-CEN (Belgium)               |
| Eye lens exposure: risk assessment in different types of workplaces   | <b>Robert Kollaard</b><br>NRG (The Netherlands)         |
| Eye lens dosimetry: the dosimetry service perspective   | <b>Tom Grimbergen</b><br>Mirion Tech. (The Netherlands) |
| Intercomparisons on eye-lens dosimeters   | <b>Isabelle Clairand</b><br>IRSN (France)               |

# The **WG MEETINGS**

January 27-29

300 participants (full and corresponding members, observers)

**EURADOS  
WG  
MEETINGS**

**WG2**

Harmonisation of  
individual  
monitoring

[read](#)

**WG3**

Environmental  
dosimetry

[read](#)

**WG6**

Computational  
dosimetry

[read](#)

**WG7**

Internal  
dosimetry

[read](#)

**WG9**

Radiation dosimetry  
in radiotherapy

[read](#)

**WG10**

Retrospective  
dosimetry

[read](#)

**WG11**

High energy  
radiation fields

[read](#)

**WG12**

Dosimetry in  
medical imaging

[read](#)

## WG2

- Self sustaining intercomparison programme: IC2019 for extremity and eye lens dosimeters. Results issued, participants' meeting to be held during IM2020 conference. 70 extremity systems and 43 eye lens systems entered (with WG12)
- Fifth training course on technical recommendations for individual monitoring of external radiation held at IRSN, Paris, May 2019. 38 participants.
- Guidance on interpreting ISO 17025 for individual monitoring services – completed, report to be issued 2020.
- Reports on intercomparisons will also be issued in 2020.

## WG3

- The report on the status of passive environmental dosimetry will be ready in 2020.
- The report on Winter School on radon (2019) will be published in 2020.
- A new intercomparison IC2020calm on calibration methods will be organized (with WG2, because the intercomparison will cover also  $H^*(10)$  and  $H_p(10)$ ).
- The organization of a IC2021area intercomparison will be discussed during 2020.
- A possible collaboration with WG7 to set joint tasks is explored in order to merge radon metrology and dosimetry.

## WG6

- EURADOS Young Scientist grant project «A comparative study of the methods used to score energy deposition cluster patterns by ionizing radiation at a nanometric scale" accomplished.
- Baiocco et al., What roles for track structure and microdosimetry in the era of -omics and systems biology?, Radiation Protection Dosimetry, 183.
- Rabus et al., Determining dose enhancement factors of high-Z nanoparticles from simulations where lateral secondary particle disequilibrium exists, Physics in Medicine and Biology 64 (with WG7).

## WG7

- Training Course on „Technical Recommendations for Monitoring Individuals for Occupational Intakes of Radionuclides“ – hosted by IAEA in Vienna, March 25-29,
- EURADOS Report 2019-01: C.M. Castellani, A. Andradi, A. Giussani, T. Pazmandi, G. Roberts, G. Etherington «Intercomparison on Internal Dose Assessment – ICIDOSE 2017. Analysing the intercomparison results»
- Review Paper on «Internal Microdosimetry of alpha-emitting radionuclides» in Radiation Environmental Biophysics (W. Hofmann, W.B. Li, W. Friedland, B.W. Miller, B. Madas, M. Bardies, I. Balashazy)

## WG9

- Experimental campaign 'Normalization of secondary radiation doses in proton radiotherapy' in Skandionkliniken (Uppsala, Sweden), 5–6 July 2019. Supported by INSPIRE H2020 Transnational Access INfraStructure in Proton Int. Research.
- L. Luketin oral presentation on 19th Int. Conf. Solid State Dosimetry (2019) 'High-resolution dose profiles measurements for Leksell Gamma-Knife Model C and Icon with stereotactic diode, micro-diamond detector and ionisation chamber' supported by EURADOS grant for young researchers.
- Experimental campaign 'Out-of-field doses for MEVION S250i Proton Therapy System', Zuid-Oost Nederland Protonen Therapie Centrum (Maastricht, Netherlands), 4–6 Oct. 2019. Supported by Maastro.

## WG10

- Results were presented from the field test and intercomparison on retrospective dosimetry methods carried out in Lund, October 2019
- Imminent publication of the joint ICRU and EURADOS report REPORT NO. 94 "Methods for Initial-Phase Assessment of Individual Doses Following Acute Exposure to Ionizing Radiation"
- A. Giussani, M.A. Lopez, H. Romm, A. Testa and other 18 authors. EURADOS review of retrospective dosimetry techniques for internal exposures to ionising radiation and their applications" accepted in Radiat. Envir. Bioph.

