

NEA International Radiological Protection School (IRPS) at Stockholm University

Preparing Tomorrow's Radiological Protection Leaders

11-15 August 2025
Stockholm University
Sweden



PROGRAMME



International Radiological Protection School



Stockholms universitet



Strål
säkerhets
myndigheten

Swedish Radiation Safety Authority

ORGANISERS

The International Radiological Protection School (IRPS) is organised by the OECD Nuclear Energy Agency (NEA) in co-operation with the Swedish Radiation Safety Authority (SSM) and the Centre for Radiation Protection Research (CRPR) of Stockholm University. The IRPS 2025 session will be held at the CRPR in Stockholm, Sweden.

For further information regarding logistics, please contact
(irps@oecd-nea.org).

IRPS 2025 web page:
www.oecd-nea.org/irps-2025



NEA Headquarters in Boulogne-Billancourt.

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Images: IRPS-2023.



BACKGROUND

Since the discovery of X-rays and natural radiation, experts in both national and international fora have worked towards establishing the international radiological protection (RP) system. International organisations and many relevant stakeholders at the national or regional levels have helped develop and refine the principles of the RP system by sharing state-of-the-art scientific knowledge and experience accumulated over many decades. These principles have largely been accepted worldwide and have served as a basis for national regulations and guidelines.

While guidance and standards documents describe the technical facts in relation to the RP system, the body of understanding that they reflect, including how the different elements have evolved, are not well documented. To appropriately and effectively apply the RP system to situations they may face, tomorrow's leading experts need to fully understand the "spirit" of the RP system – its nuances and history.

In an effort to respond to this challenge, the OECD Nuclear Energy Agency (NEA) decided to establish the International Radiological Protection School (IRPS) to provide a clear understanding of the RP system and how it is intended to be interpreted for application in diverse and emerging circumstances. The first school was held in 2018.



Images: IRPS-2024.



KEY TOPICS

At the IRPS, the experts who contributed to the RP system's creation provide a historical overview of how and why the system evolved, as well as a deep understanding of what it is intended to mean. The programme, held over five days, includes sessions built on a combination of presentations and illustrative case studies. Leadership and stakeholder engagement skills are covered alongside the more technical aspects of these topics, listed below:

- The foundation of the international RP framework: Understanding the three fundamental principles – justification, optimisation of protection, dose limitation; the three pillars – science, ethics and experience, and key concepts, units and tools; exploring the RP system of the past, present and future.
- Building a system of protection around different exposure situations and categories of exposure: Understanding the interplay of science, international policy and standards.
- Evolving issues: Ethics, RP of the environment, stakeholder involvement and public communication.
- State of the art of the RP underlying sciences: Exposure to ionising radiation and dosimetry, radiobiology, epidemiology and social sciences.

LEARNING OBJECTIVES

The IRPS 2025 programme is designed to have its participants achieve the following objectives:

- Understand how and why the RP system has evolved to take into account robust scientific evidence (e.g. reflecting the relationships between the understanding of radiation exposure levels, biological effects and risks to human health and the environment) and the lessons learnt from its application (e.g. in legal and regulatory frameworks and practices).
- Understand how the system is incorporated into the national legal and regulatory frameworks, and how its application varies in the international context.
- Put the RP system into the context of RP culture, while sharing tips to find the optimal solutions to practical RP issues and illustrating leadership skills through presentations and case studies.
- Evaluate and discuss how the RP system could evolve and stay at the state of the art, mainly in the context of the next set of recommendations being considered for the next two decades.
- Develop a network of RP excellence among participants from various fields with RP as a common denominator.



GENERAL INFORMATION

Language

All materials, recordings as well as the live presentations and discussions will be in English.

Organisation of the school

A broad faculty of around 25 international experts has been gathered for IRPS 2025. Building on the experience of previous editions, the school will be complemented by an e-learning-based preparatory phase.

Admitted participants will be granted access to a range of learning materials through an online platform, which will open in late July. They will work in groups on case studies and engage in collective debriefings with the lecturers during the school.

Participants will also be invited to voluntarily submit a one-page abstract on a topic of interest, such as a professional experience, question or other relevant matter. A selection of these abstracts will be presented by the respective participants during a mini workshop focused on practical experiences and challenges in applying the RP system.

PREPARATION FOR THE SCHOOL

Accommodation

Three suggestions for hotels near the venue:

1. [Clarion Collecton Tupto](#), Jungfrugatan 57, 11531 Stockholm
2. [Gärdet Hotel and Hostel](#), Sandhamnsgatan 59a, 11528 Stockholm
3. [Elite Hotel Arcadia](#), Körnbärsvägen 1, 114 23 Stockholm

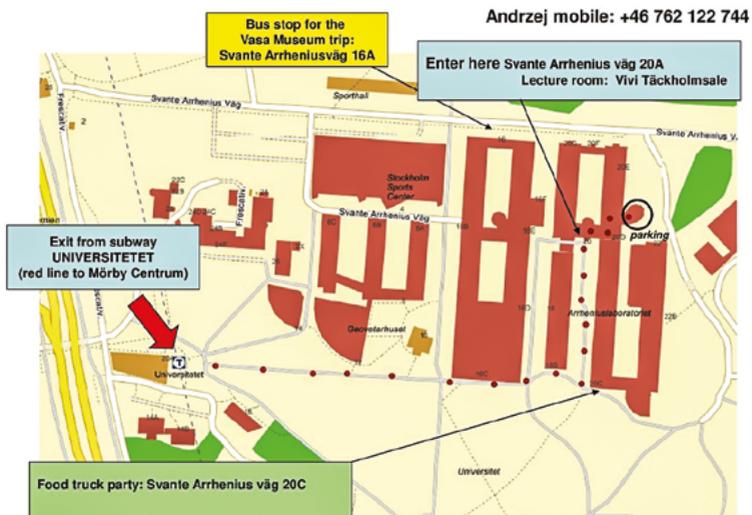
Location

The school is held at: **Svante Arrhenius väg 20A, 11418 Stockholm, Sweden**

Lecture room: **Vivi Täckholmsale**

The registration will take place at the reception in the lobby at the entrance Svante Arrhenius väg 20C from 16:00 to 18:00 CEST on 10 August 2025. For participants who are unable to make that time, there will also be a short registration slot on 11 August at the same place at 8:00 CEST, before the school starts.

