

ICNIRP ACTIVITIES

ANNUAL REPORT 2023

This report summarizes the activities of the Commission for the period between 1st January 2023 and 31st December 2023.

Science

Work Plan 2020-2024

A range of project groups are currently underway that will provide important information for improving non-ionizing radiation protection, health and safety.

Statements on RF Knowledge Gaps

A Project Group on "Knowledge gaps identified during guidelines' development" was set up under the leadership of Dr Carmela Marino to draft a research agenda for the whole NIR spectrum, based in particular on the gaps identified during guidelines development. The ICNIRP research agenda aims at identifying knowledge gaps relevant for giving protection guidance. After publication in 2020 of the ICNIRP Statement on Gaps in Knowledge Relevant to the "Guidelines for Limiting Exposure to Radiofrequency Time-Varying Electric and Magnetic Fields (1 Hz - 100 kHz) 2010" ([Health Physics 118\(5\):533-542; 2020](#), available on the [ICNIRP website](#)), the Project Group is now developing a similar document on RF Knowledge Gaps. The PG has met during the current period to work towards finalization of the draft statement.

Short Wavelength Light and Circadian Rhythm

The Project Group on "Short Wavelength Light" under the leadership of Dr Sharon Miller is developing a statement on the effects of short wavelength light on circadian rhythm.

Over the past 20 years exposure to short wavelength light (SWL) has rapidly increased, in particular through the extensive use of smartphones and tablets. The ICNIRP Project Group is to address the issue related to possible adverse effects of SWL on the human circadian timing system and its impact on sleep-wake rhythms. The statement will provide an overview of the current use of SWL sources, their emission characteristics and the physiological changes and potential adverse health effects resulting from exposure. Based on this, further guidance will be provided as well as recommendations for future research to adequately assess potential adverse effects of SWL.

The Statement was finalized at the End of 2023 and submitted to Health Physics where it is now published: ICNIRP Statement on Short Wavelength Light Exposure from Indoor Artificial Sources and Human Health. Health Phys 126(4):241-248; 2024.

Effects of EMFs on the Environment

Under the leadership of Dr Eric van Rongen, a Project Group will undertake a statement on the effects of NIR on the environment (plants and animals in their natural environment). The Project Group was constituted in 2022. After an exploratory phase, the PG was consolidated and started organizing the work and drafts at meetings held in 2023.

As identified by ICNIRP in 2000 and confirmed more recently in 2019 by the German Federal Office (BfS), whether there are effects of EMFs on the living environment is yet to be determined, with this

uncertainty largely due to the lack of adequate data. Accordingly, the ICNIRP Project Group intends to present an overview of the environmental effects of EMFs and, where possible, analyze whether the current human exposure guidelines are sufficiently protective for plants and animals in their natural environment.

Revision of the LF Guidelines (≤ 10 MHz)

A Project Group under the leadership of Dr Ken Karipidis will develop an updated set of low frequency guidelines, combining, and relative to that of ICNIRP 2009 (static magnetic fields), ICNIRP 2010 (low frequency fields) and ICNIRP 2014 (induced electric fields). Where appropriate, the underlying logic of the 2020 RF guidelines will be used. The output of this Project Group may subsequently be combined with the 2020 RF guidelines to form a single set of guidelines (up to 300 GHz). Note that this Project Group will not review the dosimetry literature, as that is covered by a separate Project Group (low frequency dosimetry). During the past phase, the membership and the leadership were consolidated and the work divided between three sub-groups (human biology, epidemiology, in-vivo) which started working on drafts.

LF Dosimetry Review

A systematic review of the LF dosimetry and related physics will be prepared by a Project Group led by Dr Akimasa Hirata. This will provide the dosimetry basis for the revision of the LF Guidelines (see above). Following the constitutive and exploratory phase, the PG organized working meetings to advance the project. An advanced draft is now being developed.

Exposure to airborne Ultrasound

A Project Group, under the leadership of Dr Ken Karipidis, is to investigate whether the available data on ultrasound exposure require the development of exposure guidelines or a general statement on safety, and to prepare a recommendation for the development of either guidelines or a statement for consideration by the ICNIRP Commission.

Protection of patients from exposure to ultrasound for medical purposes is controlled through international standards and national regulations. ICNIRP has published recent statements on the use of ultrasound for diagnostic (Health Phys 112(3):305–321; 2017) and cosmetic purposes (Health Phys 118(5):562–579; 2020). Protection against airborne ultrasound has not been evaluated for a while, and interim guidelines on human exposure were published by the International Radiation Protection Association in 1984.

Following the constitutive and exploratory phase, the PG decided to focus on airborne ultrasound. Working meetings took place online and onsite to advance the project and develop the draft. This was finalized in 2023 and submitted to health Physics for publication.

