

Présentation des travaux des Comités CIPR

GT CIPR

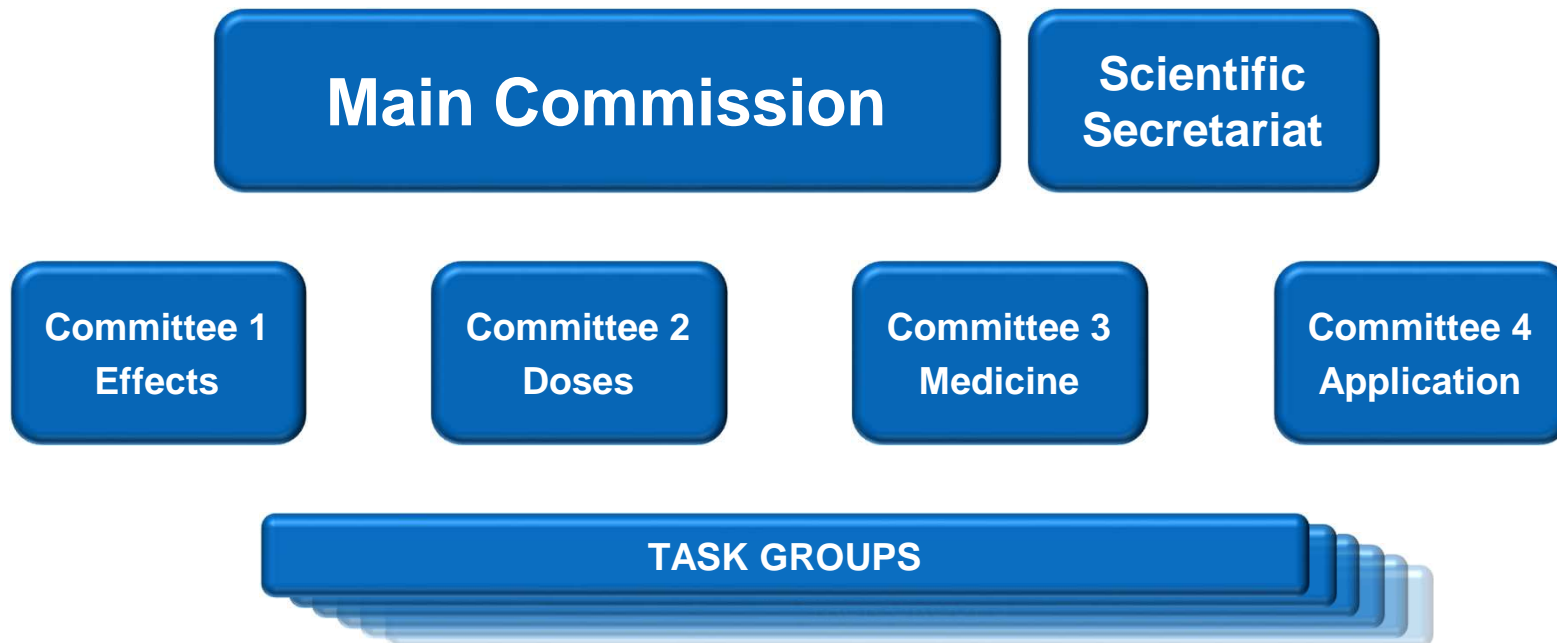
23 Septembre 2021, visio

Charity 1166304 registered with the Charity Commission of England and Wales

ICRP INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION

**Dominique Laurier
François Paquet
Aurélie Isambert
Thierry Schneider**

Structure de la CIPR



Comité 1

“Effets des rayonnements ionisants”

C1 “Effets des rayonnements ionisants”

Le Comité 1 examine les effets de l'action des rayonnements depuis le niveau subcellulaire jusqu'au niveau de la population et de l'écosystème, en considérant l'induction de cancers, de maladies non-cancéreuses et d'effets héritables, l'altération des fonctions des tissus /organes et les défauts de développement, et **évalue les implications pour la protection des personnes et de l'environnement**

- **Couvre un large éventail de disciplines scientifiques** pertinentes pour la radioprotection, incluant les domaines de la radiobiologie, de la génétique et de l'épigénétique, de l'écologie, de l'épidémiologie, de la toxicologie, de la radiopathologie, de l'évaluation de la relation dose-risque, de la bioinformatique et de la biostatistique, des susceptibilités génétiques, des effets non ciblés et transgénérationnels, des effets cancérigènes et non cancérigènes, au niveau des individus, des populations et des écosystèmes...
- **Elabore des indicateurs de risque** (seuils de réaction des tissus, détriment radiologique) et examine l'impact potentiel des progrès de la recherche sur le système de radioprotection
- **Propose un plan de travail stratégique** axé sur les questions scientifiques identifiées comme pertinentes pour l'élaboration des prochaines recommandations générales

