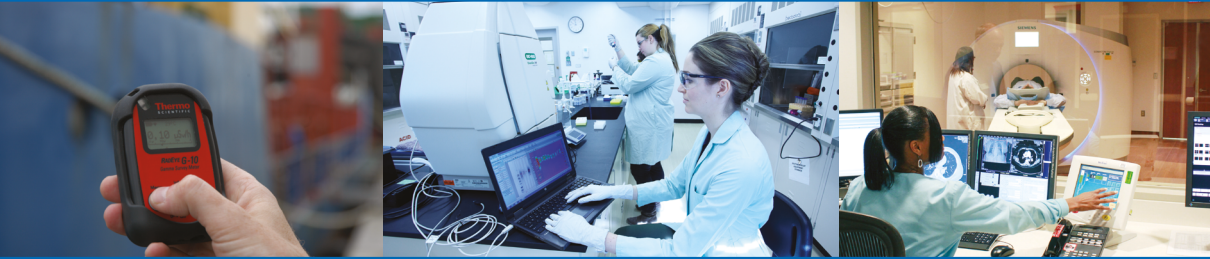


# PROGRAMME



## Joint Workshop on Initiatives of Low-Dose Research Co-ordination

Co-organised by the  
Electric Power Research Institute  
and the  
Nuclear Energy Agency

Boulogne-Billancourt, France  
25-26 June 2024





## Practical information and venue

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The workshop will take place at the OECD Nuclear Energy Agency offices in Boulogne-Billancourt, meeting room BB Auditorium.

The main entrance is situated at 46 Quai Alphonse Le Gallo, 92100 Boulogne-Billancourt, France.

The building is located near the Paris metro line 10 “Boulogne Pont de Saint-Cloud” station, and the Paris metro line 9 “Pont de Sèvres” station. There are bus, tram and SNCF train lines nearby (see [www.ratp.fr/en](http://www.ratp.fr/en) for more details).

There are a number of hotels close to the building. Participants are asked to make their own reservations. A list of hotels with preferential rates negotiated by the OECD is available at [www.oecd.org/conference-centre/planyourtrip/hotels-close-to-oecd.htm](http://www.oecd.org/conference-centre/planyourtrip/hotels-close-to-oecd.htm).

### Registration and access to the venue

Registration of participants is compulsory.

The workshop is designed to accommodate 70 participants on site. Certain limitations may therefore apply to participation in person.

Registration is scheduled for 08:00 to 09:00 am CEST on 25 June 2024.

Participants must plan to arrive at the venue 30 minutes in advance of the event start time to register at the welcome desk. To gain admission to the workshop, participants will be required to present a valid ID.

For security reasons, participants not registered or arriving without an identity document will not be granted access to the workshop room.

### Online participation

It will be possible to attend the workshop online. Registration of participants online is also compulsory.

Practical information on online access and the connection link will be sent to registered participants a few days before the workshop.

## Foreword

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This *Joint Workshop on Initiatives of Low-Dose Research Co-ordination* is co-organised by the Electric Power Research Institute (EPRI) and its International Dose Effect Alliance (IDEA) network and by the Nuclear Energy Agency (NEA) and its High-Level Group on Low-Dose Research (HLG-LDR) as part of their collaboration on a series of workshops and webinars on the topic. The IDEA initiative was started in 2016 and provides the opportunity for low-dose radiation research organisations and individuals around the world to meet and exchange information on programmes, priorities and strategic research. The HLG-LDR supports radiological protection policy, regulation and implementation by improving the effectiveness and efficiency of low-dose research through global networking. Other initiatives worldwide, such as in Canada, Europe and Japan, also contribute to this effort and are identified as major players in the development of the programme of this event.

Therefore, a scientific committee was convened to prepare the workshop programme, with participants from [EPRI](#) and its [IDEA network](#), the NEA Committee on Radiological Protection and Public Health (CRPPH) and its [HLG-LDR](#), European research platforms [MELODI](#) and [ALLIANCE](#), the Japanese network [PLANET](#) and Canada's [COHERE](#).

## Scientific and policy context

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The medical sector's rapid advancements in ionising radiation technologies, along with the expansion of the nuclear sector in many countries (for example for nuclear energy production or decommissioning), is leading to a global increase in exposure to ionising radiation for workers, members of the public and the environment. In this context, concerns about the adverse effects and health risks of low-dose and low-dose-rate radiation (i.e. below 100 mSv or below 0.1 mSv/minute, low LET) on humans and other species are becoming more important in societal decision-making. These concerns are mainly due to scientific uncertainties related to the effects of low-dose radiation and their management within the system of radiological protection.

Indeed, the effects of low-dose radiation on health and their biological mechanisms in humans and non-human species are not fully understood. While cancer is the most studied disease associated with ionising radiation, there is growing evidence that low-dose radiation exposure of living organisms may also be associated with non-cancer health outcomes such as cardiovascular disease, neurological disorders, immune dysfunction, cataracts and transgenerational effects. Even if significant progress has been made in recent years, current estimates of health risks from low-dose radiation beyond cancer are still uncertain. Questions also arise about the impact of other risk factors, making it increasingly important to consider the effects of radiation in a multifactorial context. Advances in research methods and technology make it possible to enhance knowledge of these radiation-related health effects. This makes it both urgent and feasible to improve understanding of the health risks associated with radiation exposure in the low-dose range.

## Workshop scope and objective

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The specific objectives are:

- to share knowledge on the latest research findings on low-dose radiation health outcomes and biological mechanisms associated with low-dose radiation exposure of humans and non-human species, as well as on new research methods and approaches;
- to identify and develop mechanisms to expedite outreach to the radiological protection community on the importance of co-ordination in the field of low-dose research;
- to strengthen the development of education and training resources for the next generation of researchers and radiological protection professionals; and
- to develop initiatives to bring together researchers and regulators, amplifying the impact of key research findings and thereby facilitating the transition of scientific research results to real-world applications.

A joint effort by the research community to improve the effectiveness and efficiency of research through global networking is crucial in this endeavour.

A summary of the workshop's findings will be issued after its conclusion.

# Topics

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The workshop will address the following topics:

- **Ongoing low-dose research – recent findings and their potential impact on radiological protection and public health**

What are the most recent results from basic research relevant to various sectors (e.g. medicine, nuclear energy, environmental protection, work on naturally occurring radioactive material)?

- **Approaches to improving research strategies and mechanisms to scale up research from individual organisations to national, regional and global levels**

What promising approaches can be identified, such as the use of adverse outcome pathways, biomonitoring, (epi)genetic markers, biological archives, pooled data analyses, uncertainties modelling or AI? How can they improve the efficiency of research in the low-dose area? Can these approaches benefit from global networking? What can multidisciplinary approaches bring?

What are the key mechanisms and specific pre-requisites for scaling up low-dose research (e.g. communication, co-ordination, funding and resource allocation, standardisation of methods and protocols and the management of legal, ethical and practical challenges that arise when operating at larger scales)? What role could each regional initiative of low-dose research co-ordination play?

- **Potential actions to address weaknesses in low-dose research co-ordination and governance**

Where does co-ordination need to be improved (e.g. in infrastructure, staff, funding capacity, training) and how? Does communication of research results to stakeholders (including policy- and decisionmakers) play an essential role? How can international organisations help?

- **Education and training initiatives in the field of low-dose research**

What are the main existing education and training initiatives for radiological protection and how do they link to low-dose research? How could these initiatives help engage young researchers and professionals in the field to ensure continuity and innovation? How can international organisations contribute?

- **Structuring an open dialogue on low-dose research within the radiological protection community and beyond**

How can a culture of open dialogue and collaboration, which is essential for addressing complex challenges, be fostered? How can policy- and decisionmakers ensure that they capture the most significant results? And how can the research community identify and consider the needs of policy- and decisionmakers?

## Audience

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The workshop welcomes the participation of researchers from all the disciplines related to the low-dose field, including biology, toxicology, genetics, ecotoxicology, epidemiology, modelling, the social sciences and humanities. Additionally, representatives from both international and national organisations engaged in research governance and radiological protection are invited. This includes not only experts, policymakers and regulators, but also administrators of research funding and representatives from pertinent international organisations or associations. Having such a diverse group will help foster a comprehensive and collaborative approach in the field.

The workshop is designed to accommodate about 70 participants in person in addition to attendance online.