[To avoid delays, registering on 10 August is strongly recommended.](#) If you encounter any problems finding the venue, please call Mr Andrzej Wojcik.



PROGRAMME (11-15 August 2025)

Day 0 – Sunday, 10 August 2025

Registration of participants and welcome reception from 16:00-18:00 CEST.

Day 1 – Monday, 11 August 2025

Registration of participants from 08:00-08:45 CEST

Introductory session: Welcome	
09:15	<p>Welcome addresses by the organisers</p> <p>Nina Cromnier, Head of Division of Radiological Protection and Human Aspects of Nuclear Safety, Nuclear Energy Agency (NEA)</p> <p>Johan Friberg, Deputy Director General, Swedish Radiation Safety Authority (SSM)</p> <p>Catarina Rydin, Section Dean, Biology Section, Stockholm University</p> <p><i>30 minutes (10 minutes per organisation)</i></p>
09:45	<p>Presentation of the NEA and ongoing activities</p> <p>George Vardoulakis, Deputy Head of Division of Radiological Protection and Human Aspects of Nuclear Safety, NEA</p> <p><i>15 minutes</i></p>
10:00	Logistical aspects

The RP system – Past, present and future

The basics: This module will present a summary of key aspects of the international system of radiological protection and what they mean in regulation and practice. It is an introduction to the principles and structures that form the framework.

10:05	<p>International radiological protection framework – The essentials I</p> <p>The evolution and prevailing spirit of the international system of radiological protection will be summarised on the basis of the RP system as it exists today, taking ICRP Publication 103 into account.</p> <p>Richard Wakeford / Jack Valentin</p> <p><i>30 minutes + 15 minutes discussion</i></p>
10:50	Break and group picture

11:15	<p>International radiological protection framework – The essentials II</p> <p>Richard Wakeford / Jack Valentin</p> <p>Continuation of the session above.</p> <p><i>30 minutes + 15 minutes discussion</i></p>
12:00	<p>Practical application of justification, optimisation, dose limitation and related dose criteria</p> <p>Some examples of the use of the RP system and problems encountered in its application in practice will be described.</p> <p>Jack Valentin / Thierry Schneider</p> <p><i>30 minutes + 15 minutes discussion</i></p>
12:45	Lunch break
13:45	<p>Radiological protection – Ethics</p> <p>An overview of the views of the International Commission on Radiological Protection (ICRP) on the ethics of radiological protection.</p> <p>Nicole Martinez</p> <p><i>30 minutes + 15 minutes discussion</i></p>
14:30	<p>International Safety Standards and the role of the IAEA</p> <p>An introduction to IAEA safety standards, with a focus on naturally occurring radioactive material (NORM), and its management and control in relation to occupational exposure.</p> <p>Burcin Okyar</p> <p><i>30 minutes + 15 minutes discussion</i></p>
15:15	Break

Application – Case study 1

15:35	<p>Managing public and occupational exposure to NORM</p> <p>The case study covers various aspects of protection against NORM and radon exposure, including radon measurements, reference levels, remediation and management, with examples and possible solutions.</p> <p>Burcin Okyar</p>
17:50	End of day 1 – Food truck and beverages

Day 2 – Tuesday, 12 August 2025

The RP system – Past, present and future II

Today's system of radiological protection:

This module will discuss the underlying principles of the application of the international system of radiological protection, as well as the challenges it faces, such as RP of the environment, ethical considerations or decommissioning and waste management

09:15	Radiological protection constraints and reference levels This session will introduce and discuss the use of numerical constraints as part of the process of identifying the optimal protection solution. Jack Valentin / Thierry Schneider <i>30 minutes + 15 minutes discussion</i>
10:00	Health risk estimates, dose criteria and the use and limitations of the effective dose The numerical criteria recommended by the current RP system will be discussed along with their intended uses. The lecture will also elaborate on the effective dose concept as well as its use in different contexts. Richard Wakeford <i>30 minutes + 15 minutes discussion</i>
10:45	Break
11:10	RP of the environment The framework, the underlying concepts and application of protection of the environment in different exposure situations will be developed, with a focus on the way it was created and how it is evolving. David Coplestone / Nicole Martinez <i>30 minutes + 15 minutes discussion</i>
11:55	Lunch break
13:15	Areas of significant evolution since ICRP Publication 103 The current RP system, as described in ICRP Publication 103, is being scrutinised for possible revision to keep it fit for purpose. More than 50 reports have been published on this topic, indicating the direction of possible changes. This presentation will describe some ideas and how they evolved and will provide a short assessment of ongoing work on the new fundamental recommendations. Thierry Schneider / Chris Clement <i>30 minutes + 15 minutes discussion</i>

