TASK GROUP 121

Effects of Ionising Radiation Exposure in Offspring and Next Generations

Under Committee 1

ICRP 2025
8TH INTERNATIONAL SYMPOSIUM ON THE SYSTEM OF RADIOLOGICAL PROTECTION

BACKGROUND

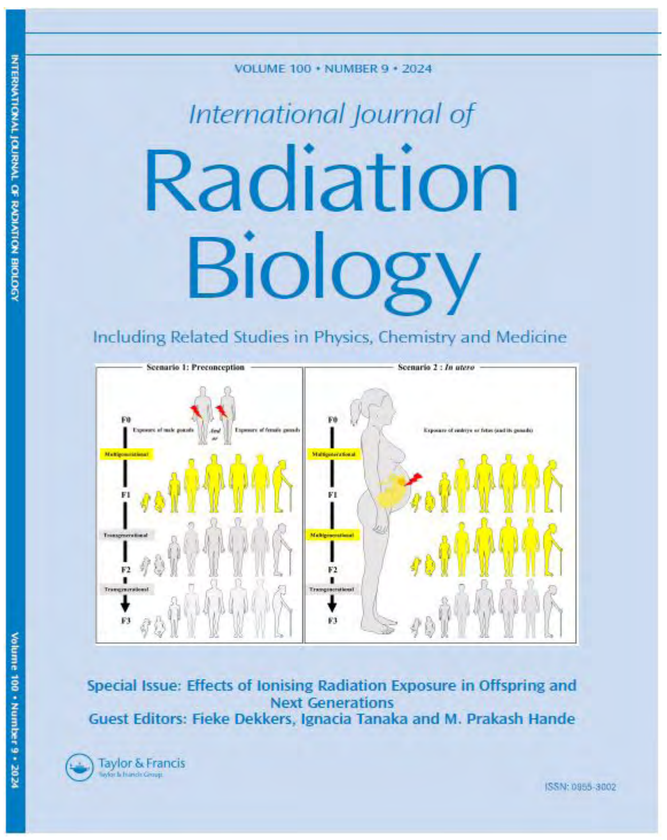
- The potential for radiation-related deleterious effects in offspring is a recurrent issue for the general public and a major concern for parents exposed to ionizing radiation from occupational, medical or environmental sources.
- There is a lack of knowledge (and subsequent uncertainties in risk estimates) about
  - the fundamental mechanisms underlying potential radiation-induced genetic diseases
  - the contribution of epigenetic processes to adverse outcomes if any
  - the potential contributory role of lifestyle, physiological, and maternal vs paternal factors
- This uncertainty is reinforced by a number of studies at variance
  - Laboratory vs field studies
  - For various fauna and flora species
  - Between humans and non-human species

OBJECTIVE

- To update the review of the scientific literature related to radiation-induced effects for the offspring of individuals exposed to ionizing radiation, for both human and non-human species.
- To provide advice about the level of evidence and consideration of these effects in the system of radiological protection for humans and non-human biota.

UPDATE

Papers presented at the Budapest 2022 workshop were published in a special issue of the International Journal of Radiation Biology titled Effects of Ionising Radiation in Offspring and Next Generations (Edited by Fieke Dekker, Ignacia Tanaka, and M. Prakash Hande). The issue was released in September 2024 and includes eight review articles, two original research papers, one meeting report, and an editorial.



PUBLICATIONS

International Journal of Radiation Biology
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CONTENTS

Special Issue: Effects of Ionising Radiation Exposure in Offspring and Next Generations
Guest Editors: Fieke Dekkers, Ignacia Tanaka and M. Prakash Hande

TG121 TIMELINE

2022
- TG 121 established with Terms of Reference
- Budapest Workshop in collaboration with MELODI and ALLIANCE
- Sub-groups formed and tasked with development of manuscripts for Special Issue in IJRB
- A review of existing literature continues
- TG sub-groups continue with the development of manuscripts
- TG 121 presentation to C1 in Vancouver, Canada

2023
- Manuscript review and conclusion
- Special Issue preparation commences
- Diseemination activities gradually begin with IsoRED 2023 and ICRR 2023
- Q3/Q4
  - TG 121 session at ICRP 2023 symposium
  - TG 121 presentation to C1 in Tokyo, Japan
  - Harmonisation of manuscripts for Special Issue

2024
- TG 121 presentation to C1 in Vienna, Austria
- Publication of Special Issue (with Editorial)
- TG 121 presentation to C1 (November 2024)

2025
- TG meetings (Feb/May-June)
- Face-to-face meeting of TG prior to C1/ICRP 2025 symposium
- Assignment of chapters & lead writers of chapters
- Preparation of Final Report

2026
- Draft submitted to C1, C3, and C4 for review
- Draft to Main Commission for Approval for Consultation
- Q2/Q3
  - Public Consultation
  - TG Workshop
  - Feedback & corrections
- Q4
  - C1 Review of feedback & corrections
  - MC review of feedback & corrections

2027
- MC Approval for Publication
- Publication of report
- Publication Webinar
- TG 121 task complete

TG121 FINAL REPORT PREPARATION

- Quarterly meetings have been held virtually throughout 2024 and 2025.
- The Task Group continued its discussions on the glossary, which is intended for inclusion in the final report and subsequent integration into ICRPaedia.
- A tentative structure for the final report was developed based on these discussions.
- Task assignments were also finalised, with lead writers identified for each section.
- Chapter drafting is currently in progress, led by the Task Group members and their collaborators.

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