## Contributing organisations

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# Day 1 – Tuesday, 25 June 2024

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8:00-  
9:00     **Registration**  
NEA premises, Boulogne-Billancourt, France  
Meeting room: BB Auditorium  
*Workshop facilitated by: NEA Secretariat*

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## Introductory session: **Setting the scene on the issue of low-dose research**

9:00-10:00

9:00     **Welcome addresses**  
[William D. Magwood, IV](#), Director-General, Nuclear Energy Agency (NEA)  
[Darcy Campbell](#), Principal Team Lead, Radiation Safety, Electric Power Research Institute (EPRI)

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9:30     **The co-ordination strategy and related activities of the NEA CRPPH High-Level Group on Low-Dose Research**  
[Dominique Laurier](#), Chair of the HLG-LDR, Institute of Radioprotection and Nuclear Safety, France

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9:45     **The EPRI view and actions in global co-ordination of low-dose research: The International Dose Effects Alliance**  
[Borja Bravo](#), Principal Technical Leader, Radiation Safety, Electric Power Research Institute (EPRI)

10:00    Coffee break and group photo

## Session 1: **Synthesis of recent research findings and their potential impact on radiological protection and public health**

10:30-15:30

**10:30 Unravelling biological mechanisms and cancer outcomes from low-dose and low-dose rate radiation exposure**

[Simon Bouffler](#), Deputy Director for Radiation Protection Sciences, UK Health Security Agency (UKHSA), United Kingdom (remote)

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**Overview of the most recent findings from basic research on non-cancer effects**

**10:50 *Radiation effects on the eye: evidence and significance***

[Nobuyuki Hamada](#), Senior Research Scientist, Central Research Institute of Electric Power Industry (CRIEPI), Japan

**11:05 *Neurocognitive consequences of low-dose exposure***

[Katalin Lumniczky](#), Head, Unit of Radiation Medicine, National Public Health Centre, Hungary

**11:20 *Low-dose exposure and diseases of the circulatory system effects***

[Simone Mörtl](#), Head of Radiation Biology, Federal Office for Radiation Protection (BfS), Germany

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**11:35 Overview of research progress in understanding transgenerational effects of low-dose (rate) exposure on living organisms**

[Olivier Armant](#), Group Leader, Laboratory of Ecology and Ecotoxicology of Radionuclides, Institute for Radioprotection and Nuclear Safety (IRSN), France

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**11:55 Overview of results from epidemiological childhood CT-Scan studies**

[Marie-Odile Bernier](#), Epidemiologist, IRSN, France

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**12:15 Open discussion with participants**

Moderated by: [Jacqueline Garnier-Laplace](#), European Radiation Protection Strategy Co-ordinator, IRSN, France

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**12:45 Lunch break**

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14:00 **Synthesis of recent epidemiological studies on workers about relationships between exposure and health effects (cancer and non-cancer)**

[David Richardson](#), Professor of Environmental and Occupational Health, University of California, Irvine, United States

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14:20 **Overview of the Fukushima Health Management Survey**

[Seiji Yasumura](#), Director, Radiation Medical Science Center, Fukushima Medical University (FMU), Japan

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14:40 **Update on US DOE Radiation Health Studies Program**

[Joey Zhou](#), Senior Epidemiologist, US Department of Energy, United States (remote)

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14:55 **Biological effects of tritium exposure, including life span study in mice**

[Marcelo Vazquez](#), Section Head Radiobiology, Canadian Nuclear Laboratories (CNL), Canada (remote)

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15:10 **Open discussion with participants**

Moderated by: [Rodolphe Gilbin](#), Lead, Radiation Protection of Populations and the Environment Service, IRSN, France

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15:30 Coffee break

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## Session 2: **Approaches/tools to improve research strategy**

16:00-18:30

### **Part 1: Adverse outcome pathways (AOPs) and modelling approaches**

16:00 *AOPs in radiological protection, with an update of activities of the HLG-LDR Rad/Chem AOP Joint Topical Group*

[Vinita Chauhan](#), Chair, Rad/Chem AOP joint group, Health Canada, Canada (remote)

16:15 *AOPs in ecotoxicology and path forward*

[Knut Erik Tollefsen](#), co-Chair, Rad/Chem AOP joint group, Norwegian University of Life Sciences (NMBU), Norway (remote)

16:30 *AOP-helpFinder: A tool for exploration of the literature to support Adverse Outcome Pathways development*

[Thomas Jaylet](#), PhD student, Université Paris Cité, France

16:45 *Human-mouse comparison of the multistage nature of radiation carcinogenesis in a mathematical model*

[Tatsuhiko Imaoka](#), Group Leader, Department of Radiation Effects Research, National Institute for Quantum and Radiological Sciences (QST), Japan

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### **Part 2: Epidemiological approaches**

17:00 *High-throughput genome science: Towards the strategic goals of the Radiation Effects Research Foundation*

[Dr Preetha Rajamaran](#), Vice Chair, Board of Directors, Radiation Effects Research Foundation (RERF) (remote)

17:15 *Molecular epidemiology provides new insights into cancer risk after low-dose radiation exposure: Thyroid cancer after the Chernobyl nuclear power plant accident*

[Lindsay Morton](#), Director, Radiation Epidemiology Branch, National Institute of Health/National Cancer Institute, United States

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### **Part 3: Existing databases, tissue archives, infrastructures**

17:30 *The NEA Global Register on Low-Dose Research projects: Its place among other radiobiology databases and archives*

[Dmitry Klokov](#), Chair, Global register topical group, IRSN, France

17:45 *Outcomes of the PIANOFORTE infrastructure workshop*

[Liz Ainsbury](#), co-lead, PIANOFORTE Working Party, UKHSA, United Kingdom (remote)

18:00 *Open discussion with participants*

Moderated by: [Corinne Mandin](#), Lead, Radiation Epidemiology Group, IRSN, France and [Nobuyuki Hamada](#), Senior Research Scientist, Central Research Institute of Electric Power Industry (CRIEPI), Japan

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18:25 **Closure of day 1**

[Borja Bravo](#) and [Dominique Laurier](#), workshop chairs

18:30 **End of day 1**

Workshop reception – BB Terrasse

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## Day 2 – Wednesday, 26 June 2024

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9:00 **Opening of day 2**

Borja Bravo and Dominique Laurier, workshop chairs

### Session 3: **Addressing weaknesses in low-dose research co-ordination and governance**

9:05-12:35

#### **Experiences from co-ordinated project managers**

9:05 *PIANOFORTE – The European partnership*

Jean-Christophe Gariel, PIANOFORTE Co-ordinator, Deputy Director General, IRSN, France

9:20 *A long-term research strategy for the Department of Energy's Office of Domestic and International Health Studies*

S. Robin Elgart, Director, Office of Domestic and International Health Studies, US Department of Energy, United States

9:35 *The recently established Fukushima Institute for Research, Education and Innovation (F-REI) in Japan: Focus on the F-REI's fifth research area "Accumulation and Dissemination of Data and Knowledge on Nuclear Disaster"*

Noboru Takamura, Professor, Department of Global Health, Medicine and Welfare, Atomic Bomb Disease Institute, University of Nagasaki, Japan

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#### **Challenges and successes identified by the existing co-ordination networks**

9:50 *MELODI*

Andrzej Wojcik, Head, Centre for Radiation Protection Research, Stockholm University, Sweden

10:00 *ALLIANCE*

Rodolphe Gilbin, Lead, Radiation Protection of Populations and the Environment Service, IRSN, France

10:10 *COHERE*

Julie Leblanc, Radiation and Health Sciences Officer, Canadian Nuclear Safety Commission (CNSC), Canada

10:20 *PLANET*

[Yutaka Yamada](#), Researcher, Department of Radiation Effects Research, National Institute for Quantum and Radiological Sciences (QST), Japan

10:30 *Open discussion with participants*

Moderated by: [Marie-Claude Gregoire](#), Head of Directorate, Isotopes, Radiobiology and Environment, Canadian Nuclear Laboratories, Canada

10:50 Coffee break

11:20 **Roundtable on the views of research funders, international organisations involved in science-based policies**

Moderated by:

[Marie-Claude Gregoire](#), Head of Directorate, Isotopes, Radiobiology and Environment, Canadian Nuclear Laboratories, Canada

Panellists:

[Angelgiorgio Iorizzo](#), Research Programme Officer - Policy Officer, DG Research & Innovation, European Commission (remote)

[David Borrego](#), Physical Scientist, Center for Science and Technology, US Environmental Protection Agency, United States

[Borislava Batandjieva-Metcalf](#), Secretary, United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) (remote)