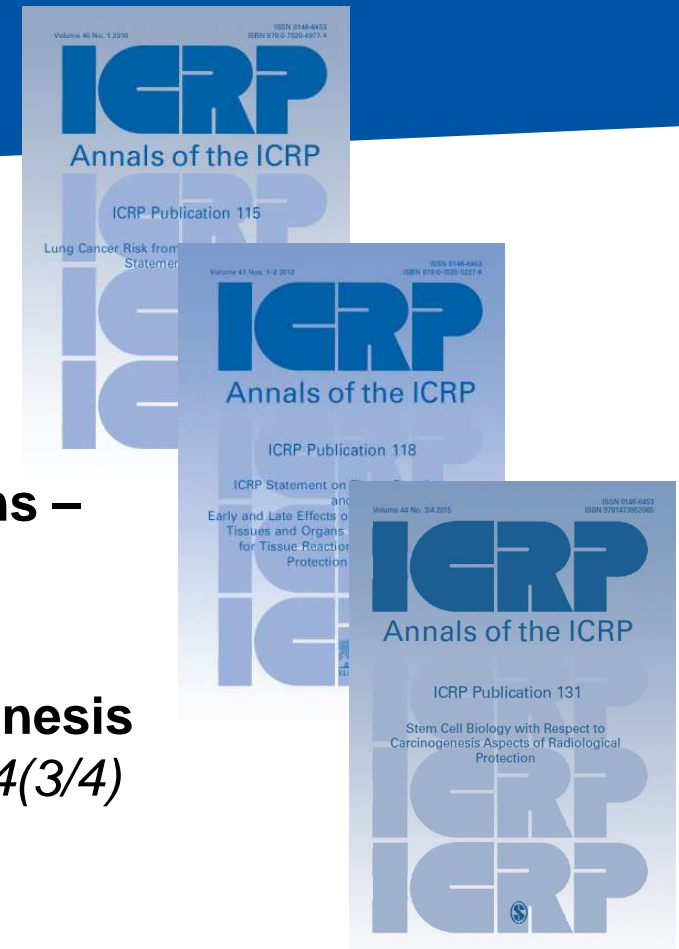
Membres du C1 2021-2025

- **Christelle Adam-Guillermin**
- **Elizabeth Ainsbury**
- **Tamara Azizova**
- **Christophe Badie (secretary)**
- **Dimitry Bazyka**
- **Agnès Francois**
- **Michael Hauptmann**
- **Dominique Laurier (chair)**
- **Kotaro Ozasa**
- **Manoor Prakash Hande**
- **Preetha Rajaraman**
- **David Richardson**
- **Yoshiya Shimada**
- **Mikhail Sokolnikov**
- **Quanfu Sun**
- **Ludovic Vaillant**
- **Richard Wakeford**
- **Gayle Woloschak (vice-chair)**
- **Oleg Belyakov (IAEA)**
- **Zhanat Carr (WHO)**
- **Sisko Salomaa (MELODI)**
- **Ferid Shannoun (UNSCEAR)**

18 membres (+4 observateurs) - 10 pays

Rapports du C1

- **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)*
- **TG 64. Cancer Risk from Exposure to Plutonium and Uranium.** *In Press*
- **TG102. Radiation Detriment Calculation Methodology.** *Under final review.*



Task Groups du C1

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

- Chair: W Rühm, C1 members: T Azizova, , K Ozasa, Q Sun, G Woloschak
- Created in 2013 (C1)

TG99: Reference Animals and Plants Monograph

- Chair: J Garnier-Laplace, C1 members: C Adam-Guillermin
- Created in 2015 (C5)

TG 111: Factors Governing the Individual Response of Humans to Ionising Radiation

- Chair: S Bouffler, C1 members: M Hauptmann, P Rajaraman
- Created in 2018 (C1-C3)

Task Groups du C1

TG115: Risk and Dose Assessment for Radiological Protection of Astronauts

- Chair: W Rühm, C1 members: K Ozasa, L Vaillant
- Created in 2019 (C1)