Long-Term Effects of Chronic UV Exposure

A Project Group, led by Dr Nigel Cridland, is to review existing evidence in relation to long-term effects on the eye and the skin for which chronic exposure to UV may be a contributing factor. These will include effects on the cornea/conjunctiva (pterygium, pingueculae and climatic droplet keratopathy), the lens (cataract), the retina (macular degeneration) and the skin (photoageing and cancer). For ocular effects, the Project Group will consider whether the evidence is sufficient to

enable the formulation of advice on restricting exposure and whether this would be substantively different from existing advice on the avoidance of adverse effects from acute exposure. For effects on the skin, which is already considered in the existing guidelines, the project group will consider whether advances in knowledge over the last 15 years are sufficient to justify any changes to the guidelines.

Following the constitutive and exploratory phase, the PG worked via online and onsite meetings and electronic exchanges to advance the project.

Communication and Publications

Website

ICNIRP communicates its activities mainly via its website where it provides all its Journal publications and notes in open access. The website is also where the ICNIRP news are communicated in regards to membership changes and notifications of calls addressed to the radiation protection community in Europe and worldwide.

Social Media

Communication via Social Media gaining more attention ICNIRP decided to develop its presence on the LinkedIn platform. This media was identified as the most appropriate to convey the ICNIRP messages to the radiation protection community allowing also to reach the interested public not specialized in radiation protection issues with the best level of factual professionalism.

Publications activities

As a result of the joint meeting, 26 - 28 June 2023, Munich Germany, together with the World Health Organization (WHO), the International Commission on Radiological Protection (ICRP), the International Labour Office (ILO), and the International Radiation Protection Association (IRPA), ICNIRP published a joint communication on its website.

Joint Note from WHO/ICRP/ICNIRP/ILO/IRPA

Website publication: Meeting on the International Systems of Ionizing and Non-Ionizing Radiation Protection: A commitment to collaborate. Munich, Germany, 26 - 28 June 2023. <https://www.icnirp.org/cms/upload/doc/JointNoteSystemProtection2023.pdf> (Accessed: 15 September 2023).

Collaboration

Collaboration with International Organizations

World Health Organization (WHO)

ICNIRP is officially recognized by the World Health Organization as a collaborative NGO for all aspects of non-ionizing radiation protection within the Framework of Engagement with Non State Actors (FENSA). The collaboration is mainly related to WHO's International EMF project, and INTERSUN Program. Within the cooperation, ICNIRP provides input to support the development of guidance on NIR exposure.

In the relevant reporting period the collaboration was realized in particular through the joint meeting held in June 2023 followed by a publication on each website (see below).

European Commission (EC)

ICNIRP advances radiation protection science throughout Europe and the World, in particular through the support provided by the European Union (ESF/SOCPL). ICNIRP provides, upon request, scientific advice for the evaluation and interpretation of scientific data, and for their dissemination, especially to the Directorate General “Employment, Social Affairs and Inclusion”. Communication with the DG unit takes place also through participation to workshops and meetings.

International Labour Organization (ILO)

The partnership between ICNIRP and ILO dates back to 1994 when ICNIRP was admitted on the ILO’s Special List of Non-Governmental Organizations. Since then several publications have been jointly issued, particularly in relation to EMF and Ultraviolet radiation. Collaboration also is set up in an ad hoc manner on topics discussed within the radiation protection community.

In the relevant reporting period the collaboration was realized in particular through the joint meeting held in June 2023 followed by a publication on each website (see below).

International Radiation Protection Association (IRPA)

ICNIRP and IRPA are linked through their Charter and their cooperation is within this framework. IRPA provides information on ICNIRP activities on the IRPA website regarding ICNIRP publications, current online consultations, the organization of conferences, and its elections. IRPA is invited to provide comments on the ICNIRP guidelines drafts and to provide nominations at ICNIRP Commission elections.

In the relevant reporting period the collaboration was realized in particular through the joint meeting held in June 2023 followed by a publication on each website (see below).

Other collaboration

Part of the ICNIRP mission is to provide scientific advice on NIR protection in many countries worldwide (see below list of meetings and conferences). These activities are performed mostly through participation in seminars, round tables, provision of lectures in training courses and scientific conferences, as well as meetings with protection agencies.

Workshops and Meetings organized by ICNIRP or with ICNIRP participation

As a widely recognized international organization in non-ionizing radiation protection, ICNIRP is invited to participate in, or co-sponsor, many international scientific events. In the period covered by this report, ICNIRP has organized and/or contributed to the following meetings:

- [WHO/ICNIRP/ICRP/ILO/IRPA Joint Meeting](#) Munich, Germany 26-28 June 23
Theme: International Radiation Protection System

Building on previous interactions ICNIRP hosted a joint meeting initiated by the World Health Organization with ICNIRP, ICRP, ILO and IRPA in Munich, Germany, from 26 to 28 June 2023. The

objectives were to increase mutual understanding of the approaches and systems of Radiation Protection, and to explore possibilities for continued collaboration. Over three days, the organizations exchanged information and views on the scientific bases underpinning the RP systems, similarities in dealing with threshold and non-threshold effects, impact of scientific uncertainties, role of ethical values in RP, application of principles of protection, communication approaches, further development of the RP systems, and connection with United Nations Sustainable Development Goals (SDG). The [Joint Note](#) released after the meeting is available on each organization's website.