[Werner Rühm](#), Chair, International Commission on Radiological Protection (ICRP)

[Ferid Shannoun](#), Scientist, Radiation and Health Unit, World Health Organization (WHO)

12:35 Lunch

## Session 4: **Global perspectives on education and training for radiological protection**

13:35-15:00

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**13:35 Competence building in radiation protection to guarantee continuity and innovation**

[Michèle Coeck](#), Director, Academy for Nuclear Science and Technology, SCK CEN, Belgium

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**13:50 Perspectives from the HERCA Education and Training Working Group**

[Sotiris Economides](#), Special Scientific Personnel, Regional Training Centre in Europe, Greek Atomic Energy Commission, Greece (remote)

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**14:05 The ICRP Vancouver Call for Action and mentorship programme**

[Werner Rühm](#), Chair, International Commission on Radiological Protection (ICRP)

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**14:20 NEA initiatives: The Nuclear Education, Skills and Technology (NEST) Framework, the NEA Global Forum on Nuclear Education, Science, Technology and Policy**

[Elisa De Sisti](#), Junior Analyst, Nuclear Education, Training, Outreach and Knowledge Management, Nuclear Energy Agency

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**14:35 Open discussion with participants**

Moderated by: [Julie Leblanc](#), Radiation and Health Sciences Officer, Canadian Nuclear Safety Commission (CNSC), Canada

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**15:00** Coffee break

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## Session 5: Structuring an open dialogue on low-dose research within the radiological protection community and beyond

15:30-18:00

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### 15:30 **Efforts of the HLG-LDR Topical group on communication**

[Paul Locke](#), Chair, Topical group on communication strategy, Johns Hopkins University, United States

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### 15:45 **IRPS and risk communication course: How the NEA schools contribute to a better understanding of low-dose issues (what it is, lessons learnt, etc.)**

[Lucas Martiri](#), Radiological Protection Specialist, and [Minori Kato](#), Senior Specialist, Nuclear Energy Agency

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### 16:00 **The art of communicating low-dose risk in a regulatory setting**

[Julie Burt](#), Radiation Biologist, Canadian Nuclear Safety Commission, Canada (remote)

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### 16:15 **EPA's perspective on radiation risk for superfund sites**

[Jon Richards](#), Radiation Expert & Project Manager, Superfund and Emergency Management Division, US Environmental Protection Agency (EPA), United States

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### 16:30 **Round table**

Moderated by: [Paul Locke](#), Chair, Topical group on communication strategy, Johns Hopkins University, United States

[Werner Rühm](#), Chair, International Commission on Radiological Protection (ICRP)

[Kathryn Higley](#), President, National Council on Radiation Protection and Measurements (NCRP), United States (remote)

[Deborah Oughton](#), Professor, Centre for Environmental Radioactivity, Norwegian University of Life Sciences, Norway (remote)

[María Antonia López](#), President of Spanish Society for Radiological Protection, Spain

[Stuart Walker](#), Regulator, EPA superfund office, US Environmental Protection Agency, United States (remote)

[Pippa Feinstein](#), Coordinator, Nuclear Transparency Project, Canada (remote)

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**17:15 Open discussion with participants**

Moderated by: [Paul Locke](#), Professor, Department of Environmental Health and Engineering, Johns Hopkins University, United States

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**Closing remarks and conclusion**

**17:35** [Borja Bravo](#) and [Dominique Laurier](#), workshop chairs

**17:55** [Nobuhiro Muroya](#), Deputy Director-General for Management and Planning, Nuclear Energy Agency

**18:00** End of workshop

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## Speaker biographies

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**William D. Magwood, IV** has been the NEA's Director-General since 2014. Prior to that, he served as Commissioner of the US Nuclear Regulatory Commission (NRC), appointed by the US President and confirmed by the Senate. In 2005-2010, he provided independent strategic and policy advice on energy, environmental and technology policy issues. From 1998 to 2005, Mr Magwood was Director of Nuclear Energy at the US Department of Energy, where he launched several important initiatives, including the Generation IV International Forum (GIF). He began his career working as a scientist for Westinghouse and Edison Electric Institute. Mr Magwood holds Bachelor's degrees in Physics and English from Carnegie Mellon University and a Master of Fine Arts from the University of Pittsburgh.



**Dominique Laurier** is a radiation epidemiologist who has been involved for over 25 years in the quantification of the health risks associated with low-dose exposure to ionising radiation.

He is currently deputy head of the health division at the French Institute of Radioprotection and Nuclear Safety (IRSN). He has been the Chair of the High-Level Group on Low-Dose Research (HLG-LDR) of the Nuclear Energy Agency (NEA) since its creation in 2020.

He is also Chair of Committee 1 of the International Commission on Radiological Protection (ICRP) and alternate representative of the French delegation to the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR).



**Liz Ainsbury** is Head of the UK Health Security Agency (UKHSA) Radiation Effects Department, and UKHSA Deputy Head of the Science and Engineering Profession.

As Head of Department Liz oversees a range of research programmes focused on synthesis of evidence in support of the safe use of radiation in society. As a Radiation Protection Scientist, Liz has research and operational interests in biological and physical retrospective dosimetry, wider emergency radiation response, the mechanistic and radiation protection aspects of radiation-induced cataracts and short- and long-term whole-body acute radiation syndromes.

Liz has had leadership responsibility and/or contributed to a large number of collaborative international scientific projects, has published approximately 130 peer-reviewed papers, regularly attends and presents at international scientific conferences and meetings, and has a large amount of teaching and lecturing experience. She also contributes to the development of the System of Radiological Protection through a wide range of committee activities, including by leading the EURADOS Working Group 10 on Retrospective Dosimetry and as a member of the ICRP Committee 1 on Radiation Effects and TG 123 on Classification of Effects.



**Olivier Armant**, PhD, is group leader of the Laboratory of Ecology and Ecotoxicology of radionuclides (LECO) at the French Institute of Radioprotection and Nuclear Safety (IRSN). His studies focus on the biological effects of chronic exposure to low doses of ionising radiation and the post-accident effects on wildlife in Chernobyl and Fukushima. He is a member of the NEA High-Level Group on Low-Dose Research (HLG-LDR) Joint Topical Group Rad-Chem.



**Borislava Batandjieva-Metcalf** has been the Secretary of UNSCEAR since April 2019 and has over 26 years of experience in radiation and nuclear safety. She began her career in 1996 as an inspector with the Bulgarian Nuclear Regulatory Authority. She worked for seven years with the International Atomic Energy Agency (IAEA) developing international safety standards on radioactive waste, nuclear decommissioning and contaminated site remediation, and providing assistance to IAEA member states in their application. She was responsible for managing a number of IAEA co-ordinated research projects on radiological safety assessments for radioactive waste disposal and decommissioning of nuclear facilities, as well as undertaking international peer reviews in these areas. After the IAEA she worked as an independent consultant in radiation safety and licensing of radioactive waste management and new building projects before joining the European Commission as a Scientific Project Officer providing support on-site radioactive waste, decommissioning and remediation safety projects in non-EU countries. She was then appointed as a Policy Officer dealing with the EU policy and law implementation by EU member states and managing studies and projects on spent fuel and radioactive waste management and providing secretariat services to the European nuclear safety regulators Working Group 2 dealing with the safety of spent fuel and radioactive waste. She also represented the European Commission on the IAEA Waste Safety Standards Committee and was a Country Group Chair and member of the General Committee at the 5<sup>th</sup> meeting of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management. She holds an MSc degree in nuclear chemistry and physical chemistry at the Comenius University in Bratislava (Slovak Republic) and is a member of the Bulgarian Radiation Protection Society.



**Marie-Odile Bernier** is a medical doctor and epidemiologist in the laboratory of epidemiology of the French Institute of Radiological Protection and Nuclear Safety. She has set up several epidemiological studies analysing the health effects of ionising radiation delivered in the medical setting, both diagnostically and therapeutically. In particular, she has set up the *Enfant Scanner* cohort, a study of 100 000 children exposed to CT scanners during childhood, enabling the study of the development of radiation-induced cancers in this population. She has been involved in several international projects as the EP ICT, Harmonic and Become projects.



**David Borrego** is a physical scientist in the Center for Science and Technology within the Radiation Protection Division, Office of Radiation and Indoor Air at the US Environmental Protection Agency. The Center is responsible for the development of radiation dose and risk assessment guidance and for providing technical support for radiation protection policy issues. He serves on the Federal and Presidential Guidance team of the US EPA and the FDA Technical Electronic Product Radiation Safety Standards Committee, and is a member of ICRP Task Group 113. His research interests include studies of occupational and medical exposures to radiation in fluoroscopy.