## WG11

- Training course of Unfolding techniques for neutron spectrometry with BSS, location: Paul Scherrer Institute, beginning of 2021. Announcement to be published.
- G. Zorloni, I. Ambrozova, P. Carbonez, M. Caresana, S. Ebert, V. Olsovcova, A. Pitzschke, O. Ploc, F. Pozzi, M. Silari, F. Trompier, R. Truneczek, Z. Zelenka. Intercomparison of personal and ambient dosimeters in extremely high-dose-rate pulsed photon fields. Accepted for publication on Radiat. Phys. Chem.
- Pozzi, F., Ferrarini, M., Ferrulli, F., Silari, M. Impact of the newly proposed ICRU/ICRP quantities on neutron calibration fields and extended range neutron rem-counters 2019 Journal of radiological protection 39(3), pp. 920-937.
- Improvement of the models for dose assessment due to solar particle events and validation with experimental data. Coordinator P. Beck Coming soon

## WG12

- F. Vanhavere, E. Carinou, I. Clairand, O. Ciraj Bjelac, F. De Monte, J. Domienik, P. Ferrari, M. Ginjaume, H. Hršak, O. Hupe, Ž. Knežević, U. O'Connor, M. Sans-Merce, S. Sarmento, S. Savary, T. Siiskonen, 2019. The Use of Active Personal Dosemeters in Interventional Workplaces in Hospitals: Comparison between Active and Passive dosemeters worn simultaneously by Medical Staff. Radiat.Prot. Dosim. DOI: 10.1093/rpd/ncz253 (2019)
- O. Hupe, S. Friedrich, F. Vanhavere, M. Brodecki, Determining the dose rate dependence of different active personal dosemeters in standardized pulsed and continuous radiation fields, Radiat. Prot. Dosim. DOI: 10.1093/rpd/ncz173 (2019)
- P. Ferrari, F. Becker, Z. Jovanović, S. Khan, E. Bakhanova, S. Principi, D. Kristić, L. Pierotti, F. Mariotti, D. Faj, T. Turk, D. Nikezić, M. Bertolini, Simulation of  $H_p(10)$  and effective dose received by the medical staff in interventional radiology procedures, J Radiol Prot. 39, 809-824 (2019)
- EURADOS Report 2019-02: O. Ciraj Bjelac, J. Dabin, J. Farah, H. Järvinen, F. Malchair, T. Siiskonen, Ž. Knežević: "Patient maximum skin dose in interventional procedures in radiology and cardiology: summary of WG 12 activities"



# The LEARNING NETWORK AND INTERCOMPARISONS

The Learning Network of the EURADOS WG2 Harmonization in Individual Monitoring took place on February 28. Such event is meant to encourage discussion among the Individual Monitoring Services on important issues for individual monitoring for external exposure. A chance for participants to learn from each other. This year event saw 47 participants and the overall feedback on satisfaction was good on all topics. This year the LN was focused on:

- Problems with CR-39 for neutron dosimetry
- Dosimetry and Information technology
- Validation and verification in Quality , management systems

IC2019ext,eye is at its final stage. 60 IMS from 26 countries, even outside Europe, with 113 systems (70 for  $H_p(0,07)$ , 43 for  $H_p(3)$ ).

The IC2020ph, the 7th intercomparison for whole body photon dosimetry, was planned for 2020 and will be re-scheduled when possible.

Such intercomparison is planned also in **2022** as well as the 3rd IC for **neutron dosimeters**.

## LEARNING NETWORK

## INTERCOMPARISONS FOR INDIVIDUAL MONITORING

**Kim Hyuntaek** from Korea Atomic Energy Research Institute received the EURADOS Grant. He will spend a 2-weeks stay at Helmholtz Zentrum-Munich on *Establishment of next generation protocols for dose reconstructions using mobile phone display glasses and chip cards for radiation emergency and unplanned exposure*. Some measurements will be performed at University of Salzburg.



**Fabio Pozzi** (CERN, Switzerland) received the EURADOS Award for the work *Impact of the newly proposed ICRU/ICRP quantities on neutron calibration fields and extended range neutron-rem counters* published on Journal of Radiological Protection, 39, 3, 920-937 (2019).