14:00	<p>Panel discussion with the ICRP, European Commission, IAEA, National Council on Radiation Protection & Measurements (NCRP) and NEA</p> <p>Representatives of the respective organisations will be invited to briefly comment on the different challenges that the RP system faces. The session will include an open debate with the participants.</p> <p>Chris Clement Stefan Mundigl Burcin Okyar Kathryn Higley Nina Cromnier</p> <p><i>45 minutes + 15 minutes discussion</i> <i>Moderator: Richard Wakeford</i></p>
15:00	<p>Decommissioning and waste management from an RP perspective</p> <p>A general introduction to decommissioning and the associated safety priorities, with specific consideration of RP aspects, and the management of radioactively contaminated waste materials from an environmental perspective.</p> <p>David Coplestone / Mikkel Oberg</p> <p><i>30 minutes + 15 minutes discussion</i></p>
15:45	Break

Application – Case study 2

16:00	<p>Decommissioning, clearance and site release, with a focus on radiological protection of the environment</p> <p>Participants will consider aspects of how environmental assessments can help to determine the optimal environmental outcome for disposal of radioactively contaminated waste from an environmental perspective.</p> <p>David Coplestone / Mikkel Oberg</p>
18:00	End of day 2

Day 3 – Wednesday, 13 August 2025

State of the art of RP science

What we know, and what we don't know:

This module will address the state of the art in radiobiology, in epidemiology and in the medical application of ionising radiation, as well as the role and mission of the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR). RP and occupational exposure will also be addressed

09:15	Radiation biology The most up-to-date scientific understanding of the biological interactions of ionising radiation will be discussed. A practical exercise in observing cell chromosomal damage will be proposed. Andrzej Wojcik <i>45 minutes + 15 minutes discussion</i>
10:15	Radiation epidemiology The epidemiological results provided by various exposed populations will be discussed: the fundamental and compelling evidence on the health effects of radiation exposure observed in the Japanese survivors of atomic bombs (often referred to as the life span study); findings from other cohorts such as medically, environmentally or occupationally exposed groups. Dominique Laurier / Richard Wakeford <i>30 minutes + 15 minutes discussion</i>
11:00	Initiatives in low dose research This presentation will describe the efforts of the NEA High-Level Group on Low-Dose Research (HLG-LDR) to support radiological protection policy, regulation and implementation by improving research effectiveness and efficiency through global networking and co-ordination of low-dose research projects. Dominique Laurier <i>10 minutes + 5 minutes discussion</i>
11:15	Break
11:35	UNSCEAR: UN Scientific Basis for Radiation Protection The lecture will describe the role, purpose and work programme of UNSCEAR in the RP landscape and will give some examples of scientific evaluations recently achieved. Tiberio Cabianca <i>30 minutes + 15 minutes discussion</i>

12:20	<p>Overview of occupational radiological protection at a nuclear power plant</p> <p>The lecture will summarise the radiological protection challenges that exist in operating a pressurised water reactor and will describe the engineering controls and organisational arrangements that are used to optimise radiation doses.</p> <p>Guy Renn / Thierry Schneider</p> <p><i>30 minutes + 15 minutes discussion</i></p>
13:05	Lunch break
14:05	<p>Radiological characterisation and environmental monitoring strategies</p> <p>The lecture will explore the characterisation of radiologically contaminated sites, discuss good practice for environmental monitoring and consider strategies for dealing with what might be found.</p> <p>Kathryn Higley / David Copplestone</p> <p><i>30 minutes + 15 minutes discussion</i></p>
14:50	<p>RP in diagnostic and therapeutic healthcare</p> <p>The lecture will describe how the system applies to the RP of patients and healthcare professionals, with many examples.</p> <p>Mika Kortensniemi</p> <p><i>30 minutes + 15 minutes discussion</i></p>
15:35	Break

Application – Case study 3

15:55	<p>Clinical accident and biological dosimetry</p> <p>The 2001 Bialystok Accident will be discussed with a focus on management, dose reconstruction and medical treatment of the victims.</p> <p>Andrzej Wojcik / William Small</p>
17:50	End of day 3 – Vasa Museum visit and dinner

Day 4 – Thursday, 14 August 2025

The RP system – Towards a more holistic approach

New dimensions of a more holistic approach to RP over the last decade:

This module will discuss some of the most important influences on the radiological protection system over the last decade, expanding the purely science-based approach with a more holistic view that also takes socio-economic factors into account. Emergency planning is covered as a crucial area where this approach is needed.

09:15 **Social science and sound communication to support RP**
This session will describe the importance of social sciences and stakeholder relationships to understanding concerns and to the communication of scientific knowledge to support informed RP decisions.
[Deborah Oughton / Nicole Martinez](#)
30 minutes + 15 minutes discussion

10:00 **The importance of stakeholder involvement**
This discussion will focus on the importance of stakeholder involvement in the context of radiological protection to account for the general well-being of people in a holistic manner.
[Noboru Takamura / Jacques Lochard](#)
30 minutes + 15 minutes discussion

10.45 Break

11:05 **Risk communication**
The session will cover the principles of risk communication related to RP, how to identify and address the target audience, how to develop and implement techniques to achieve effective communication, and how to manage misinformation/disinformation.
[Deborah Oughton / Noboru Takamura](#)
30 minutes + 15 minutes discussion

11:50 **NEA Risk Communication Training Course and Stakeholder Involvement workshops**
This session will present ongoing activities related to the NEA Risk Communication Training Course and Stakeholder Involvement Workshops.
[Nina Cromnier / Thierry Schneider](#)
20 minutes + 5 minutes discussion

