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IRPA Bulletin

For RP professionals, by RP professionals



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PRESIDENT'S BLOG (ROGER COATES, IRPA PRESIDENT)

I write this in a somewhat turbulent world, where most of us are impacted one way or another by work or travel restrictions due to health concerns over coronavirus. This has impacted the IRPA15 Congress, and you will see from Congress President Jong Kim that this event has now been postponed until January 2021.

This also means that the General Assembly is also delayed, and with it the appointment of a new Executive Council and the start of a new IRPA programme. We are making some minor adjustments to the team to see us through until January, whilst at the same time arranging how best to complete the current programme of work.

A lot of effort over recent times has gone into preparing the IRPA Guidance for Engagement with the Public on Radiation and Risk. There have been many workshops, review sessions and a consultation with the AS, and the guidance is now being prepared for publication, which will now take place in early autumn. Effective communication with the public is a major issue for the profession, and we all must play our part and become more effective at this vital activity.

Over this term IRPA has become much more effective in engaging with the key international organisations, particularly with ICRP and IAEA, and this will be increasingly important as the System of Protection comes under further review. IRPA's 'view from the practitioner' is now well regarded and actively sought by the key international players. One key activity here is on what is 'reasonable' in the optimisation of protection, which is also covered in this Bulletin.

Another vital activity which will continue is the challenge of securing 'the future of our profession'. Many radiation protection societies and organisations around the world have concerns over the future availability of suitably qualified RP professionals to meet the needs of the profession over the coming years, and several Associate Societies are experiencing declining membership. There are concerns over the age profile of the current professionals, with a significant proportion approaching retirement age. Several AS and national/international organisations have programmes to address these issues, and IRPA is working to share ideas and identify best practices. A joint programme with NEA to consider these issues is under development.

Of course, the IRPA Young Generation Network is central to this activity as they represent the future professionals, and it was great to join a wide range of young professionals from many countries at a YGN Workshop in Sendai, Japan in December. All of us participants had a salutary visit to the Fukushima Daiichi nuclear plant and the surrounding exclusion zone, which demonstrated the scale of challenge faced by our Japanese colleagues.

It has been an exciting and rewarding time to be your President for four years, and I now have a little unexpected extra time in the role to help drive things forward. And I do hope that I will have an opportunity to meet as many of you as possible in Seoul, January 2021!

15TH INTERNATIONAL CONGRESS OF THE INTERNATIONAL RADIATION PROTECTION ASSOCIATION (JONG KYUNG KIM, IRPA15 CHAIR)

The International Congress Organizing Committee (ICOC) of IRPA15 has decided to postpone IRPA15 due to the COVID-19 pandemic.

IRPA15, which was originally scheduled for May 11-15, 2020 has been rescheduled for January 18-22, 2021.

Regarding location, COEX will still be the congress venue for IRPA15, and minor changes in individual room usage will be updated again. Registration and abstract submission deadlines will also be postponed in accordance to the new schedule.

The key dates are as follows:

- Deadline for poster presentation abstract submission: 31 Aug 2020

- Notification of poster presentation acceptance and request for full paper submission: 30 Sep 2020

- Early registration deadline: 16 Oct 2020
- Standard exhibition rate deadline: 31 Oct 2020
- Standard registration deadline: 31 Dec 2020

Registration and abstract submission system are open as usual, and already accepted abstracts will be valid for presentation at the postponed congress. Also, we are welcoming new poster abstract submissions so please feel welcome to join IRPA15.

If you have any questions regarding this matter, please contact the IRPA15 secretariat's office, and please stay tuned for further updates which will be continuously uploaded to IRPA15 official website.

We hope for everyone to stay safe and overcome this crisis, and we sincerely look forward to meeting you all in good health next January.





(ROGER COATES, IRPA PRESIDENT)

The principle of optimisation, often shortened to 'ALARA', is central to practical protection and is the dominant factor controlling exposures in any well-developed system of protection. But what does 'reasonable' mean? There are growing concerns within our profession that we are giving more emphasis to 'as low as' and 'minimisation' rather than truly being 'reasonable'.

