



Federal Office for  
Radiation Protection

# The Future of Radiation Protection

**in Germany, Europe and beyond**

Achim Neuhäuser

ICRP-Webinar: Engaging the Next Generation

April 2nd, 2025



Where are we right now?



## April 15th, 2023: End of Nuclear Energy Generation in Germany



## Radiation Protection: Situation in Germany

Decline in the area of maintaining expertise in radiation protection in Germany

- Importance of radiation protection is not sufficiently recognized by decision-makers and the public
- Trend reinforced by nuclear phase-out
- Closure of research facilities
- Difficulties in finding qualified researchers
- Reduction of research funding for radiation research
- Trend reinforced by general shortage of skilled workers, and demographic development

At the same time: Constantly new research questions, topics and fields of application



To be prepared for current and future challenges, we need broad-based skills in research, industry and government/ administration.

# Recommended Strategies to Maintain and Expand Expertise

## National recommendations (examples)

**Bedarfsanalyse für den Erhalt und Ausbau von Strahlenschutz-Kompetenz in Deutschland**

AUSARBEITUNG DES PROJEKTEAMS  
„PERSPEKTIVISCHER ERHALT VON FACHWISSEN UND -KAPAZITÄTEN IM BEREICH DER NUKLEAREN SICHERHEIT UND DES STRAHLENSCHUTZES“

Juni 2021

Mitglieder des Projektteams

- BMU - Bundesministerium für Umwelt, Naturschutz und nukleare Sicherheit
- BASE - Bundesamt für die Sicherheit der nuklearen Entsorgung
- BfS - Bundesamt für Strahlenschutz
- BGE - Bundesgesellschaft für Endlagerung mbH
- BGZ - Gesellschaft für Zwischenlagerung mbH

**Needs analysis** for the maintenance and expansion of radiation protection expertise in Germany

BMUV et al. 2021

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Geschäftsstelle der Strahlenschutzkommission  
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**Long-term maintaining and expanding expertise in the field of radiation research and application in Germany – Measures**

Recommendation by the German Commission on Radiological Protection

**Long-term maintaining and expanding expertise in the field of radiation research and application in Germany – Measures**

SSK 2021, 2023

German Commission on Radiological Protection (SSK)

## International recommendation (ICRP)

Radiation and Environmental Biophysics (2023) 62:175–180  
https://doi.org/10.1007/s00411-023-01024-5

**REVIEW**

**Vancouver call for action to strengthen expertise in radiological protection worldwide**

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**Abstract**  
Ionising radiation has been used for over a century for peaceful purposes, revolutionising health care and promoting well-being through its application in industry, science, and medicine. For almost as long, the International Commission on Radiological Protection (ICRP) has promoted understanding of health and environmental risks of ionising radiation and developed a protection system that enables the safe use of ionising radiation in justified and beneficial practices, providing protection from all sources of radiation. However, we are concerned that a shortage of investment in training, education, research, and infrastructure seen in many sectors and countries may compromise society’s ability to properly manage radiation risks, leading to unjustified exposure to or unwarranted fear of radiation, impacting the physical, mental, and social well-being of our peoples. This could unduly limit the potential for research and development in new radiation technologies (healthcare, energy, and the environment) for beneficial purposes. ICRP therefore calls for action to strengthen expertise in radiological protection worldwide through: (1) National governments and funding agencies strengthening resources for radiological protection research allocated by governments and international organisations, (2) National research laboratories and other institutions launching and sustaining long-term research programmes, (3) Universities developing undergraduate and graduate university programmes and making students aware of job opportunities in radiation-related fields, (4) Using plain language when interacting with the public and decision makers about radiological protection, and (5) Fostering general awareness of proper uses of radiation and radiological protection through education and training of information multipliers. The draft call was discussed with international organisations in formal relations with ICRP in October 2022 at the European Radiation Protection Week in Estoril, Portugal, and the final call announced at the 6th International Symposium on the System of Radiological Protection of ICRP in November 2022 in Vancouver, Canada.