2019 YOUNG SCIENTIST  
GRANT WINNER

2019 YOUNG SCIENTIST  
AWARD WINNER

The EURADOS General Assembly approved new Voting Members:

- **Dosimetrica LLC**, Kyiv - Ukraine
- **ENVINET GmbH**, Haar - Germany
- **IFIN-HH**, Bucharest Magurele - Romania
- **Radonova Laboratories AB**, Uppsala - Sweden
- **SURO**, Prague - Czech Republic
- **Università degli Studi**, Milano - Italy
- **Veneto Institute of Oncology**, Padova – Italy

During AM2020, the Voting Member elected:

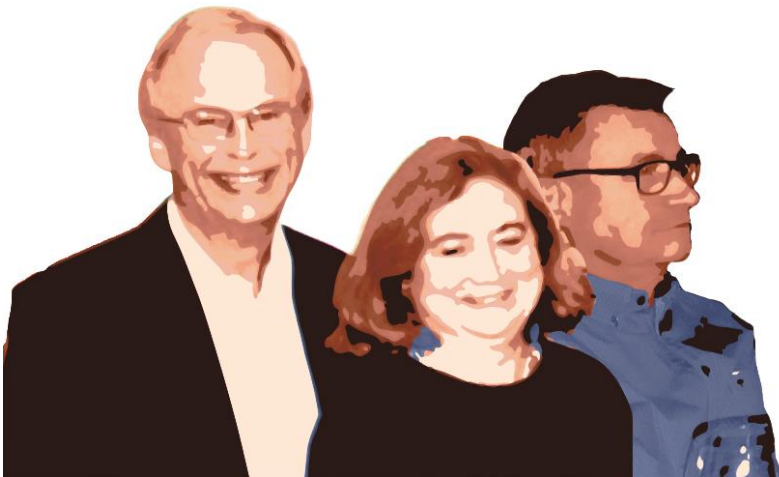
- the new Chair **Filip Vanhavere**
- the new vice Chair **Pawel Olko**
- five Council members (who replace members ending their term in 2020), **Isabelle Clairand, Elena Fantuzzi, Werner Rhüm, Marco Silari and Rick Tanner.**

7 NEW VOTING  
MEMBERS

ELECTION CHAIR AND  
VICE-CHAIR  
AND COUNCIL  
MEMBERS

## ACKNOWLEDGEMENTS

EURADOS warmly thanks the following for their contributions: Helmut Schumacher for his outstanding contribution to EURADOS as Scientist, as Council Member, as Chairperson and for his professional support as EURADOS Treasurer; Maria Antonia Lopez for her long lasting contribution to the EURADOS Council; Werner Rühm for having successfully led EURADOS and the Council over the last 6 years.



GRANT AND AWARD 2020 call: announcement foreseen in **June 2020**.

As in 2019, EURADOS had decided to support Young Scientists to participate at the conferences to be held in 2020. However due to the Covid crisis the selected conferences have been postponed or will be held partially as web-conferences.

EURADOS Young Scientist Conference Support (YSCS) announcement will be issued again when Conferences will be re-scheduled in the future.

Rules and forms for application to EURADOS YSCS were published on the EURADOS Website and Newsletter.

IC2020ph: the 7th intercomparison for **whole body photon dosimeters** planned in Spring 2020 is being re-scheduled. Updated news will be issued on EURADOS Website and Newsletter.

2020 YOUNG SCIENTIST  
GRANT AND AWARD

2020 YOUNG SCIENTIST  
CONFERENCE  
SUPPORT

2020  
INTERCOMPARISONS

## EURADOS NEXT ACTIONS

WG6: *Application of Monte Carlo methods for individual monitoring dosimetry of ionising radiation*, was planned on April 18-19, 2020 • Budapest, Hungary, in cooperation with the IM2020 Conference.

Due to the COVID-19 crisis the Training Course has been cancelled as the IM2020 Conference. It will be re-scheduled again in connection with the Individual Monitoring Conference as soon as possible.

Information will be issued on EURADOS newsletter and on EURADOS Website.

The 2020 version of SRA was circulated to Voting Members and all comments have been collected. Publication is expected for Summer 2020.

TRAINING COURSES

STRATEGIC RESEARCH

AGENDA SRA

Visit [www.eurados.org](http://www.eurados.org)  
and learn how to become  
EURADOS member and sponsor.



European Radiation Dosimetry Group