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

- Chair: G Woloschak, C1 members: C Adam-Guillermin, M Sokolnikov, R Wakeford
- Created in 2021 (C1-C2)

TG119: Effects of Ionising Radiation on Diseases of the Circulatory System and their Consideration in the System of Radiological Protection

- Chair: T Azizova & D Laurier; C1 members: L Vaillant; C2 members: S Lamart
- Created in 2021(C1)

Sous Groupes du C1

WP on Radiation-Induced Effects on Offspring and Future Generations

- Chair: S Salomaa & R Wakeford, C1 members: C Adam-Guillermin, D Laurier
- In utero and transgenerational, genetic and epigenetic, cancer and non-cancer risks, humans and non-human biota, joint Workshop with MELODI

WP on Cancer Risk Models to Calculate Detriment

- Chair: R Wakeford, C1 members: D Laurier, K Ozasa, M Sokolnikov, Q Sun
- Cancer risk models, shape of dose-risk relationship, variation with age and sex, transfer between populations

WP on Detriment Parameters not Related to Radiation

- Chair: M Hauptmann, C1 members: L Vaillant
- Lethality, quality of life, years of life lost, disability-adjusted life years (DALY)

Comité 2

“Doses des rayonnements ionisants”

C2 “Doses des rayonnements ionisants”

Le Comité 2 a pour mission principale de développer des coefficients de dose pour l'évaluation des expositions interne et externe

Pour ce faire :

- **Il développe des données anatomiques de référence pour les travailleurs et les membres du public**
- **Il développe des modèles biocinétique et dosimétrique de référence**

C2 Members 2021-2025

- **Martin Andersson**
- **Volodymyr Berkovskyy**
- **Francois Bochud (Chair)**
- **Augusto Giussani**
- **Chan Hyeong Kim**
- **Derek Jokisch**
- **Mukund Shrinivas Kulkarni**
- **Stéphanie Lamart**
- **Choonsik Lee**
- **Junli Li**
- **James Marsh**
- **Francois Paquet (Vice- Chair)**
- **Nina Petoussi-Henss**
- **María Antonia López Ponte**
- **Denison de Souza Santos**
- **Tatsuhiko Sato**
- **Tracy Smith**
- **Alexander Ulanowski**

18 membres - 14 pays

Task Groups du C2

TG 36 : Radiation Dose to Patients in Diagnostic Nuclear Medicine

Chair A. Giussani et S. Mattsson (C3)

Mettre à jour la Publication 128

TG 79 - Use of Dose Quantities

Chair John Harrison. Tout sur la dose efficace

TG 90 - Dose Coefficients for External Environmental Exposures

Chair Nina Petoussi-Henss

Coeffs de dose coefficients pour members du public après exposition externe de type dissemination RN dans environment

Task Groups du C2

TG 95 - Internal Dose Coefficients

Chair F. Paquet. Coefs de dose travailleurs et public

TG 96 - Computational Phantoms and Radiation Transport

Chair W. Bolch. Fantômes Voxels et SAFs

TG 103 - Mesh-type Reference Computational Phantoms

Chair Chan Hyeong Kim. Fantômes MESH de reference

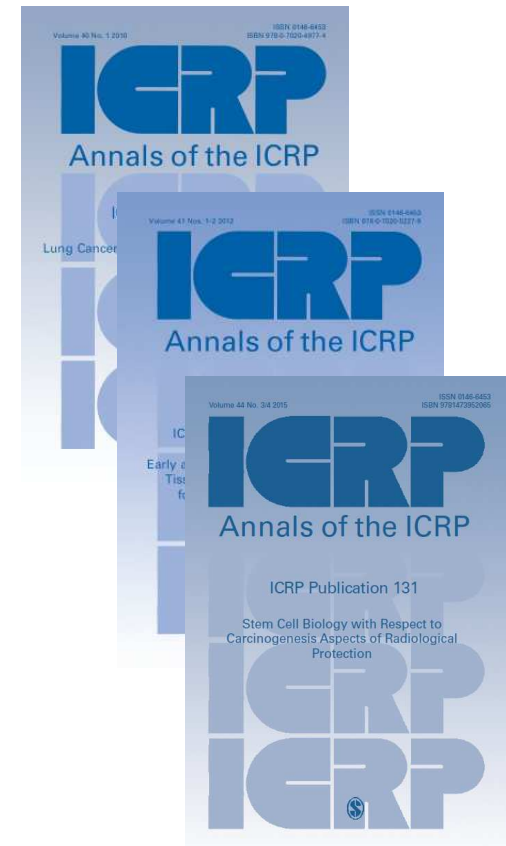
TG 112 – Emergency Dosimetry

Chair V. Berkowsky. Méthodologie et Bdd pour évaluation radiologiques en situation d'urgence