12.15 Lunch break

13:30	<p>Emergency preparedness and response</p> <p>This session will introduce practical aspects of nuclear or radiological emergency management, including an overview of the international framework and related exercises.</p> <p>Lucas Martiri</p> <p><i>30 minutes + 15 minutes discussion</i></p>
14:15	<p>Experience from former accidents – from emergency to recovery</p> <p>This session will draw on lessons learnt from former accidents, in particular from the Chernobyl and Fukushima Daiichi accidents, to describe a framework for the protection of people and the environment in a nuclear accident. It will also provide a useful introduction to the subsequent case study on emergency and recovery management.</p> <p>Thierry Schneider</p> <p><i>30 minutes + 15 minutes discussion</i></p>
15:00	Break

Application – Case study 4

15:20	<p>Emergency and recovery management</p> <p>The case study will confront the participants with the multidimensional nature of nuclear emergency and recovery management in practice, based on the challenges experienced in the mid-term and in the recovery phase of the Fukushima Daiichi Nuclear Power Plant accident. Participants will assess a case study scenario and address key issues, such as: preparedness; responsibilities and their evolution; justification of protective actions; or holistic optimisation of protection.</p> <p>Thierry Schneider / Lucas Martiri</p>
17:40	End of day 4

Day 5 – Friday, 15 August 2025

The current challenges in radiological protection	
<i>Radiological protection challenges, present and future:</i>	
This module will discuss some of the most relevant challenges in RP, what is currently being done to overcome them, and plans for the future.	
09:15	Navigating innovation: How nuclear industry adapts to emerging technologies and risks How RP is being integrated into next-gen technologies and what safety challenges are arising. Borja Bravo / Sameh Melhem <i>30 minutes + 15 minutes discussion</i>
10:00	Radiological protection challenges during armed conflict This session will describe the complex and evolving landscape of radiological protection during armed conflict and present some of the international initiatives aimed at addressing this issue. Katarzyna Siegien <i>30 minutes + 15 minutes discussion</i>
10.45	Break
11:05	Moderated discussion with regulators: Current challenges and the future of the RP system This session will discuss the current challenges that the RP system faces from a regulator’s perspective. It will also address how to keep the RP system fit for purpose in view of the ongoing review and revision of the ICRP’s general recommendations. <i>Panellists:</i> Catarina Danestig Sjögren (SSM, Sweden) Nobuhiko Ban (NRA, Japan) Annemiek van Bolhuis (ANVS, Netherlands) <i>Moderator: William D. Magwood, IV, Director-General, NEA</i> <i>60 minutes + 15 minutes discussion</i>
12.20	Lunch break

13:20	<p>Mini workshop on challenges in applying the RP system</p> <p>Three participant abstracts will be discussed. Participants are invited to submit short abstracts detailing professional challenges before the school begins.</p> <p>Q&A and roundtable discussion with all participants and faculty on examples, fields of interest and practical experience.</p> <p>Richard Wakeford with all of the faculty</p> <p><i>60 minutes</i></p>
14:20	<p>Self-assessment quiz</p> <p>A short multiple-choice quiz to provide participants with a self- assessment of their learning progress during the week in a relaxed atmosphere.</p> <p>David Copplestone with all of the faculty</p> <p><i>60 minutes</i></p>
15:20	Break
15:40	<p>Open discussion with the entire faculty and all participants</p> <p>This session will provide an opportunity for participants to ask any remaining questions they might have, taking advantage of the presence of the faculty members. Similarly, any recommendations and feedback will be welcome.</p> <p>Richard Wakeford with all of the faculty</p> <p><i>30 minutes</i></p>
16:10	Closing remarks
16:15	End of IRPS 2025

SPEAKERS



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.



Nina Cromnier joined the NEA in June 2024 as Head of the Radiological Protection and Human Aspects of Nuclear Safety (RP-HANS) of the NEA.

Prior to joining the NEA, Ms Cromnier held the position of Director-General of the Swedish Radiation Safety Authority (SSM) since 2019. In her role at SSM Ms Cromnier has been chair of HERCA (Heads of European Radiological Protection Competent Authorities), and member of the IAEA Commission on Safety Standards, the International Nuclear Regulators Association (INRA) and the Western European Nuclear Regulators Association (WENRA). Previously, Ms Cromnier worked in the Swedish administration in various roles, including as Director-General of the Swedish Chemicals Agency between 2010 and 2019.

Ms Cromnier, a Swedish national, holds an MSc in chemical engineering, as well as a BBA and MSc in public administration from the KTH Royal Institute of Technology and the Stockholm School of Economics.



Johan Friberg is Deputy Director General at SSM, the Swedish Radiation Safety Authority. SSM has a broad area of responsibility related to all activities with radiation in Sweden and covering all aspects of radiation safety – nuclear safety, radiation protection, security, and nuclear non-proliferation. He joined SSM in 2010 and has previously held positions as Director for Radiation Protection and Director for Emergency Preparedness, Security and Licensing.

Johan holds a degree in political science and macroeconomics from Lund University, where he graduated in 1991. He has 30 years of experience as a civil servant. Johan has held different positions at authorities such as the County Administrative Board of Skåne, the National Board of Civil Emergency Preparedness, the Swedish Association of Municipalities, The Swedish Emergency Management Agency and Prime Minister's Office. He also holds a position as a reserve officer in the army.



Catarina Rydin is Professor of Plant Systematics, Section Dean of Biology at Stockholm University, and Integration Director of Science for Life Laboratory in Stockholm. Her research focusses on macroevolution in vascular plants, the relationship between structure and function, and diversity and distribution in time and space, how features and plant groups evolve over millions of years.