**Simon Bouffler** trained as a biologist, receiving a BSc and PhD from the University of Southampton and has worked in the radiation protection field for over 30 years. In his role of Deputy Director for Radiation Protection Sciences at the UK Health Security Agency, he has responsibility for all aspects of radiation protection from front-line services and emergency incident preparedness and response through to the underpinning science.

Simon has been involved in many radiation protection research projects, including the current *Pianoforte* partnership, leading on research infrastructures, and he provided leadership on stakeholder engagement for the earlier EU *CONCERT* project. Simon has published extensively on radiation cancer and leukaemia mechanisms, radio-sensitivity, circulatory disease and eye lens sensitivity with over 130 peer reviewed publications.

In addition, Simon has a number of international advisory roles. He is the UK Representative to the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) and a member of the International Commission on Radiological Protection (ICRP) Main Commission. For UNSCEAR he acted as co-ordinating lead writer for the 2021 report on *Biological Mechanisms Relevant for the Inference of Cancer Risks from Low-dose and Low Dose-rate Radiation*. Recently he was a member of the US National Academies of Sciences committee, Developing a Long-Term Strategy for Low-Dose Radiation Research in the United States. In 2018, Simon was awarded the Weiss medal by the Association for Radiation Research.



**Borja Bravo** is a Principal Technical Leader at the Electric Power Research Institute (EPRI).

Borja joined the EPRI Radiation Safety Program in 2022 and leads research projects related to nuclear power plant radiation protection, radiological assessment and dosimetry.

Borja has more than 20 years of radiation protection experience in the nuclear sector. Prior to joining EPRI, he worked at Tecnatom, an engineering company providing services to the nuclear power plants. At Tecnatom, Borja was the manager of the department responsible for radiation protection services to operating facilities and decommissioning sites. In this capacity, Borja was responsible for radiological protection training support, engineering technical support and personal internal dosimetry service.

Borja has been the President of the Spanish Society for Radiation Protection (SEPR), a member of the board of the Spanish Platform for R&D in Radiation Protection (PEPRI) and a member of the European Radiation Dosimetry Group (EURADOS). He has a Master of Science in physics from Universidad Complutense of Madrid.



**Julie Burt** is a radiation biologist primarily responsible for assessing the health risks of exposure to low doses of ionising radiation. Julie has extensive experience communicating scientific and technical information before the Canadian Nuclear Safety Commission, to the public, Indigenous peoples, and other stakeholders, as well as to colleagues at home and abroad. Perhaps the most challenging audience she has faced are children under the age of 10 as they ask the most insightful questions. Her ability to break down complex topics in an understandable manner has given her the opportunity to discuss risk openly and transparently. Her technical expertise has led to her nomination as a Canadian delegate to the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), Committee 4 of the International Commission on Radiological Protection (ICRP) along with several important ICRP Task Groups, and as the Vice-Chair of the Nuclear Energy Agency's Expert Group on Non-radiological Public Health Aspects of Radiation Emergency Planning and Response (EGNR). Julie is also a member of NEA's High-Level Group on Low-Dose Research (HLG-LDR) Rad/Chem AOP Joint Topical Group and the Canadian Organization on Health Effects from Radiation Exposure (COHERE). In her spare time, she is pursuing a PhD focused on risk communication.



**Darcy Campbell** is a Principal Team Lead at the Electric Power Research Institute (EPRI). Darcy currently leads research projects related to low- and intermediate-level waste management as well as other radiation safety-related projects.

Prior to joining EPRI, Darcy was the Director of Radiation Protection for the Los Alamos Legacy Cleanup Project, where she was responsible for the oversight of all radiation protection activities at both operational and decommissioning sites. Darcy has ten years of commercial nuclear power experience, primarily as the Subject Matter Expert for waste characterisation and radioactive shipping at Duke Energy's Catawba Nuclear Station.

Darcy holds a Master of Science degree in health physics from Georgetown University and received her certification (CHP) from the American Board of Health Physics in 2017.



**Vinita Chauhan** is a senior research scientist with the Consumer and Clinical Radiation Protection Bureau (CCRPB) at Health Canada. She has over 20 years of experience in radiobiology. She earned her PhD in biochemistry from the University of Ottawa Heart Institute in 2000, where the focus of her research was on the development of reconstituted low-density lipoprotein (LDL) particles to understand the impact of varied lipid composition on binding to the LDL receptor. Following the completion of her PhD, Dr Chauhan secured a fellowship for a postdoctoral position at Health Canada. During this period, she worked in the area of environmental pollutants, focusing on the development of in vitro toxicity assays. Dr Chauhan transitioned to the CCRPB in 2005, where she applied her expertise to the field of non-ionising radiation. Here, she led research initiatives to understand the impacts of radiofrequency fields on brain cells, employing cutting-edge genomics technology. Currently, she is working in the Ionizing Health Sciences Division focusing on low-dose research through biomarker identification using multi-omics and adverse outcome pathways (AOPs).

The author of over 60 publications, Dr Chauhan was awarded the Health Canada Assistant Deputy Minister Award in 2023 and taken on leadership roles in international scientific organisations. She serves as a nominated delegate of the OECD Emerging Science in Risk Assessment Working Group Party. Since 2021, she co-chairs the Rad/Chem AOP Joint Topical Group within the Nuclear Energy Agency High-Level Group on Low-Dose Research. This topical group is working to advance the development and application of the AOP framework in radiation research and regulation. She also jointly acts as the co-ordinator of Canadian Organization of Health Effects from Radiation Exposure (COHERE) initiative with the Canadian Nuclear Safety Commission.



**Dr Michèle Coeck** holds a PhD in physics and has been working at the Belgian Nuclear Research Centre SCK CEN since 1994. She started as scientific researcher at the BR2 reactor department and prepared her PhD thesis in the field of semiconductor sciences on the study of neutron irradiated silicon, in collaboration with KU Leuven.

In 1998 she became a scientific collaborator at the radiation protection department, where she was responsible for the nuclear calibrations laboratory and participated in dosimetry research. Since 2000 she has also been participating in the management of SCK CEN's international school for radiological protection, and co-ordinated several national and international projects dealing with education and training (among others in collaboration with IAEA and EC).

In 2006 Michèle Coeck was appointed head of a new group dealing with communication, education and knowledge management.

Since 2012 she acts as Director of the SCK CEN Academy for Nuclear Science and Technology, dealing with nuclear competence building. She co-ordinated several EC projects and is an active partner in many other education and training (E&T) projects (e.g. PIANOFORTE, ENEN2plus, OFFERR). She is a member of the IAEA Steering Committee on education and training in radiation protection and waste safety and a board member of the Belgian Physical Society, EUTERP and the ENEN Association. She is also the Belgian representative in the OECD NEA's NEST project and of the High-Level Group on Improving the gender Balance in the Nuclear Sector.



**Elisa De Siati** recently joined the Nuclear Energy Agency in the Division of Nuclear Science and Education and Nuclear Technologies and Economics as a Junior Analyst for Nuclear Education, Training, Knowledge Management, and Outreach. She is currently assisting in activities for the implementation of the 2035 Initiative, the NEA Global Forum on Nuclear Education, Science, Technology, and Policy, and the NEST Framework. Previously, she worked as an intern on the same projects.

Elisa has a strong interest in future-oriented energy technologies, politics and policy, and has been involved in several international youth engagement activities for EU politics and policy. Currently, she is also part of the youth advocacy group Nuclear4Climate (N4C) as Outreach Team Lead in preparation for the next N4C campaign at COP29.

Elisa graduated with a thesis on the nexus between epistemic communities and science diplomacy in the context of the political and security implications of advanced nuclear energy and space-based solar power in the Joint Master's Degree in International Security Studies from the Sant'Anna School of Advanced Studies and the University of Trento. She holds a Bachelor's degree in international studies from the University of Trento.





**Sotiris Economides** works with the Special Scientific Personnel at the Regional Training Centre in Europe, part of the Greek Atomic Energy Commission (EEAE). He serves as Director of the IAEA's Regional Training Centre in Europe and as Course Director for the IAEA's Postgraduate Educational Course in Radiation Protection and the Safety of Radiation Sources in Greece. He chairs the HERCA Working Group in Education and Training and is a committee member for the professional licensing exams for medical physicists and the recognition of radiation protection and medical physics experts.