TG 113 - Reference dose coefficients for common diagnostic X-ray imaging examinations: Chair Nina Petoussi-Henss et David Sutton (C3)

Rapports du C2

- **Occupational Intakes of Radionuclides: Part 4. ICRP Publication 141 - Ann. ICRP 48 (2-3), 2019**
- **Paediatric Reference Computational Phantoms. Publication 143, Ann ICRP 49 (1) 2020**
- **Dose Coefficients for External Exposures to Environmental Sources. Publication 144, Ann ICRP 49 (2) 2020**
- **Adult Mesh-type Reference Computational Phantoms, Publication 145, Ann ICRP 49 (3) 2020**
- **The Use of Dose Quantities in Radiological Protection. Publication 147 Ann ICRP 50(1), 2021**
- **Occupational Intakes of Radionuclides, Part 5. In Press**



Comité 3

“Protection radiologique en médecine”

C3 “Protection radiologique en médecine”

Committee 3 addresses protection of persons and unborn children when ionising radiation is used in **medical diagnosis, therapy, and biomedical research**, as well as protection in **veterinary medicine**

Committee 3 develops recommendations to protect **patients, staff, and the public**

C3 Members 2021-2025

18 membres (dont 9 nouveaux*)
de 14 pays



Kimberly Applegate (Chair)

University of Kentucky COM (retired), USA



Colin Martin (Vice-Chair)

University of Glasgow, United Kingdom



David Sutton (Secretary)

NHS Tayside / University of Dundee, United Kingdom



Marie-Claire Cantone (Member)

University of Milan, Italy

*



John Damilakis (Member)

University of Crete, School of Medicine, Greece



Sandor Demeter (Member)

University of Manitoba, Canada



Makoto Hosono (Member)

Kindai University, Japan

*



Aurelie Isambert (Member)

IRSN, France

*



Mika Kortetniemi (Member)

HUS Diagnostic Center, Helsinki University Hospital, Finland

*



Mahadevappa Mahesh (Member)

Johns Hopkins Medical Institution, USA



Josep M Martí-Climent (Member)

Clínica Universidad de Navarra, Spain

*



Jin Chul Paeng (Member)

Seoul National University Hospital, Korea



Claudia E. Ruebe (Member)

Saarland University, Germany



William Small (Member)

USA

*



Aste Sovik (Member)

Under Pelsen AS, Norway

*



Isabelle Thierry-Chef (Member)

Bacelona Institute for Global Health (ISGlobal), Spain

*



Ivan Williams (Member)

Australia

*



Weihai Zhuo (Member)

Institute of Radiation Medicine, Fudan University, China

C3 Les Task Groups

27 Active Task Groups (9 C3)

- TG36 (C2/C3)** Radiopharmaceutical Doses
- TG64** Cancer Risk from Alpha Emitters
- TG89 (C3)** Occupational RP in BrachyTx
- TG90** Age-dependent Dose Conversion Coefficients for External Exposures
- TG91** Low-dose & Low-dose Rate Exposure
- TG95** Internal Dose Coefficients
- TG96** Computational Phantoms and Radiation Transport
- TG97** Surface and Near Surface Disposal
- TG98** Contaminated Sites
- TG 99** Reference Animals and Plants Monographs
- TG102** Detriment Calculation Methodology
- TG103** Mesh-type Computational Phantoms
- TG105** The Environment in the System of RP
- TG106 (C4)** Mobile High Activity Sources
- TG108 (C3)** Optimisation of Protection in Digital Radiography, Fluoroscopy, and CT
- TG109 (C3/C4)** Ethics in RP in Medicine
- TG110 (C3/C4)** Veterinary Practice
- TG111 (C1/C3)** Individual Response to Radiation
- TG112 (C2)** Emergency Dosimetry
- TG113 (C2/C3)** Dose Coefficients (DR,CT,FL)
- TG 114 (C4)** Reasonableness/Tolerability
- TG 115 (C1)** Astronaut RP
- TG116 (C3)** RP imaging in RTx
- TG117 (C3)** RP PET/CT
- TG 118 (C1/C2) RBE
- TG 119 (C1) CVD
- TG 120 (C4) RP Rad Emergencies/Malicious Events

C3 Les Task Groups

1. TG 36: Radiation Dose to Patients in Diagnostic Nuclear Medicine

Chair Augusto Guissani (C2) with participation from C3 members

2. TG 89: (2012-2021) Occupational Radiological Protection in Brachytherapy.

Co-Chairs Lawrence Dauer (former member C3) and Bill Small (C3).