She integrates information from molecular data, extant morphology and fossils to further elucidate the evolutionary events that resulted in present day diversity. Her work is mostly on old plant groups that have a rich fossil record to study.



Nobuhiko Ban received bachelor's and master's degrees in health sciences from the University of Tokyo. Following a five-year career in individual radiation monitoring of nuclear workers, he returned to the university as a research associate and obtained a PhD in medical science. After working for two universities as a faculty member, he was appointed as a Commissioner of the Nuclear Regulation Authority (NRA) in 2015.

Dr Ban has a long career in research and education related to radiation exposure and its effects. He was also involved in risk communication activities following the accident of the Fukushima Daiichi Nuclear Power Station. Since joining the NRA, he has achieved a leadership role in developing and implementing a new regulatory strategy to revitalise nuclear safety regulation in Japan. Dr Ban is also making a significant contribution to international activities, including the chair of working groups and task groups related to nuclear safety and radiological protection. He has been elected as a member of Main Commission of the International Commission on Radiological Protection (ICRP).



Annemiek van Bolhuis was appointed as Chair of the board of the Authority for Nuclear Safety and Radiation Protection (ANVS) in 2020. She was appointed as co-chair of the Nuclear Regulators for Gender Equity (NRGE) in 2023.

Ms Van Bolhuis has over 30 years of experience in national and international public service and occupied several high-level positions in the public sector.

Before joining the ANVS, Ms Van Bolhuis was Director Public Health and Health Services at the National Institute for Public Health and the Environment. Earlier in her career, she worked at the Ministry of Health, Welfare and Sport and for international organisations such as the United Nations Office on Drugs and Crime and the World Health Organization. Ms Van Bolhuis speaks seven languages and has a background in healthcare, public administration and business administration.



Catarina Danestig Sjögren is director of department Regulation and Knowledge Development at SSM, the Swedish Radiation Safety Authority. She has a broad area of responsibility covering most aspects of radiation safety – nuclear safety, radiation protection and nuclear security – with focus on regulation, knowledge development and international co-operation. Catarina has a Master of Science in

physics with an expertise in radiation physics. She has over 25 years of experience in radiation safety and security. Catarina has worked both in the health care sector, the private sector and at central authorities. She joined SSM in 2006 and has worked there in various positions with varying responsibilities and tasks. Her latest position before director of department, Catarina was head of the Emergency Preparedness and Response section, with a responsibility for the development and coordination of national radiation protection preparedness and response as well as nuclear security and civil defence.



George Vardoulakis has over 20 years of experience in the development and performance assessment of radiation detection and measurement technologies for a wide range of radiation protection and security applications. For the UK government, he was responsible for radiation protection at a national laboratory and led regulatory justification decisions on the use of ionising radiation in security research and across applications in national security. At the

European Commission, he designed and implemented a holistic, multi-stakeholder CBRN needs assessment and policy development methodology for a collaborative initiative put in place in over 60 partner countries. In the private sector, he conducted research and designed and developed novel radiation imaging systems and algorithms for material classification at a UK start-up. He led on several EU-funded research projects on standards and certification for radiation protection and security equipment and developed proof-of-concept demonstrators and case studies for clients including the UK government, the European Commission and the United Nations. He sits on several technical committees and working groups for the development of international standards (ISO, IEC) in radiation protection instrumentation and nuclear security. Until recently, Mr Vardoulakis worked at the EU Space Programme Agency, supporting spacecraft operations and cybersecurity. He holds a BSc in physics from Imperial College London, as well as an MPhil in microelectronic engineering and a PhD in astrophysics, both from the University of Cambridge.



Since 2006, **Richard Wakeford** has been a Professor in Epidemiology at the University of Manchester, United Kingdom. He retired at the end of 2019 and is now an Honorary Professor in Epidemiology at the University of Manchester. After gaining a BSc in physics and a PhD in high-energy physics at the University of Liverpool, he joined British Nuclear Fuels Ltd (BNFL), where he worked for nearly 30 years, originally at Capenhurst and then at BNFL HQ at Risley, primarily on the

Sellafield projects. He became more involved with radiation epidemiology and risks during his employment at BNFL and has published and lectured extensively on these subjects. He has been, or is, a member of ICRP Committee 1, UNSCEAR, UK COMARE, UK SAGE, EU Article 31 Group and various other international and national expert committees and groups. Prof Wakeford was the Editor-in-Chief of the Journal of Radiological Protection during 1997-2022. He was appointed an OBE for “services to the advancement of the science of radiation protection” in the King’s Birthday Honours 2024.



Since 2014, **Katarzyna Siegien** has been a Senior Adviser at the Norwegian Radiation and Nuclear Safety Authority (DSA), where she co-ordinates Norway's regulatory co-operation with Ukraine in the field of nuclear safety and radiation protection. She holds a PhD in physics and has broad experience in international collaboration, emergency preparedness, and institutional capacity-building. Her work

focuses on supporting the State Nuclear Regulatory Inspectorate of Ukraine (SNRIU) in re-establishing regulatory control over nuclear facilities affected by war, improving oversight of radioactive waste management, and ensuring continuity of safety functions under crisis conditions. She is engaged in long-term efforts to enhance regulatory capacity and radiological protection through targeted technical co-operation and strategic support.