**Shona Robin Elgart** serves as the Director of the Office of Domestic and International Health Studies at the US Department of Energy. She received a Bachelor's degree in microbiology from the University of California at Santa Barbara and both her Master's degree and PhD in biomedical physics from the University of California at Los Angeles. Dr Elgart has over 20 years of research experience across multiple life science disciplines, including environmental sciences, medical physics and radiation biology. Prior to joining the Department of Energy in 2023, she served as the Element Scientist for the Space Radiation Element for NASA's Human Research Program.

As the Director of Domestic and International Health Studies at the Department of Energy, Dr Elgart is committed to improving the understanding of health outcomes associated with DOE operations to ensure appropriate protection for workers and the public.



**Pippa Feinstein** is the founder and co-ordinator of the Nuclear Transparency Project. She has also maintained her own law and mediation practice for the last decade, focusing on non-profit and nuclear regulatory law. Pippa earned a BA (Hons) from McGill University, a JD from the University of Alberta, and an LLM from Osgoode Hall Law School at York University. She is also in the process of obtaining a PhD from Osgoode, where her research examines how the Canadian regulation of nuclear infrastructure shapes and is shaped by the ecological and social relations in which it is embedded. Pippa regularly appears before the Canadian Nuclear Safety Commission and presents her research and the NTP's work at local and international conferences. She has been a Co-Chair of the CNSC-ENGO Forum since 2020 and began serving on the Advisory Council for the Fukushima Dialogues in 2023.



**Jean-Christophe Gariel** is Deputy Director General of the Institute for Radioprotection and Nuclear Safety (IRSN, France) in charge of the health/environment division. After obtaining a PhD in physics at the University of Grenoble (France), he worked in the field of seismic hazard assessment successively at the Lamont-Doherty Geological Observatory of Columbia University (New York, United States), and at the Disaster Prevention Research Institute of Kyoto University (Japan).

In 1990, he joined the IRSN, where he held positions in the field of seismic risk assessment and then in the field of environmental radioactivity. More recently, he was successively Director of the Environment and Director of Health at the IRSN. His field of expertise is radiation protection, covering both environmental and human protection.



**Dr Jacqueline Garnier-Laplace** is the European Radiation Protection Strategy Coordinator at the French Institute for Radiological Protection and Nuclear Safety (IRSN). Over her almost 40-year career in radiological protection, she has held various managerial roles, including Deputy Director of Research for Radiation Protection. She recently returned to IRSN after five years as Deputy Head of the Division of Radiological Protection and Human Aspects of Nuclear Safety, and as Scientific Secretary for the Committee on Radiological Protection and Public Health at the OECD Nuclear Energy Agency (NEA).

Since 2017, she has been a member of the International Commission on Radiological Protection (ICRP) and is currently serving on Committee 4, focusing on the application of the Commission's recommendations, until 2025. She has co-authored more than 120 peer-reviewed papers on various radiological protection related issues.



**Rodolphe Gilbin**, PhD, leads the Radiation Protection of Populations and the Environment Service (SERPEN) at the Institute of Radioprotection and Nuclear Safety (IRSN) in France. With a background in ecotoxicology, Dr Gilbin earned his doctorate from Montpellier 1 University and Geneva in 2001 before joining the IRSN as a researcher in ecotoxicology in 2002. He has published nearly 60 articles and supervised several PhD students. Dr Gilbin's expertise extends to European research projects in radioecology, where he has held key roles in initiatives such as ERICA and STAR. Since 2023, he has served as President of the European Radioecology Alliance, further advancing collaboration and research efforts in the field.



**Marie-Claude Gregoire** is Head of Directorate, Isotopes, Radiobiology and Environment at Canadian Nuclear Laboratories. She has decades of experience in nuclear research and development applied to health. She has worked in the United States, Belgium, France and Australia.

At CNL under the science & technology mission, she is leading a Directorate of about 110 staff and students and is responsible for building and delivering long-term strategy for the health and environment R&D programmes, in synergy with CNL business and commercial ventures. Under these programmes, she is leading initiatives to foster innovation in nuclear-based technologies that deliver a cleaner environment and better health to all. She is passionate about collaborating with national and international institutions, including the IAEA and NEA, to advance knowledge in low-dose radiation effects on health and to mitigate them.

Her research expertise is in the field of multi-modality medical and pre-clinical imaging to investigate biological mechanisms and validate therapeutic strategies. She has published more than 100 peer-reviewed papers.



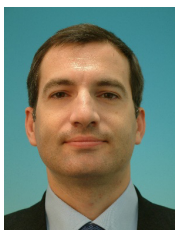
**Nobuyuki Hamada** was born in 1976 and has been involved in radiation effect studies since 1998. He was a Visiting PhD student at the UK Gray Cancer Institute in 2003, and received his PhD from Nagasaki University in 2004. He has been with CRIEPI since 2010 (currently as Senior Research Scientist), and is a Visiting Professor at Hiroshima University Research Institute for Radiation Biology and Medicine and at Hokkaido University Graduate School of Health Sciences. He serves on ICRP Task Groups 111, 119 and 123, the UNSCEAR expert group on effects of ionising radiation on the nervous system, NCRP PAC 1, the Rad-Chem AOP Topical Group of the NEA, and IRPA task group on tissue reactions. He has published over 160 papers in peer-reviewed international journals, his recent focus being on non-cancer effects (particularly those in the eye, circulatory and nervous systems). He serves as Associate Editor for Radiation Research and International Journal of Radiation Biology, and on the editorial board of various other journals.



**Dr Kathryn Higley** is the 7<sup>th</sup> President of the National Council on Radiation Protection and Measurements. She is also the Oregon State University (OSU) Distinguished Professor of Nuclear Science and Engineering. Dr Higley recently served as the Interim Director for the Center for Quantitative Life Sciences at OSU, a genome-enabled and data-driven, high-performance computing research centre in the life and environmental sciences. Prior to that, for more than a decade she was Head of the School of Nuclear Science and Engineering at OSU. Dr Higley received her PhD and MS in Radiological Health Sciences from Colorado State University and her BA in Chemistry from Reed College. She has held Reactor Operator and Senior Reactor Operator licenses and is a former Reactor Supervisor for the Reed College TRIGA reactor. She is a fellow of the Health Physics Society and a Certified Health Physicist. Her areas of interest include environmental transport and the fate of radionuclides, radioecology, radiochemistry, radiation dose assessment, nuclear emergency response, environmental regulations and risk communication.



**Tatsuhiko Imaoka** completed his PhD at the University of Tokyo Graduate School of Science (zoology and biological sciences) in 2002. In 2000 and 2001, he studied mammary gland biology as a Visiting Scientist of Prof. Nelson Horseman's Laboratory at the University of Cincinnati College of Medicine, United States, and clarified the autocrine role of serotonin in regulating the lactational activity, which became a part of his doctoral thesis. In 2002, he became a researcher at the National Institute of Radiological Sciences (NIRS), Japan, and started to engage in the animal radiobiology projects led by Dr Yoshiya Shimada. In 2016, the NIRS was reorganised as the National Institutes for Quantum Science and Technology (QST), and Dr Imaoka has been a Group Leader at the Department of Radiation Effects Research of the Institute for Radiological Science in QST. As of March 2024, he is also a member of the PLANET Steering Committee, a Visiting Professor at the Tokyo Metropolitan University, a Vice President of the Japanese Radiation Research Society, and a member of the International Commission on Radiological Protection Task Group 111. He specialises in radiobiology, with his interests covering radiation carcinogenesis, stem cell biology, integration of radiation epidemiology and biology, and biomedical applications of quantum technology.



**Angelgiorgio Iorizzo** is a Policy Officer at the European Commission, focusing on Euratom Research. He holds an MS in Mechanical Engineering and a PhD in Energy Engineering from the University of Rome La Sapienza. Iorizzo joined the European Commission in 2007, starting at the JRC in Karlsruhe, managing the engineering office at the Institute for Transuranium Elements until 2012. From 2012 to 2022, he worked on fusion research projects at RTD, Brussels, and since 2022, he has been involved in fission research projects. He is also the EC Project Officer for the European Partnership on Radiation Protection, PIANOFORTE.