Publication 149 just released !

3. TG 108 (2018-) Optimisation of Radiological Protection in Digital Radiography, Fluoroscopy, and CT in Medical Imaging

Chair Colin Martin (C3)

C3 Les Task Groups

4. TG 109 (2018-) Ethics in Radiological Protection for Medical Diagnosis and Treatment
C3/C4. Co-chairs Marie-Claire Cantone and Francois Bochud.

5. TG 110 (2018-) Radiological Protection for Occupational and Public Exposure in Veterinary Practice
C3/C4 co-chairs Aste Sovik and Nicole Martinez.

6. TG111 (2018-) Factors Governing the Individual Response of Humans to Ionising Radiation
C1/C3 co-sponsor - Chair Simon Bouffler

C3 Les Task Groups

7. TG 113 (2019-) Reference Organ and Effective Dose Coefficients for Common Diagnostic X-Ray Imaging Examinations

C2/C3: Co-chairs Nina Petoussi and David Sutton.

8. TG 116 (2019-) Radiological Protection Aspects of Imaging in Radiotherapy

C3 Chair, Colin Martin. Vice chair, William Small.

9. TG 117 (2019-) Radiological Protection in PET and PET/CT

C3 Chair, Josep Marti-Climent.

C3 Les publications les plus récentes

- P135. Diagnostic Reference Levels in Medical Imaging. 2017
- P139. Occupational RP for Interventional Procedures. 2018
- P140. (collaborative with C2) RP radiopharmaceutical therapies. 2019
- P147. (collaborative with C2) Dose quantities in RP. 2021
- P149. Occupational Radiological Protection in Brachytherapy 2021

Comité 4

“Application des recommandations”

C4 “Application des recommandations”

Le Comité 4 donne des avis sur l'application des recommandations générales de la Commission pour la protection des personnes et de l'environnement de manière intégrée pour toutes les situations d'exposition. Le travail du Comité combine des connaissances scientifiques, des valeurs éthiques et une expérience pratique pour élaborer des recommandations, communiquer des conseils sur la mise en œuvre du système de protection radiologique à un large éventail de parties prenantes, et préparer des avis en tenant compte des facteurs radiologiques, sociétaux, économiques et environnementaux.

Le programme de travail du Comité couvre les domaines suivants :

- Situations d'exposition d'urgence et les enseignements tirés de l'accident de Fukushima
- Situations d'exposition existantes
- Fondements et principes fondamentaux de la radioprotection
- Intégration de la Protection de l'Environnement
- Rapports thématiques
- Soutien aux autres comités de la CIPR

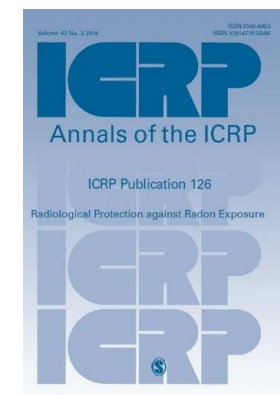
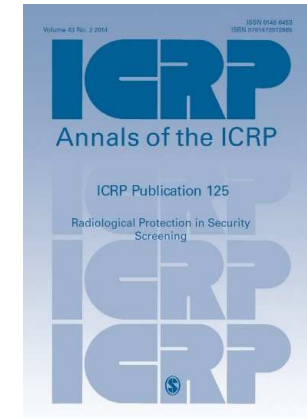
Membres du C4 de 2021-2025

- **Min Baek**
- **Nobuhiko Ban**
- **Yann Billarand**
- **Julie Burt**
- **Analia Cecilia Canoba**
- **Nicole Martinez (Vice-Chair)**
- **Andy Mayall**
- **Anne Nisbet**
- **Sergey Shinkarev**
- **Eduardo Gallego**
- **Jacqueline Garnier-Laplace (Secretary)**
- **Daniele Giuffrida**
- **Catrin Bauréus Koch**
- **Yahong Mao**
- **Thierry Schneider (Chair)**
- **John Takala**
- **Hiroko Yoshida**
- **Friedo Zölzer**
- **Bernard Le Guen (IRPA)**
- **Stefan Mundigl (CE)**
- **Chris Mogg (AEN)**
- **Miroslav Pinak (AIEA)**