Thierry Schneider is the Director of Nuclear Protection Evaluation Centre (CEPN), France. He has a PhD in economics in the field of health and insurance. He is currently the Chair of Committee 4 of the International Commission on Radiological Protection (ICRP) and the Chair of the NEA Committee on Radiological Protection and Public Health (CRPPH). Since April 2025, he is also Professor of radiological

protection and risk communication at Nagasaki University. He has been involved in a number of research projects related to the assessment and management of radiological risk, including social and ethical issues. He has been involved in post-accident management projects since 1990 at the national, European and international levels, dealing with the Chernobyl and Fukushima Daiichi accidents. He has also participated in several ICRP publications dealing with emergency and recovery, geological disposal and ethics. He is currently the chair of the ICRP Task Group on the application of the concepts of tolerability and reasonableness in the system of radiological protect.



Jack Valentin is an independent radiological protection consultant mostly engaged with Karolinska Medical University. Prior to his retirement in 2008, Dr Valentin was employed for 12 years as the scientific secretary of the International Commission on Radiological Protection (ICRP) and as such, he acted as the Editor of the *Annals of the ICRP*. From 1983 to 1997, he worked at the Swedish Radiation Protection Authority (SSI), where he was in charge of nuclear energy supervision from 1989 to 1997. He was a member of ICRP Committee 3 (medical uses of radiation) in 1989-1993 and of ICRP Committee 4 (application of ICRP Recommendations) in 1993-1997. A former IRPA Executive Council member and an Honorary Fellow of the UK Society for Radiological Protection, Dr Valentin has had many assignments for the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR), the IAEA, and the NEA. He chaired the Programme Committee for the IRPA14 World Congress in Cape Town 2016. Dr Valentin holds a PhD in genetics from the University of Stockholm and has more than 100 scientific publications to his credit. He has also written and co-authored several textbooks and popular science books on radiation and on genetics.



David Coplestone is a Professor of Environmental Radioactivity at the University of Stirling in the United Kingdom. After gaining a BSc in applied biology at Imperial College London and a PhD in environmental radioactivity at the University of Liverpool, he spent a further ten years at the University of Liverpool studying the fate and behaviour of radionuclides in the environment. He then spent six years running the Radioactive Substances Research programme for the Environment Agency in England and Wales before moving to the University of Stirling in 2010. His current research focuses on radiological risk assessment and trying to better understand how ecological systems adapt to environmental stress caused by exposure to ionising radiation. Dr Coplestone was a member of the International Commission on Radiological Protection Committees 4 (applications) and 5 (environmental protection) between 2009 and 2021. He is currently chairing an ICRP Task Group (105) on considering the environment when applying the system of radiological protection.



Christopher Clement (MSc, CHP, MSRP) is the Scientific Secretary and Chief Executive Officer of the International Commission on Radiological Protection (ICRP). He became Scientific Secretary in 2008, the ninth to hold this position since the ICRP (originally named the International X-Ray and Radium Protection Committee) was established in 1928. He oversees the daily business of the ICRP, represents the organisation in many international fora, and has

presented well over 300 invited lectures on radiological protection in more than 40 countries. He has overseen the production of more than 70 issues of *Annals of the ICRP* as Editor-in-Chief, the publication serving as the basis of radiological protection standards, legislation and practice worldwide. In addition to his ICRP duties, he has been a member of the International Radiation Protection Association (IRPA) Executive Council since 2012, and President of IRPA since 2024. Mr Clement has a Master of Science in medical physics and is a Certified Health Physicist. He has more than 30 years of experience in radiological protection, and prior to joining the ICRP worked in environmental monitoring and remediation, radiological counterterrorism, and as Director of Radiation Protection at the Canadian Nuclear Safety Commission overseeing radiation protection regulation in all sectors across the country. For several years he represented Canada at the IAEA Radiation Safety Standards Committee and the OECD Nuclear Energy Agency's Committee on Radiation Protection and Public Health. He has received the two highest honours of the Canadian Radiation Protection Association (CRPA): the Distinguished Achievement Award in 2011, and the Richard V. Osborne Founders' Award in 2015. In 2019, he received the Ambassador's Award from the Ambassador of Japan to Canada for his work in recovery after the Fukushima Daiichi accident and the promotion of mutual understanding and friendly relations between Japan and Canada. In 2022, he had the honour of being named as a G. William Morgan Lecturer by the US Health Physics Society.



Kathryn A. Higley is a Professor and former Head of the School of Nuclear Science and Engineering in the College of Engineering at Oregon State University. She has managed OSU's Radiation Health Physics program, including developing its online graduate degree, into the largest in the country. Dr Higley has been at Oregon State University since 1994 teaching undergraduate and graduate classes on radioecology, dosimetry, radiological protection, radiochemistry and radiation biology. She is the past Vice

Chair of Committee 4 (Implementation of the Commission's Recommendations) of the International Commission on Radiological Protection and past Chair of Committee 5 (Protection of the Environment); she is also a council member of the National Council on Radiation Protection and Measurements. She is a fellow of the Health Physics Society and a Certified Health Physicist. Dr Higley and her students have done research in radiologically contaminated environments around the globe.



Mika Kortensniemi is the Chief Medical Physicist and Adjunct Professor at the HUS Diagnostic Centre, University of Helsinki, Finland. His professional focus is on quality assurance, dosimetry, optimisation and radiological protection in X-ray modalities, especially the evolving computed tomography (CT) technology. His research is primarily related to radiological optimisation, utilising anthropomorphic phantoms, Monte Carlo simulations and artificial intelligence. In addition to his primary position at the HUS Diagnostic

Centre, Dr Kortensniemi is actively involved in the activities of the IAEA, ICRP and European Federation of Organisations for Medical Physics (EFOMP). He also has a long experience in quality audits in radiology and medical diagnostics.