**Keywords** Radiological protection · Radiation research · Education and training · Competence

**Vancouver call for action**

- National governments and funding agencies strengthening resources for radiological protection research allo-
- National research laboratories and other institutions launching and sustaining long-term research programmes.
- Universities developing undergraduate and graduate university programmes and making students aware of job opportunities in radiation-related fields.
- Using plain language when interacting with the public and decision makers about radiological protection, and,

**Vancouver call for action to strengthen expertise in radiological protection worldwide**

Rühm et al. 2023

International Commission of Radiological Protection (ICRP)

Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV)

## Recommended Strategies to Maintain and Expand Expertise

### National recommendations (SSK 2023)

A Identification of **flagship research topics**

B **Networking**

C **Involvement of policy at federal and state level**

D Structural development of the science and **long-term maintaining of research infrastructure**

E **Knowledge transfer**

F **Communication**

### International recommendation (ICRP 2023)

Action 1

National governments and funding agencies **strengthening resources** for RP research

Action 2

National research laboratories and other institutions launching and sustaining **long-term research programmes**

Action 3

Universities **developing undergraduate and graduate university programmes**

Action 4

**Using plain language** when interacting with the public and decision makers about radiological protection

Action 5

Fostering general awareness of radiation and radiological protection through **education and training of information multipliers**



What are we doing to improve the situation, for example...?



What are we doing to improve the situation?

Cooperation and  
Networking

Stakeholder  
Engagement

Future of RP

Funding and  
Programmes

Communication



## Young Researcher Networks: ECRad



- European network to connect early career researchers (ECRs) in radiation protection – direct reference to the Vancouver Call for Action (maintaining expertise and promoting young talent).
- Networking, mentoring and career development for ECRs as well as connecting existing ECR networks and initiative in Europe
- Supported by PIANOFORTE (European Research Partnership, funded by the EU), e.g. travel grants and events

### Events

- Kick-off-Meeting in Munich, organised by BfS, Tampere University, Uni Hasselt & SCK CEN (May 2024)
- ECRad-Meeting during European Radiation Protection Week 2024 in Rome
- Next Meeting: ERPW 2025 in London in October 2025

### Objectives:

- To identify ECR in in the field of radiation protection and their specific needs
- To ignite an ECR network uniting all the ECR groups within European projects, associations
- Contact: [adegenhardt@bfs.de](mailto:adegenhardt@bfs.de) (Ämilie Degenhardt)



## European Projects: Pianoforte Partnership

- PIANOFORTE PhD Funding Call 2025 – currently under evaluation, 27 proposals submitted, 8 PhD student positions to be funded with each 300.000 € as a maximum (there may be another call in 2026 or 27, check our website)
- Mobility grants for Early Career Researchers and Early Career Professionals (1000 € per grant; about 50 grants awarded since 2022)
- Training Courses for PhD students, early career researchers and young professionals (about 10.000 € for the organising entity, 15 courses granted since 2022)
- International Networking activities (about 5000 € per grant, currently one Network (ECRad) up and running)
- Further information: <https://pianoforte-partnership.eu/>



## PhD and Post-Doc-Programme at BfS

- Currently, the BfS employs 8 PhD candidates + 4 Post-Docs
- subject to available financial resources, to announce at least two new doctoral positions each year
- annual internal competition where our departments can apply with their research topics
- Our doctoral candidates and postdocs can utilize the entire BfS infrastructure (such as onboarding, training, library, business trips, professional supervision, etc.) and receive appropriate compensation
- after completing the doctorate, there is an opportunity to obtain a postdoctoral position
- Monitor our job alerts:  
[https://www.bfs.de/EN/bfs/work/work\\_node.html](https://www.bfs.de/EN/bfs/work/work_node.html) (German)
- Follow us on LinkedIn for new RP content:  
<http://www.linkedin.com/company/bundesamt-fuer-strahlenschutz-bfs->



## What else?

### European Research Platforms

- [EURADOS](#) Young Scientist Conference Support
- [MELODI](#) mobility programme for young researchers
- [EURAMED](#) Young Talent Award (presented at the European Radiation Protection Week, travel grant of 500 € for participation at ERPW for the following year)
- [NERIS](#) Young Scientist Award
- [ALLIANCE](#) Young Researchers (AYR)

### Additional opportunities

[ENEN2plus](#) – “largest education and training project in the nuclear field”

[Marie Skłodowska-Curie Action](#): Fellowship Programme, Doctoral Networks, Co-Fund (European Union)

[...]