**Thomas Jaylet** began his academic career with a two-year degree in biology, before specialising in bioinformatics, where he obtained a bachelor's and a master's degree, with a focus on computational biology and chemistry. He is currently finalising his PhD in bioinformatics at the Université Paris Cité, within the bioinformatics SysTox group at the Inserm T3S toxicology unit. His PhD is part of the European project RadoNorm. His research project focus was on adverse outcome pathways (AOPs), including the development of innovative bioinformatic tools and methods for AOP development. For example, he is strongly involved in the creation of the AOP-helpFinder tool, based on artificial intelligence, for automatic analysis of toxicological data in scientific literature. He has also built AOP models initiated by exposure to ionising radiation (e.g. radon), coupled with integrative systems biology, in collaboration with international researchers. His research work includes six publications.



**Minori Kato** is a Senior Specialist in the Division of Radiological Protection and Human Aspects of Nuclear Safety at the OECD Nuclear Energy Agency (NEA). In her role at the NEA, she focuses on tasks related to public communication, stakeholder involvement and safety culture. Prior to joining the NEA, Minori worked at the Japanese utility Tohoku Electric Power Company. She has a wide range of experience in the energy sector that includes sales, public relations, nuclear power, fuels procurement and crisis management. At the time of the Great East Japan Earthquake that hit her hometown on 11 March 2011, she was working in the nuclear power department, producing press release materials to report on the status of her company's nuclear power plants to the government and to the public. A Japanese national and a mother of three children, Minori holds a Master's degree in public policy from Tohoku University. She also holds a Bachelor of Arts in Public Management from the Keio University.



**Dmitry Klokov** holds a PhD in radiobiology and is head of the Laboratory of Experimental Radiotoxicology and Radiobiology (LRTOX) at the Institute of Radioprotection and Nuclear Safety (IRSN), France. He also holds an Adjunct Professor position at the Department of Biochemistry, Microbiology and Immunology of the University of Ottawa. Previously, Dmitry Klokov has led a low-dose radiobiology research programme at the Canadian Nuclear Laboratories. His research expertise includes various domains within the field of low-dose radiation effects, with an overarching goal to understand mechanisms of genotoxic and molecular responses and how they may contribute to long-term health outcomes such as cancer, cardiovascular and neurological pathologies, and transgenerational effects. To contribute to the evolution of the RP system, Dmitry Klokov has been actively engaged in interactions with radioprotection stakeholders, policymakers and regulators during both routine work and dedicated international initiatives in low-dose radiobiological research and co-operation, including those co-ordinated by UNSCEAR, NEA, MELODI, DOE and others.



**Julie Leblanc** is a radiation and health sciences officer at the Canadian Nuclear Safety Commission (CNSC). She provides technical support on behalf of and to the Commission on the subject of radiobiology and low-dose radiation risk. She conducts and co-ordinates low-dose radiation research and disseminates objective technical, scientific and regulatory information to the Canadian public, Indigenous groups and other stakeholders. Her role with the Canadian Organization on Health Effects from Radiation Exposure (COHERE) is as a co-ordinator and researcher, and she is a member of both the COHERE Scientific Committee and the Communications Committee. She is a member of the NEA HLG on Low-Dose Radiation and is also an International Commission on Radiological Protection mentee and a member of Task Group 111.



**Paul Locke**, an environmental health scientist and attorney, is a Professor at the Johns Hopkins Bloomberg School of Public Health. He holds an MPH from Yale University School of Medicine, a DrPH from the Johns Hopkins University Bloomberg School of Public Health and a JD degree from Vanderbilt University School of Law. He is admitted to practice law in the state of New York and the District of Columbia, and before the bar of the United States Supreme Court.

Dr Locke's research, practice and teaching focus is on the intersection of law and science, seeking opportunities to replace animals in biomedical research with new, non-animal (in vitro) methods. He leads an interdisciplinary team that advocates for the use of human-centric methods in toxicity testing and improvements in the drug development process. In addition, he is an international expert in radiation protection policy and radiation risk communication. He is a member of the Nuclear Energy Agency's (NEA) High Level Group on Low-Dose Radiation (HLG-LDR) and co-chairs its communications subgroup. He also chairs the Advisory Council of the Columbia University Center for Radiological Research, which is committed to assisting the Center in the advancement of basic research into the fundamental nature of radiation and its effects.

Dr Locke has published widely in both scientific journals and law reviews, including the Columbia Journal of Environmental Law, Frontiers in Oncology, Scientific American, International Journal of Radiation Biology and the Environmental Law Reporter.



**Dr María Antonia López** is the Head of the Internal Dosimetry Group (including three laboratories for in vivo and in vitro monitoring of radionuclides incorporated into the human body), and is in charge of dose assessments of workers and the public due to intakes of radionuclides; and of the design of monitoring programmes of workers at risk of internal exposure at the workplace.

Dr López has more than 30 years of experience in the internal dosimetry field. She is an expert in the assessment of internal exposures and in in vivo monitoring methods, including specific topics related to radiological/nuclear emergency scenarios and the application of Monte Carlo methods and voxel phantoms for calibration of in vivo monitoring systems. CIEMAT Internal Dosimetry has been accredited according to the ISO 17025 Standard since 2013 for in vivo and in vitro measurements of incorporated radionuclides and for internal dose assessments, acting as Reference Centre and technical support for the Nuclear Safety Council (CSN), the regulatory body in Spain. Dr López has been the President of the Spanish Society for Radiological Protection since June 2023.

In addition, she is the Scientific Secretary of ICRP Committee-2 on Doses from Radiation Exposure. Currently she is the co-ordinator of the Task Group “Internal Dosimetry for Emergency” of the European Radiation Dosimetry Group (EURADOS), where she collaborates with the WHO's Radiation Emergency Medical Preparedness and Assistance Network (REMPAN).

She is member of the International Standardization Organization (ISO) TC85 on nuclear energy, the SC2 on radiation protection, and is involved in WG13 on the monitoring and dosimetry for internal exposures, where she contributed to the development of the ISO standards on internal dosimetry ISO27048, ISO28218, ISO 216637 and ISO 16338-Parts 1 and 2. She is also member of the ISO TC85/SC2 WG25 on radiation monitoring of the population and responders in nuclear and radiological emergencies, and of Committee CTN73 on nuclear industry and radiation protection of UNE (Spanish standardization body).



**Dr Katalin Lumniczky** is the head of the Unit of Radiation Medicine at the National Public Health Centre in Budapest, Hungary, with qualifications that include an MD and a PhD from Semmelweis Medical University. Her research focuses on the effects of low-dose ionising radiation on the immune system and the role of extracellular vesicles in radiation-induced bystander effects. She has been involved in major EU and Euratom research projects.

Beyond her scientific contributions, Dr Lumniczky is actively involved in academic and professional communities, serving on the council of the European Radiation Research Society and the executive council of MELODI.



**Dr Corinne Mandin** earned her PhD in environmental chemistry from the University of Rennes, France.

She has worked on human exposure to chemical substances and physical agents and the related health effects, first at INERIS (French national institute for industrial environment and risks) for 8 years, and then at CSTB (French scientific and technical center for building) for 13 years. In 2022, she joined the French Institute for Radioprotection and Nuclear Safety (IRSN), where she leads the radiation epidemiology group. This group conducts research on human health effects of occupational, medical or environmental exposure to low doses of ionising radiation through large epidemiological studies.

She collaborates with the World Health Organization and the European Joint Research Center. She also serves as an expert for the French Agency for Food, Environmental and Occupational Health and Safety.



**Lucas Martiri** is a Radiological Protection Specialist at the OECD Nuclear Energy Agency (NEA), serving as the scientific secretary for the Working Party on Nuclear Emergency Matters (WPNEM), along with several other groups, including the secretariat of the 6<sup>th</sup> International Nuclear Emergency Exercise (INEX-6), the Expert Group on International Recommendations (EGIR) and the International Radiological Protection School (IRPS). He represents the NEA in various international groups led by the ICRP, IAEA and HERCA. Prior to joining the NEA, Mr Martiri worked as a safety inspector for the Nuclear Regulatory Authority of Argentina (ARN), with responsibilities conducting inspections, safety assessments, and drafting regulations. Additionally, he was involved in different international expert groups focusing on the safety of nuclear fuel cycle facilities, and he served as the Argentine counterpart for the Integrated Regulatory Review Service (IRRS) mission to Argentina for Nuclear Fuel Cycle Facilities. He holds a BSc in chemical engineering from the University of Mar del Plata, Argentina, with specialisation degrees in radiological protection and nuclear safety from the University of Buenos Aires, and an MSc in nuclear engineering from the University of Florida.





