

EURADOS Working Group 10

Retrospective Dosimetry

Motivation

To establish a network of contacts and collaborations throughout European laboratories with expertise in the area of physical and biological retrospective dosimetry

Aims

- To establish a multiparameter approach to dose assessment in retrospective dosimetry (including emergency response) based on biological and physical methods
- To disseminate the knowledge about retrospective dosimetry among authorities, scientific institutions and stakeholders
- To evaluate newly developed physical and biological dosimetry methods
- To establish a common approach for uncertainty estimation in biological and physical retrospective dosimetry
- To elaborate an approach for dosimetry after partial body or internal exposure

Actions

In progress

- Inter-laboratory comparison (ILC) of OSL/TL of electronic components in smartphones and biological dosimetry in a field test, jointly with RENEV e.V. (10.4)
- Inter-laboratory comparison of tooth enamel with EPR in X- and Q-band (10.4)
- Joint ICRU-EURADOS report on methods for initial-phase assessment of individual doses following acute exposure to ionizing radiation (10.5)
- EURADOS-CONCERT School on uncertainty in biological, physical, and internal dosimetry following a single exposure (IRSN, April 2019, 10.6)
- Harmonization of statistical analysis methods and development of new approaches for limit of detection (10.6)
- Literature review on the usefulness and limitations of cytogenetic dosimetry in cases of internal and mixed internal/external exposures (10.7). This work is performed in collaboration with WG7
- Dose coefficients for physical retrospective dosimetry, to relate dose in material (e.g. in personal objects) to organ absorbed doses or other quantities useful for emergency dosimetry and/or appropriate for triage in a mass casualty scenario (10.8)

Members

Chairperson

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Full members

- Working Group 10 has currently 40 full members from 19 countries.

Corresponding members

- Working Group 10 has currently 46 corresponding members from 19 countries.

Recent publications

1. Ainsbury, E.A. et al., Uncertainty on radiation doses estimated by biological and retrospective physical methods. *Radiat. Prot. Dosim.* 178, 382–404 (2018)
2. Kulka, U. et al., Biodosimetry and biodosimetry networks for managing radiation emergency. *Radiat. Prot. Dosim.* 182, 128-138 (2018)
3. Ainsbury, E. et al., Integration of new biological and physical retrospective dosimetry methods into EU emergency response plans - joint RENEB and EURADOS inter-laboratory comparisons. *Int. J. Radiat. Biol.* 93, 99-109 (2017)

Additional information

See EURADOS web site (www.euroados.org).