Overview of ICRP Committee 1 activities – importance of Southern Urals health studies

ICRP Workshop « 30 Years of Scientific Achievements for International Radiological Protection: Summary of the Southern Urals Health Studies Program »

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ICRP INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION

C1 Members

- Christelle Adam-Guillermin
- Elizabeth Ainsbury (secretary)
- Tamara Azizova
- Christophe Badie
- Dimitry Bazyka
- Markus Eidemüller
- Agnès Francois
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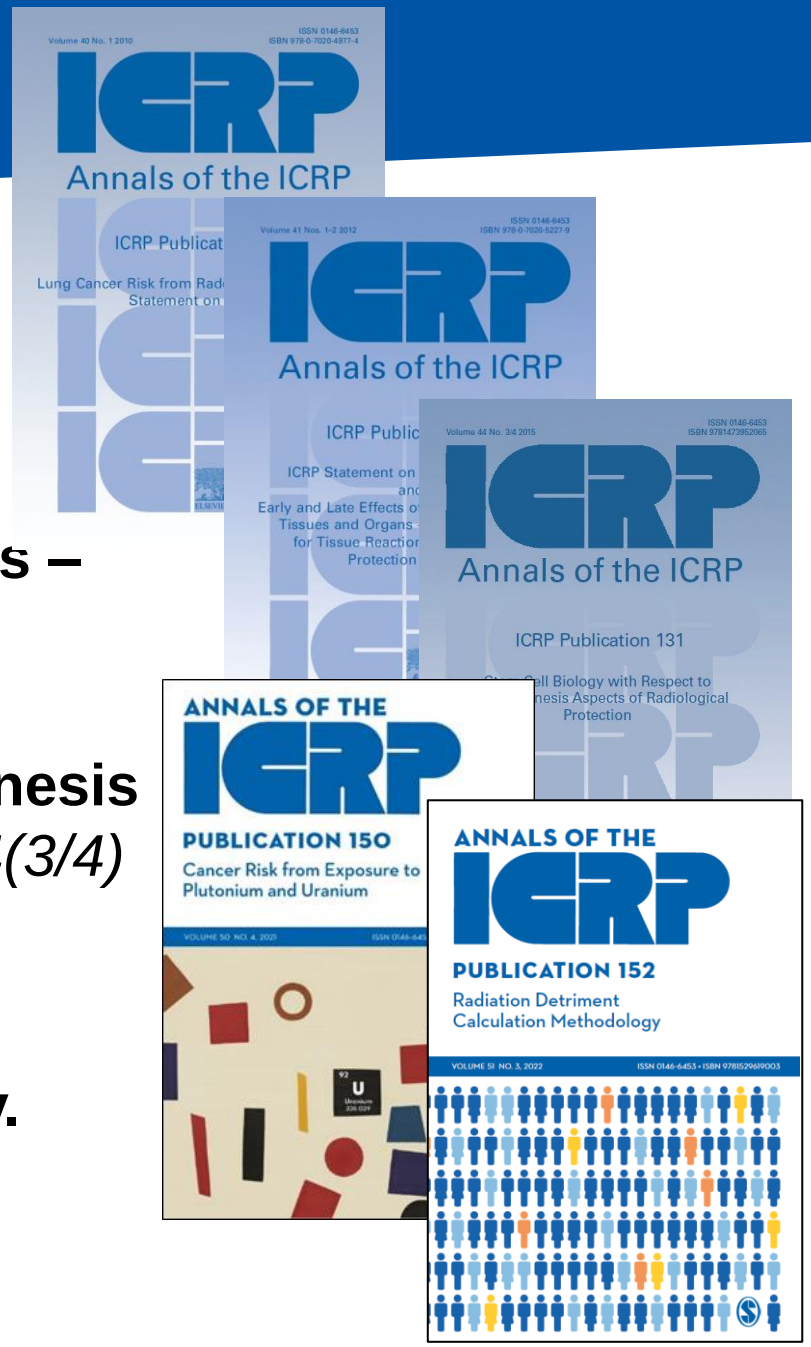
Representatives

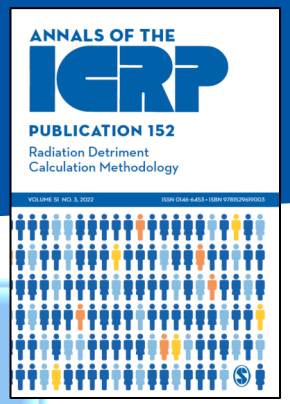
- Borislava Batandjieva-Metcalf (UNSCEAR)
- Olivera Ciraj Bjelac (IAEA)
- Evgenia Ostroumova (IARC)
- Ferid Shannoun (WHO)
- Andrzej Wojcik (MELODI)