18 membres (+4 observateurs) - 13 pays

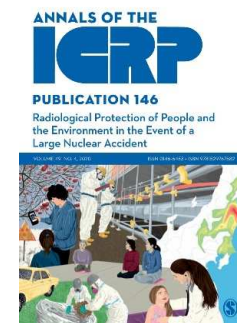
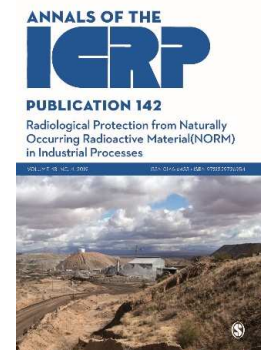
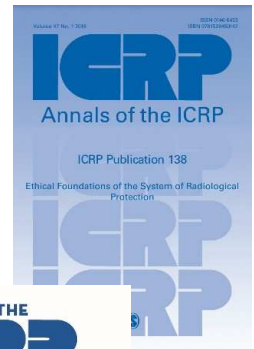
Rapports du C4 (1/2)

- **Pub. 124. Protection of the Environment under Different Exposure Situations.** *Ann. ICRP 2014; 43(1)*
- **Pub 125. Radiological Protection in Security Screening.** *Ann. ICRP 2014; 43(2)*
- **Pub 126. Radiological Protection against Radon Exposure.** *Ann. ICRP 2014; 43(3)*
- **Pub 132. Radiological Protection from Cosmic Radiation in Aviation.** *Ann. ICRP 2016; 45(1)*



Rapports du C4 (2/2)

- **Pub 138. Ethical foundations of the system of radiological protection.** *Ann. ICRP 2018; 47(1)*
- **Pub 142. Radiological protection from naturally occurring radioactive material (NORM) in industrial processes.** *Ann. ICRP 2019; 48(4)*
- **Pub 146. Radiological protection of people and the environment in the event of a large nuclear accident: update of ICRP Publications 109 and 111.** *Ann. ICRP 2020; 49(4)*



Task Groups du C4 (1/2)

- **TG97: Application of the Commission's Recommendations for Surface and Near Surface Disposal of Solid Radioactive Waste**
 - Chair: John Takala – C4 members: – French member: François Besnus
 - Created in: 2014
- **TG98: Application of the Commission's Recommendations to exposures resulting from contaminated sites from past industrial, military and nuclear activities.**
 - Chair: Mike Boyd – C4 members: Analia Canoba, Serguey Shinkarev – French member: Ludovic Vaillant
 - Created in: 2014
- **TG105: Considering the Environment when Applying the System of Radiological Protection**
 - Chair: David Copplestone – C4 members: Anne Nisbet, John Takala
 - Created in: 2016
- **TG106: Application of the Commission's Recommendations to activities involving mobile high activity sources**
 - Chair: Don Cool – French members: Edouard Carreau (EDF), Bernard Le Guen (IRPA)
 - Created in: 2016

Task Groups du C4 (2/2)

- **TG109. Ethics in Radiological Protection for Medical Diagnosis and Treatment**
 - Chair: François Bochud – C4 member: Friedo Zoelzer – French member: Bernard Le Guen
 - Created in: 2018
- **TG 110, Radiological Protection for Occupational and Public Exposure in Veterinary Practice**
 - Chair: Nicole Martinez – French member: Catherine Roy, Jérôme Benoit
 - Created in: 2018
- **TG114: Reasonableness and Tolerability in the System of Radiological Protection**
 - Chair: Thierry Schneider - C4 members: Toshimitsu Homma, Nicole Martinez, Jean-François Lecomte, Bernard Le Guen
 - Created in: 2019
- **TG120: Radiological Protection for Radiation Emergencies and Malicious Events**
 - Chair: Anne Nisbet – C4 member: Yann Billarand
 - Created in: 2021

The logo for the International Commission on Radiological Protection (ICRP) is displayed in a bold, blue, sans-serif font. The letters are thick and blocky, with a distinctive white horizontal bar across the middle of the 'I', 'C', and 'R'. The 'I' is a simple vertical bar. The 'C' is a rounded shape with a white bar. The 'R' is a rounded shape with a white bar and a vertical stem. The 'P' is a rounded shape with a white bar. The logo is set against a white background with a blue geometric shape on the right side.

ICRP

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