EURAMED  
European Alliance for Medical  
Radiation Protection Research



MELODI



EUROPEAN RADIOECOLOGY ALLIANCE



SHARE

Social sciences and Humanities in ionising radiation REsearch

## Stakeholder Engagement in Germany, Europe and beyond

### Need for Action: Events, Position Papers

- Engage with national and international politicians to spread the word, e.g. RP Forum in Germany (June 2021):
- There is a great need for research at the top international level. However, research infrastructure and basic research in Germany have recently suffered losses in many places  
**(Inge Paulini, President of BfS)**
- A high level of expertise does not develop within a project. Once long-standing expertise has been lost, it can no longer be rebuilt or can be done so only with considerable effort  
**(Jochen Flasbarth, State Secretary for the Environment)**
- Radiation and the possible health effects associated with it concern our society as a whole and call for different research disciplines. For this, cooperation between all actors – from university and non-university research institutes to departmental research institutions – is crucial  
**(Werner Rühm, Chairman ICRP)**

- **“From Nuclear Risks to the Fight against Cancer – The Key Role of Radiation Protection for a Secure and Healthy Europe” (Pianoforte, European Partnership)**
- June 3rd 2025 in Brussels at the Permanent Representation of Germany to the European Union from 17:30 CEST.
- Register: <https://pianoforte-partnership.eu/news/pianoforte-event-2025>



## Communication

- Visibility (of your research) is key for relevance
- (Learn to) talk about your work, it is part of the job
- Do not only talk to your peers but to the public
- Develop a social media strategy to explain your research
- Example: Campaigns to gain public interest: [UV Protection at EURO 2024](#)
- Example: Social Media at BfS: Influencer-Program





How do we move on from here?





Federal Ministry  
for the Environment, Nature Conservation,  
Nuclear Safety and Consumer Protection



Federal Office  
for the Safety of  
Nuclear Waste Management



Federal Office for  
Radiation Protection



Qualifizierungsverbund  
**Nukleare Sicherheit**

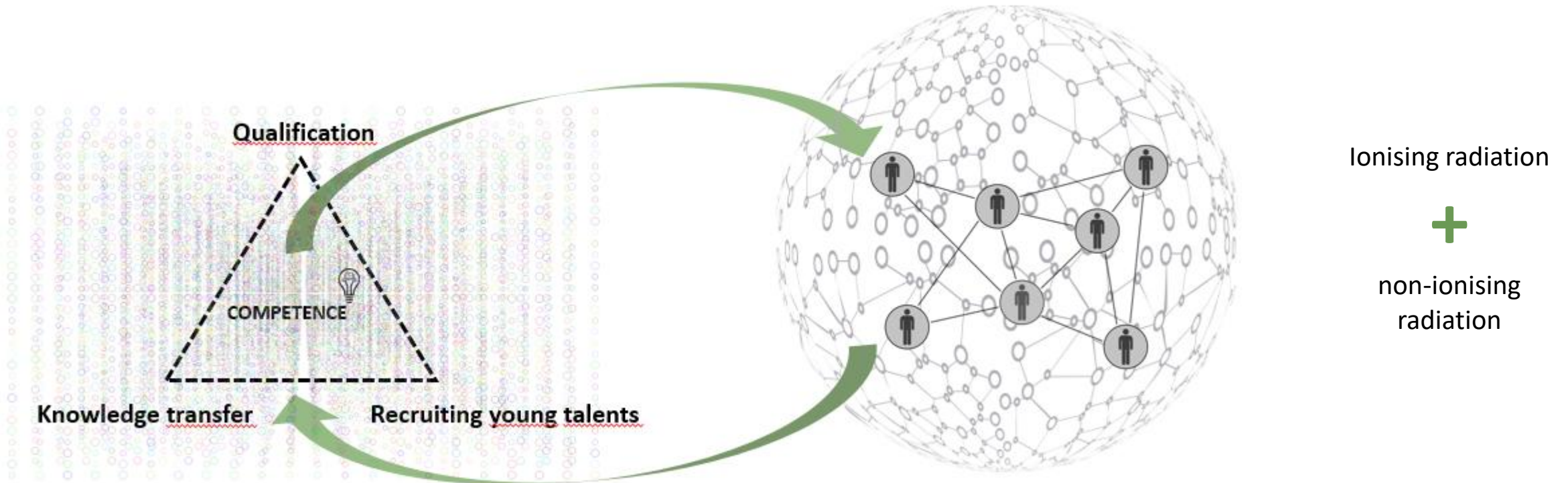
**Nuclear Safety Qualification Network**



**Radiation Protection Qualification Network**



## Goal of the Radiation Protection Qualification Network



All participants in the network aim to contribute to ensuring that there are **enough and sufficiently qualified employees** in radiation protection in Germany by **knowledge exchange and cooperation**.

## Germany and Europe





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