**Lindsay Morton** received a BA from Dartmouth College and a PhD in epidemiology from Yale University with a focus on cancer epidemiology. She joined DCEG in 2004 as a postdoctoral fellow with a concentration in molecular epidemiology. During her doctoral and postdoctoral training, she focused her research on understanding the causes of lymphoid neoplasms. In 2008, Dr Morton joined the Radiation Epidemiology Branch (REB) as a tenure-track investigator and received scientific tenure from the National Institutes of Health (NIH) in 2015. She served as Deputy Director of REB from 2020 to 2022 and became the Head of the Cancer Survivorship Research Unit in 2021. In September 2022 she took on the role of Acting Director and was appointed Director of REB in November of that year. Dr Morton is an elected member of the American Epidemiological Society. Dr Morton has been recognised for her research contributions with an NCI Career Development Innovation Award, an NIH Merit Award, and an NCI Director’s Award. She received the DCEG Mentoring Award for her commitment to training junior scientists.



**Dr Simone Moertl** is head of Radiation Biology at the Federal Office of Radiation Protection in Germany. Before that, she led the group of Clinical Radiobiology at the Institute of Radiation Biology, Helmholtz Center Munich. She is an expert in molecular radiobiology with a focus on cell communication processes in the cellular radiation response of tumour and normal tissues (<https://orcid.org/0000-0003-0644-0878>). She is particularly interested low-dose effects on the vesicle-mediated transfer (e.g. by exosomes) of biomolecules (e.g. non-coding RNAs) between cells. She is also an affiliated member of the faculty of biosciences and the medical faculty at the Technical University of Munich, where she has over 20 years of teaching experience at the undergraduate, graduate and postgraduate levels for biology and medical students. She is a member of the NEA High-Level Group on Low-Dose Research (HLG-LDR), a member of the strategic research agenda group (SRA) of MELODI and has participated in several EU-funded projects (e.g. CEREBRAD, SOPRANO). In 2023 she was an organiser of the MELODI workshop entitled “Updates on radiation-induced vascular diseases”.

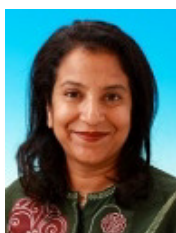


**Nobuhiro Muroya** is the Deputy Director-General for Management and Planning at the Nuclear Energy Agency. He took up his duties on 10 September 2018. Prior to joining the NEA, Mr Muroya was the Minister’s Secretariat at the Ministry of Education, Sports, Science and Technology (MEXT) of Japan. He previously supervised both the Secretariats of the Atomic Energy Commission (AEC), which directs the Japanese government’s overall nuclear energy policy, and the Council for Science, Technology and Innovation (CSTI), which establishes national strategy for the advancement of science and technology.

Mr Muroya holds a Bachelor degree of Engineering from the Tokyo Institute of Technology and a Master degree of Public Policy Management from the University of London.



**Deborah H. Oughton** is Professor in Nuclear Chemistry/Environmental Chemistry and Director of the Centre for Environmental Radioactivity (CERAD) at the Norwegian University of Life Sciences. She is Deputy Director of the Norwegian Nuclear Research Centre (NNRC) and Adjunct Professor at the University of Oslo, where she teaches philosophy of science and research ethics to PhD students in the Faculty of Mathematics and Natural Sciences (UiO). Her PhD is in radiochemistry (Manchester University, United Kingdom, 1989), and she has worked on the human, environmental and societal impacts of ionising radiation for over 30 years, including the Chernobyl and Fukushima accidents. She was a member of UNESCO's World Commission on the Ethics of Scientific Knowledge and Technology (COMEST) from 2014 to 2022 and is currently a member of the All European Academies (ALLEA) Permanent Working Group on Science and Ethics.



**Dr Preetha Rajaraman** serves as Vice Chair and Executive Director at the Radiation Effects Research Foundation. Following receipt of her PhD in epidemiology from the Johns Hopkins Bloomberg School of Public Health (Baltimore, US), Dr Rajaraman joined the Radiation Epidemiology Branch at the US National Cancer Institute, where her research focused on the interaction of environmental and genetic factors in cancer risk. She co-led the US Radiologic Technologists Study, an occupational cohort of more than 100 000 technologists exposed to low-to-moderate doses of fractionated radiation and examined cancer risk following early life exposure to radiation in diagnostic and therapeutic settings. In addition to her work on radiation, Dr Rajaraman designed and led one of the first genome-wide association studies of brain tumours, and worked closely with international collaborators to design, analyse and publish the first large genome-wide association study of gallbladder cancer, which identified several new risk loci. Dr Rajaraman's subsequent work as South Asia Director at the National Cancer Institute's Center for Global Health leading the development, oversight and evaluation of regional programmes for cancer research and training was recognised by the NCI Director's Award for exceptional leadership in marshaling trans-NCI collaboration to foster co-operation in cancer research.

More recently, as US Health Attaché and Regional Representative for South Asia, Dr Rajaraman was responsible for in-country representation, monitoring and co-ordination of the research, programme, and policy interests of the US Department of Health and Human Services and its agencies, including the National Institutes of Health, the Centers for Disease Control and Prevention, and the Food and Drug Administration. In this role she co-ordinated key aspects of the regional COVID-19 pandemic response, finalised various agreements advancing joint biomedical research, and helped launch high-level health initiatives at multilateral fora including the G-20, QUAD and the World Health Assembly.

Dr Rajaraman is currently an expert member of Committee 1 (biological effects) of the International Commission on Radiological Protection and has served on advisory committees for the International Brain Tumor Epidemiology Consortium, the US Childhood Cancer Survivor Study, the World Health Organization and the Lancet Oncology.



**Jon Richards** has a BS in nuclear engineering and an MS in environmental health physics. His career spans over 39 years' experience in nuclear facilities and radiation risk associated with the remediation of nuclear waste and nuclear facilities and areas. Most of those years were spent in the EPA's Superfund programme as project manager and radiation technical support, where the EPA's radiation risk approach was applied at the Department of Energy nuclear sites, commercial nuclear waste sites like Maxey Flats Disposal Site, and for radiation emergency planning exercises. He served on numerous EPA and multi-agency workgroups on radiation risk tools, radiation site characterisation and lab protocols. Mr Richards has served on several IAEA workgroups, including historical radiation waste trenches, post-remediation sites, and is currently serving on the IAEA Fukushima team on recycling soil from the Fukushima nuclear accident. He regularly teaches classes on radiation basics and risk at the EPA and graduate classes at Emory and Georgia State universities.



**David Richardson** is Professor of Environmental and Occupational Health at the University of California, Irvine. His research focuses on the health effects of occupational and environmental exposures, particularly with regards to ionising radiation. He has conducted studies of cancer among nuclear workers at several US Department of Energy facilities, as well as studied cancer among the Japanese survivors of the atomic bombings of Hiroshima and Nagasaki. He has served as a member of the US President's Advisory Board on Radiation and Worker Health, on the Science Advisory Board for the US Environmental Protection Agency, and the National Academies of Science, Engineering, and Medicine Committee on Developing a Long-Term Strategy for Low-Dose Radiation Research in the United States. He currently serves as Lead Coordinating Writer for the United Nations Committee on Epidemiological Studies of Radiation and Cancer (UNSCEAR), as a member of Committee 1 (radiation effects) of the International Commission on Radiological Protection, on the Scientific and Ethical Committee for the Health Effects Study on A-bomb Survivors' Children, Radiation Effects Research Foundation (RERF), and on the US National Academies of Science, Engineering, and Medicine, Committee to Determine the Feasibility of Assessing Veteran Health Effects of Manhattan Project Related Waste. He is a lead investigator on the Pooled Uranium Miners Analysis (PUMA) study and the International Nuclear Workers Study (INWORKS), and Associate Editor of the journals *Occupational and Environmental Medicine*, and *American Journal of Epidemiology*. Dr Richardson received a PhD and an MSPH, both in epidemiology, from the University of North Carolina at Chapel Hill.



**Dr Werner Rühm** is affiliated with the Federal Office for Radiation Protection. He studied physics at the Technical University of Munich, completing his PhD in applied nuclear physics at the same university. Professionally, Dr Rühm leads the Staff Unit for the Future of Radiation Protection and holds a number of roles including as Chair of the International Commission on Radiological Protection since July 2021, and as a member of the European Article 31 Group of Experts of the Euratom Treaty since November 2022. His career includes acting as Director at the Institute of Radiation Protection, Helmholtz Center Munich, and various leadership positions within international radiation protection committees and groups. Since 2005, he has been an editor-in-chief at the journal *Radiation and Environmental Biophysics*. Additionally, Dr Rühm has been an adjunct professor at the Medical Faculty of LMU University of Munich since May 2009.