Lucas Martiri is a Radiological Protection Specialist at the 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 6th International Nuclear Emergency Exercise (INEX-6) and the Expert Group on International Recommendations (EGIR). 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 and 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, 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, with a Fulbright Scholarship.



Dominique Laurier has been working at the French Institute for Radiological Protection and Nuclear Safety (IRSN) since 1995. He is currently the Deputy Director of Health in the Health and Environment division. He received a PhD in biomathematics in 1994. He has 25 years of experience in the field of radiation epidemiology and has been involved in many research projects, both at the national and international levels. He has co-authored more than 160 papers in peer-reviewed scientific journals. He has participated in several national

and international expert groups, notably for the World Health Organization (WHO) and the International Agency for Research on Cancer (IARC). He has been a member of the Main Commission of the International Commission on Radiological protection (ICRP) since 2017 and the Chair of ICRP Committee 1 since 2021; a member of the French delegation to UNSCEAR since 2019 and the French representative or deputy representative to UNSCEAR since 2021; and the Chair of the NEA High-Level Group on Low-Dose Research (HLG-LDR) since 20020.



Jacques Lochard studied economics and joined the Nuclear Protection Evaluation Centre (CEPN), a non-profit organisation for research and studies in the evaluation of the technical, health, economic and societal dimensions of radiological protection, in 1977. He was the director of the Centre from 1989 to 2016. From 1990 he engaged in the protection of people affected by the Chernobyl nuclear accident and since 2011, of those affected by the Fukushima Daiichi accident. Since 2017, he is Professor at Nagasaki University and Hiroshima University. During his career Mr Lochard has been active in several international organisations involved in radiation protection, among which the ICRP, which he joined in 1993. He was Vice-Chair of the Main Commission from 2013 to 2021 and became in 2023 one of its Emeritus members.



Nicole Martinez is an Associate Professor in the School of Civil and Environmental Engineering and Earth Sciences at Clemson University. Since 2019 she is also a Joint Faculty Appointee within the Center for Radiation Protection Knowledge at Oak Ridge National Laboratory. Her first professional position was as an officer in the US Navy where she served just under four years, first as a nuclear power instructor and later a radiation health officer. After separating from the Navy, she worked for 2 years in industry before attending

graduate school where a portion of her doctorate work was at Savannah River National Laboratory. Her current research focuses on dosimetric modeling and the behaviour and effects of radiological contaminants in the environment. She is a Certified Health Physicist since 2015 and a member of the International Commission on Radiological Protection and National Council on Radiation Protection and Measurements. Ms Martinez received an MS and PhD in radiological health sciences from Colorado State University.



Sameh Melhem is the Radiological Protection Programme Lead at the World Nuclear Association. He holds a master's degree in nuclear plant design from Paris Sud University. Mr Melhem has worked as a Radiation Protection Specialist for 12 years in several international and national organisations, including the IAEA, the European Organization for Nuclear Research (CERN) and the Jordan Atomic Energy Commission (JAEC).



Stefan Mundigl leads the radiation protection team within the European Commission's radiation protection and nuclear safety policy unit. His responsibilities cover activities related to the development and implementation of health and safety standards in radiological protection, in particular the Euratom Basic Safety Standards Directive, the Commission's programmes on food and feed safety, protection from occupational exposures, medical exposures and public exposures, protection from natural radiation sources, protection of the environment, as well as radiological protection education and training. Dr Mundigl acts as Scientific Secretary of the Group of Experts referred to in Article 31 of the Euratom Treaty, which is the scientific advisory committee to the Commission regarding issues related to exposure to ionising radiation. Dr Mundigl represents the European Commission in many international committees concerned with radiological protection, such as UNSCEAR, ICRP, IAEA, IACRS, IRPA, NEA, WHO and HERCA. Dr Mundigl holds a PhD in theoretical physics from the University of Regensburg, Germany. He has worked in the radiological protection field for more than 30 years for the German Federal Office for Radiation Protection, the NEA and the European Commission.



Deborah H. Oughton is a Professor in Radiochemistry/Environmental Chemistry and Director of the Centre for Environmental Radioactivity (CERAD) at the Norwegian University of Life Sciences. She holds a PhD in radiochemistry from the University of Manchester, and since 1992, in parallel with her scientific work, has been engaged in research on the societal and ethical aspects of nuclear technologies, including the Chernobyl and Fukushima Daiichi accidents. She is deputy director of the Norwegian Nuclear Research Centre (NNRC) and adjunct Professor at the University of Oslo, where she teaches the philosophy of science and research ethics to PhD students in the Faculty of Mathematics and Natural Sciences. She was a member of ICRP Committee 4 between 2012 and 2016, 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.



William Small, Jr, MD, FACRO, FACR, FASTRO, is a member of Committee 3 of the International Commission on Radiological Protection and previously chaired Task Group 89 on Occupational Radiological Protection in Brachytherapy. He is the current Vice-Chair of Task Group 116, Radiological Protection Aspects of Imaging in Radiotherapy, and a member of Task Group 119, Effects of Ionising Radiation on Diseases of the Circulatory System and their Consideration in the System of Radiological Protection. Dr Small is Professor and Chair of the Department of Radiation Oncology and Director of the Cardinal Bernardin Cancer Center at the Stritch School of Medicine, Loyola University Chicago. He was recently appointed as Vice President, Oncology, for the Trinity Health IL/IN region. He has been an active researcher, teacher and clinician for over 30 years. Dr Small has an international reputation for research and treatment of gynaecological malignancies, and also specialises in treating gastrointestinal and breast cancers. He has done translational and clinical research in radiation toxicity, publishing a book entitled *Radiation Toxicity: A Practical Medical Guide*, in 2006. He is the author of over 330 publications, 38 invited book chapters, and 7 books. Dr Small is President-Elect of the American Radium Society and a member of the American College of Radiation Oncology Board of Directors, in addition to holding leadership positions in several other national and international professional societies.