Participation of ICNIRP representatives in Workshops, Scientific Meetings and Courses

- ITU Workshop
Theme: international, regional and national policies concerning human exposure to electromagnetic fields
Geneva/Hybrid 25 May 23
- WHO IAC Meeting
Geneva/Hybrid 6-8 June 23

Administration, Membership and & Meetings

Commission meetings

In the aftermath of the pandemic situation some Commission and Project Group meetings were held online and most were staged both online and onsite. This year the main Commission meetings, apart from the current work on scientific drafts, focused on strengthening international collaboration (see above), organizing the elections of the Commission 2024-1018 and fulfilling the administrative requirements.

Elections

The elections of the ICNIRP Commission 2024-2028 took place at the Annual General Meeting held in Basel on 22 November 2023. The results are as follows:

The ICNIRP Commission 2024-2028 as of July 2024 will be composed of the following scientists:

Dr Akimasa Hirata, Chair, Japan
Dr Ken Karipidis, Vice-Chair, Australia
Dr Young Hwan Ahn, Republic of Korea
Dr Nigel Cridland, United Kingdom
Dr Frank de Vocht, United Kingdom
Dr Anke Huss, The Netherlands
Dr Ilko Ilev, United States of America
Dr Jens Kuhne, Germany
Dr Ilkka Laakso, Finland
Dr Isabelle Lagroye, France
Dr Alberto Modenese, Italy
Dr Gunnhild Oftedal, Norway

The interdisciplinary team of highly recognized experts will start its term for the next 4 years after the IRPA Congress, 7-12 July 2024.

ICNIRP Main Commission, Project Group (PG) and Executive Board (EBM) meetings

• ICNIRP EBM	Online	20 January 23
• ICNIRP Ad-Hoc Commission Meeting	Online	1 February 23
• EBM Communication	Online	2 March 23
• ICNIRP Ad-Hoc Commission Meeting	Online	5 April 23
• ICNIRP EBM	Online	26 April 23
• ICNIRP EBM	Online	14 June 23
• ICNIRP Commission Meeting	Hybrid/Munich	25 June 23
• ICNIRP PG ENV	Hybrid/Munich	25 June 23
• ICNIRP PG LF Guidelines	Hybrid/Munich	26 June 23
• ICNIRP PG UV	Hybrid/Munich	26-27 June 23
• ICNIRP PG RF Knowledge Gaps	Hybrid/Munich	27 June 23
• ICNIRP EBM	Online	14 September 23
• ICNIRP Commission Meeting	Online	10 October 23
• ICNIRP EBM	Online	3 November 23
• ICNIRP Annual General Meeting	Basel/Hybrid	20-22 November 23
• ICNIRP PG UV	Basel/Hybrid	21 November 23
• ICNIRP PG LF Guidelines	Basel/Hybrid	21 November 23
• ICNIRP PG ENV	Basel/Hybrid	22 November 23
• ICNIRP EBM	Online	11 December 23

ICNIRP Participation in External Events

• ICRP SLO Meeting	Bristol	26-28 September 23
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Governance

Declaration of personal interests (DOI)

The declarations of personal interests are completed by all Commission and SEG members on a yearly basis. The declarations of personal interests are screened and evaluated by the Board and Commission with the objective of safeguarding ICNIRP's scientific independence. All declarations of personal interests are available on the ICNIRP website at www.icnirp.org.

Finance

ICNIRP funding stems from public and governmental agencies only. In the reporting period the ICNIRP activities were supported by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety and Consumer Protection (BMUV), the European Union*, and the International Radiation Protection Association (IRPA). In addition, the Ministry of Health of New Zealand (NZ MoH) and the Australian Radiation Protection and Nuclear Safety Authority (ARPANSA) also provided a general subsidy. Additional support for travel and/or meeting logistics was also received from the World Health Organization, the Nagoya Institute of Technology, Japan, from the Japanese National Institute for Communication Technology (NICT), and ARPANSA.

Financial Report 2022** - Amounts in Euro		
Income		
Subsidies		120.747,80
Workshops and Books		435,17
Total Income		121.182,97
Expense		
Staff & Training	- 95.926,46	
Meetings & Workshops	- 25.722,01	
Publications & Communication	- 8.866,52	
Insurance & Administrative Expense	- 2.726,52	
Total Expense	- 133.241,51	
Finance Income		0,00
Finance Costs	- 339,21	
Financial results	- 339,21	
Result of the Year	- 12.397,74	

Financial Report 2023** - Amounts in Euro		
Income		
Subsidies		169.256,94
Workshops and Books		209,88
Total Income		169.466,82
Expense		
Staff & Training	- 99.439,90	
Meetings & Workshops	- 40.084,79	
Publications & Communication	- 5.357,14	
Insurance & Administrative Expense	- 5.276,87	
Total Expense	- 150.158,70	

Finance Income		0,00
Finance Costs	- 345,46	
Financial results	- 345,46	
Result of the Year	- 18.962,66	

* Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or its granting authority. Neither the European Union nor the granting authority can be held responsible for them.

** The above budget tables are indicative. Income and expenses related to an activity period may be reported in the next period.