**Dr Yasumura Seiji** is the Executive Director of the Radiation Medical Center for the Fukushima Health Management Survey of Fukushima Medical University (FMU). He graduated from Yamagata University School of Medicine in 1984 and earned a PhD in the Department of Public Health in 1989. He became a Senior Researcher at the Tokyo Metropolitan Institute of Gerontology, Tokyo, and subsequently progressed from Assistant Professor to Associate Professor in the Department of Public Health at Yamagata University School of Medicine. In 2000, he was appointed Professor and Chair of the Department of Public Health, FMU School of Medicine. As a principal investigator at the start of the Fukushima Health Management Survey, he was first author of “Study Protocol for the Fukushima Health Management Survey” (Journal of Epidemiology, 2012) and of “Achievements and Current Status of the Fukushima Health Management Survey” (Journal of Epidemiology, 2022). He also co-edited “Public Health in a Nuclear Disaster: Message from Fukushima” (Hiroshima University Press, 2016, with Prof. Kamiya Kenji). Prof. Yasumura now directs the Executive Committee of the Fukushima Health Management Survey and serves as the Executive Director of the Radiation Medical Center for the Fukushima Health Management Survey, FMU. He was a member of the Science Council of Japan (2017-2022), and now serves on the Promotion Council on Countermeasures against Novel Influenza and Other Diseases.



**Dr Ferid Shannoun** works for the Radiation and Health Unit of the World Health Organization (WHO). He is primarily responsible for radiation application and protection in healthcare settings including occupational radiation protection.

He has over 25 years of experience in radiation safety and public health, including 4 years at the WHO (2007-2011). Most recently, he worked at the United Nations Scientific Committee of the Effects of Atomic Radiation (UNSCEAR) in Vienna, Austria, where he was the Scientific Officer and later the Deputy Secretary of UNSCEAR (2011-2023). He is a medical physicist by training, holding two Master's degrees and a doctorate in Public Health. Before his international career, he worked in the Ministry of Health in Luxembourg for the Radiation Protection Department (1998-2007).



**Noboru Takamura** has been a full Professor in the Department of Global Health, Medicine and Welfare, at the Atomic Bomb Disease Institute of Nagasaki University, since 2008. He graduated from Nagasaki University School of Medicine in 1993 and received a PhD at the same university in 1997. As an expert in radiation medical sciences, he has been working around the Chernobyl Nuclear Power Plant since the mid-1990s to support the affected residents in Ukraine, Belarus and Russia. He worked at the World Health Organization from 1999 to 2000 and in 2010 he was involved in the co-ordination of the project for the establishment of an early diagnosis system for radiation-induced thyroid cancer around Chernobyl.

Just after the accident at the Fukushima Daiichi Nuclear Power Plant in March 2011, he was appointed as an advisor for Fukushima Prefecture on radiation health risk management, and implemented crisis communication with regard to radiation exposure and its associated health effects with residents of Fukushima. In addition, he has contributed to the recovery of affected communities through the evaluation of internal and external exposure doses of residents as well as through risk communication with them. He has contributed to the establishment of satellite offices of Nagasaki University in Kawauchi village and in the towns of Tomioka, Ohkuma, and Futaba in Fukushima Prefecture.

In April 2020, he was appointed as the first director of the Great East Japan Earthquake and Nuclear Disaster Memorial Museum in the town of Futaba, in Fukushima Prefecture, which was established to share the lessons learnt from the disaster that occurred in Fukushima.



**Dr Knut Erik Tollefsen** is Chief Scientist at Section for ecotoxicology and risk assessment at the Norwegian Institute for Water Research (NIVA) and Adjunct Professor in Ecotoxicology at Norwegian University of Life Sciences (NMBU). He is an Eurotox registered ecotoxicologist with almost 30 years of experience in ecotoxicology, with special emphasis on ecotoxicological testing, endocrine disruption, radioecology, biomarker research, AOP development, computational toxicology and risk assessment. Dr Tollefsen is acting as an expert advisor for the Norwegian Environment Agency in the OECD Advisory Group on Emerging Science in Chemicals Assessment (ESCA), is a member of the Norwegian Toxicology forum and co-chair the NEA High Level Group on Low-Dose Research (HLG-LDR) coordinated RAD/CHEM AOP Joint Topical Group. He has extensive project management experience in national and international projects and is currently managing NIVA's Computational Toxicology programme (NCTP, [www.niva.no/nctp](http://www.niva.no/nctp)).



**Marcelo E. Vazquez**, MD, PhD, has a background in radiobiology, with education and training from the National University of La Plata in Buenos Aires, Argentina, and postdoctoral research at Uppsala University in Sweden. He has worked at Columbia University, Brookhaven National Laboratory/NASA, Stony Brook State University, and Baylor College of Medicine. He has worked in several scientist positions, including as the Space Radiation Liaison and Director of NASA's Space Radiation Summer School. Dr Vazquez was also a Visiting Professor at the Chinese Academy of Sciences. He is currently the Section Head of Radiobiology at the Canadian Nuclear Laboratories.



**Stuart Walker** has been employed by the United States Environmental Protection Agency (EPA) in Washington, DC since 1990 in either the Superfund site remediation programme (the Office of Superfund Remediation and Technology Innovation) or the Office of Radiation and Indoor Air working on issues regarding the cleanup of contaminated sites. His primary area of responsibility includes serving as the Superfund programme's national lead on issues regarding radioactively contaminated Superfund sites. In this role, Stuart develops national policy for risk assessment including models, community involvement, compliance with environmental and facility regulations and laws known as Applicable or Relevant and Appropriate Requirements (ARARs), establishing cleanup levels and management of radioactive contamination at Superfund sites.



**Andrzej Wojcik** obtained his PhD in zoology at the University of Vienna in 1990. The practical work was carried out at the Austrian Nuclear Research Centre on Cellular Effects of Low-Dose Ionising Radiation. Thereafter, he pursued his postdoctorate at the Institute of Medical Radiation Biology, led by Professor Christian Streffer. Six years later, he moved to the Department of Radiobiology of the Institute of Nuclear Chemistry and Technology in Warsaw, Poland. In 1999 he founded the Department of Radiobiology and Immunology at the Jan Kochanowski University in Kielce, Poland. After a sabbatical year in 2006/2007 spent at the High Flux Reactor of the EU JRC Institute of Energy in Petten, Netherlands, he moved in 2008 to Stockholm University to lead a radiobiology group and, in 2012, became the Head of the Centre for Radiation Protection Research, Department of Molecular Biosciences – the Wenner Gren Institute, Stockholm University. Dr Wojcik's research focuses on the biological effects of low radiation doses and mixed beams of radiation of different linear energy transfers (LETs), mechanisms of radiation-induced chromosomal aberrations, biomarkers of radiation exposure and biological dosimetry. He co-ordinated two EU projects devoted to creating a European network of biological dosimetry and participates in the European Joint Programme (EJP) funded by Euratom. In 2011-2012 he was the President of the European Radiation Research Society and currently he is a member of the Scientific Board of the Swedish Radiation Safety Authority, as well as a member of the Committee of Radiation Protection Research at the Swedish Academy of Sciences. He is also one of the three editors-in-chief of the journal *Radiation and Environmental Biophysics*.



**Yutaka Yamada** is a researcher in the Department of Radiation Effects Research of the Institute for Radiological Science (NIRS), National Institutes for Quantum Science and Technology. He earned his PhD in veterinary medicine at the Hokkaido University in 1988 and then entered the NIRS. His main field is radiation biology and radiotoxicology. He has been focused on the biological effects of alpha emitters, especially plutonium. This has in turn involved him in the study of radiation-induced carcinogenesis and mutagenesis utilising experimental animals and cell culture systems. He was at the Life Sciences Division, Los Alamos National Laboratory, United States, as a visiting scientist, where he studied alpha particle-induced mutation in HPRT locus from 1993 through 1995.



**Joey Y. Zhou**, PhD, MS MPH, is a Senior Epidemiologist in the US DOE's Office of Health and Safety under the Office of Environment, Health, Safety and Security. He is the current DOE Program Manager of the Russian Health Studies Program, the United States Transuranium and Uranium Registries, and the Radiation Emergency Assistance Center/Training Site. He has 25 years of scientific research, and programme/grant/contract management experience in the US federal government. Before joining the DOE, he worked at the Department of Defense, the Environmental Protection Agency and the Department of Housing and Urban Development.



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