Guy Renn is a Radiation Protection Adviser at Sizewell B Power Station, currently the only commercial pressurised water reactor (PWR) operating in the United Kingdom. After completing an MSc in radiological protection, Mr Renn joined the UK Atomic Energy Authority as an operational health physicist, at the Steam Generating Heavy Water Reactor in Winfrith. He then spent a period in radiological protection at Heysham Power Station, a twin advanced gas-cooled reactor site in the north of England, before transferring to Sizewell B. After a period seconded to the radiological assessment section at the plant design office, he moved to the Sizewell site during the final stages of plant construction and commissioning. He has worked in radiological and environmental protection at Sizewell B for more than 30 years and was Head of Radiological Protection for nearly 20 years. He is currently involved in preparing Sizewell B for life extension and for the interface with the proposed new nuclear power plant, Sizewell C, planned for construction in the near future. Mr Renn is a former member of the UK Ionising Radiations Advisory Committee and a previous secretary of the UK Society for Radiological Protection Practical Radiological Protection Topic Group. He is a past chair of the Information System on Occupational Exposure (ISOE) network and co-ordinated the ISOE Radiation Protection Manager's Peer Group meetings for many years.



Noboru Takamura has been a Professor at the Department of Disaster Resilience and Science of the Atomic Bomb Disease Institute of Nagasaki University since 2008. He is also the Director of the Great East Japan Earthquake and Nuclear Disaster Memorial Museum in the Fukushima Prefecture, Vice Director of the Institute of Environmental Radioactivity at Fukushima University and Unit Leader of The Fukushima institute for Research, Education and Innovation (F-REI). Dr Takamura has extensive experience in radiation health sciences,

hygiene, molecular epidemiology, endocrinology and internal medicine. He is a graduate of the Nagasaki University School of Medicine, where he was also a postgraduate fellow at the Department of Preventive Medicine Atomic Bomb Disease Institute. He is a member of the Japan Endocrine Society, the Japan Radiation Research Society, and the Japanese Society of Hygiene. He is an honorary professor of the Gomel State Medical University and an honorary doctor of the Belarussian State Medical University.



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 transfer, 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*.



Tiberio Cagianca is a physicist by training, holding an MSc in radiation physics from University College London. Since October 2024, he is the Deputy Secretary and Senior Scientific Officer of the UNSCEAR secretariat. He has more than 30 years of technical expertise in radiation science and protection, particularly in the area of assessment of radiological consequences from radioactivity in the environment. He spent most of his career at the National Radiological Protection Board (now UK Health Security Agency) in the United Kingdom; between 1999 and 2005 he was a staff member with the Nuclear Safety Department of the International Atomic Energy Agency.



Halil Burçin Okyar has more than 30 years of experience in the field of radiation protection and serves as a Radiation Safety Specialist in the Division of Nuclear Safety and Security of the International Atomic Energy Agency (IAEA) in Vienna, where he co-ordinates the Occupational Radiation Protection Appraisals (ORPAS) missions, contributes to the development of international requirements and guidance related to occupational radiation protection and naturally radioactive material (NORM), and manages the Occupational Radiation Protection Network (ORPNET) of the IAEA. Mr Okyar was the Scientific Secretary of the NORM VIII symposium (2016, Rio de Janeiro/Brazil), NORM IX symposium (2019, Denver, Colorado/United States), NORM X symposium (2022, Utrecht/Netherlands), and has been tasked with organising the NORM XI symposium in 2025 in Accra/Ghana.



Borja Bravo is a Principal Technical Leader at the Electric Power Research Institute (EPRI), where he leads research projects on nuclear power plant radiation protection, radiological assessment and dosimetry. He joined EPRI in 2022 and has over 20 years of experience in radiation protection within the nuclear industry. Previously, Borja worked at Tecnatom, managing radiation protection services for operating facilities and decommissioning sites. He has served as President of the Spanish Society for Radiation Protection (SEPR) and is a member of the Spanish Platform for R&D in Radiation Protection (PEPRI) and the European Radiation Dosimetry Group (EURADOS). Mr Bravo represents EPRI in various international groups led by the NEA and ICRP. He holds a Master of Science in physics from Universidad Complutense of Madrid.



Mikkel Øberg currently holds the position of Director of Radiation Protection at Danish Decommissioning. He has transitioned from being one of four radiation protection experts to Head of Section, and later to Director of Radiation Protection and member of the Management Board, while still occasionally delivering specialty work as a health physicist. His primary focus is on further integrating Radiation Protection into the company's strategic direction. Working within a horizontal structure with few managers and intermediaries necessitates both independent and outreaching efforts, especially when navigating between projects, processes, and governmental interactions. To better understand these dynamics, he has undertaken additional training as an EHS co-ordinator. Given the specialised nature of radiation protection in Denmark, Danish Decommissioning prioritises presenting papers at conferences and teaching at international classes. Mr Øberg is the Danish representative and also sits as vice-chair on the NEA Committee on Radiation Protection and Public Health and the Article-31 Group of Experts under Euratom, along with numerous external teaching opportunities, some under IAEA. Mr Øberg fosters international co-operation in the field.

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Questions and contact information

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