C1 Publications

- **Pub 115. Lung Cancer Risk from Radon and Progeny and Statement on Radon**. *Ann. ICRP 2010; 40(1)*
- **Pub 118. Statement on Tissue Reactions / Early and Late Effects of Radiation in Normal Tissues and Organs – Threshold Doses for Tissue Reactions in a Radiation Protection Context.** *Ann. ICRP 2012; 41(1/2)*
- **Pub 131. Stem Cell Biology with Respect to Carcinogenesis Aspects of Radiological Protection.** *Ann. ICRP 2015; 44(3/4)*
- **Pub 150. Cancer Risk from Exposure to Plutonium and Uranium**. *Ann. ICRP 2021; 50(4)*
- **Pub 152. Radiation Detriment Calculation Methodology.** *Ann. ICRP 2022; 51 (2)*



Integration of TGs



TG 102 – Detriment Calculation

TG 91 – Dose and dose rate effects

TG 111 – Individual response

TG 115 – RP of astronauts

TG 119 – Circulatory diseases

Radiation related risks

TG 121 – Risks for next generations

TG 122 – Update of cancer detriment

TG 123 – Effects classification

TG 128 – Stratification of RP

TG 118 – RBE, Q, WR

TG91: Radiation Risk Inference at Low-dose and Low-dose Rate Exposure for Radiological Protection Purposes: Use of Dose and Dose Rate Effectiveness Factors

TG 91 – Dose and dose rate effects

W Ruhm (C1) 2013-24

- Last update in *ICRP Pub 60* (1991)
- To provide update on the Low Dose and Dose-Rate Effectiveness Factor (DDREF)
- To review the current knowledge on the effects of low doses and low dose rates at the molecular, cellular, animal and human levels
- To estimate potential values for Low Dose Effectiveness (LDEF) and Low Dose Rate Effectiveness (DREF)

→ **Public consultation in 2024**

Importance of the Mayak Worker Study for the assessment of DREF

TG118: Relative Biological Effectiveness (RBE), Quality Factor (Q), and Radiation Weighting Factor (wR)

TG 118 – Radiation effectiveness

G Woloschak (C1-C2) 2021-25

- Last update in *ICRP Pub 92* (2002)
- To review the scientific literature on RBE, Q and W_R
- To consider radiation effectiveness on non-human biota
- To provide advice on approaches to radiation weighting for all exposures of humans and non-human biota

Importance of the Mayak and Techa Dosimetric Systems for the assessment of RBEs

TG 119: Effects of Ionising Radiation on Diseases of the Circulatory System and their Consideration in the System of Radiological Protection

TG 119 – Circulatory diseases

T Azizova, D Laurier (C1) 2021-26

- Last update in *ICRP Pub 118* (2012)
- To review the current knowledge on the effects of radiation on the circulatory system
- To assess the impact of estimated risks at low doses
- To provide advice on how to better take these effects into account in the radiation protection system

Collaboration with the UNSCEAR CircuDis expert group

Importance of the Mayak Worker Study for the assessment of the risk of DCS

TG 121: Effects of ionising radiation exposure in Offspring and Future Generations

TG 121 – Risks for next generations

P Hande, R Wakeford (C1) 2021-26

- Considers both heritable risks and those related to *in utero* exposure
- Last updates in *UNSCEAR report 2001* and *ICRP Pub 90* (2003)
- To review the scientific literature for cancer and non-cancer effects, in humans and non-human biota
- To provide advice on how to better take these effects into account in the radiation protection system

Importance of Southern Urals Cohorts for the assessment of risks among offspring

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C1 Task Groups

- 91 Radiation Risk at Low-dose and Low-dose Rate Exposure for Radiological Protection Purposes
- 99 RAPs Monographs
- 111 Factors Governing the Individual Response of Humans to Ionising Radiation
- 115 Risk and Dose Assessment for Radiological Protection of Astronauts
- 118 Relative Biological Effectiveness (RBE), Quality Factor (Q), and Radiation Weighting Factor (wR)
- 119 Effects of Radiation on Diseases of the Circulatory System and Consideration in the RP System
- 121 Radiation-Induced Effects on Offspring and Future Generations
- 122 Update of Detriment Calculation for Cancer
- 123 Classification of Harmful Radiation-induced Effects on Human Health for RP Purposes
- 128 Individualisation and Stratification in RP: Implications and Areas of Application