To this end IRPA has engaged in workshops to explore this concept. In association with the French SFRP there have been two workshops in Paris, and the outcome has been published in Radioprotection1. In January IRPA participated in the NEA Lisbon Workshop on 'The Art of Reasonable'. Once again there were several case studies presented, but IRPA believes that it is now timely to stand back a little from individual case studies and to develop some generic underpinning guidelines which provide a framework for considering what is reasonable. We are therefore preparing a short consultation document for which we will seek the widest comment from the AS and from the key international organisations.

One key issue is that of conservatism. It is important that optimisation processes are based on realistic assessments of doses. The use of multiple conservative assumptions in assessments, which result in significant over-estimates of exposure, or the use of 'worst case scenarios', can lead to a misallocation of resources. Since we launched this discussion on conservatism over three years ago it is great to see it being reflected in many places at an international level.

The other main issue is to recognise the need to provide wider society with good 'Value for Money' from our decisions on what is reasonable. This links to reinforcing the need for proportionality in our approach, especially when doses are well below dose limits or reference levels. This remains perhaps the greatest challenge of all, but it is important that the debate continues.

1.

https://www.radioprotection.org/articles/radiopro/abs/2019/04/radiopro190045/radiopro190045.html

THE INTERNATIONAL CONFERENCE ON RADIATION SAFETY: IMPROVING RADIATION PROTECTION IN PRACTICE – DEADLINE FOR ABSTRACTS EXTENDED TO 15 APRIL 2020

SIGURÐUR MAGNÚS MAGNÚSSON, CONFERENCE CHAIR, IRPA EC MEMBER)

The International Conference on Radiation Safety: Improving Radiation Protection in Practice will be hosted from 9 to 13 November 2020 at the IAEA Headquarters in Vienna, Austria.

This event is organized by the IAEA in cooperation with the European Commission, the Food and Agriculture Organization of the United Nations, the International Labour Organization, the Nuclear Energy Agency of the Organisation for Economic Co-operation and Development, the Pan American Health Organization, the United Nations Environment Programme and the World Health Organization.

Radioactivity and radiation sources are widely used in medicine, industry, research and agriculture, as well as for electricity generation, and make an important contribution to economic development and people's well-being. New applications of radiation are constantly being developed, posing ongoing challenges to ensure that an appropriate balance is maintained between the risks and the benefits, both for individuals and for society more broadly, from these activities. Maintaining and sustaining public confidence requires that workers, patients, the public and the environment are adequately protected from ionizing radiation.

This Conference deliberations will aim to further identify new challenges in radiation protection that need to be addressed by the international community, as well as possible solutions. Discussions will include the basic principles of the system of radiological protection (justification, optimization and dose limitation), applying the graded approach, managing existing exposure situations, non-medical human imaging and conservatism in radiation protection, among others.

The deadline to submit abstracts has been extended to 15 April 2020.

Further information on the Conference, including procedures for submitting abstracts, can be found on the IAEA website link:

https://www.iaea.org/events/international-conference-on-radiation-safety-2020 Should you have any further queries please contact us at: RP2020@iaea.org



JNEW RADIOFREQUENCY EMF (100 KHZ TO 300 GHZ) GUIDELINES RELEASED BY THE INTERNATIONAL COMMISSION ON NON-IONIZING RADIATION PROTECTION (ICNIRP)

(ICNIRP SECRETARIAT)

The International Commission on Non-Ionizing Radiation Protection (ICNIRP) has released new guidelines for the protection of humans exposed to radiofrequency electromagnetic fields (RF EMFs). These cover exposures from a range of technologies, including existing 3G/4G and the upcoming 5G mobile telecommunications technologies, as well as DAB radio, WiFi, Bluetooth, radar and wireless power transfer devices.

This is the first revision of the guidelines since 1998. Since that date there has been an extensive scientific research effort to identify and better quantify potential adverse health effects resulting from exposure to radiofrequency EMFs. This has enabled a thorough update of the guidelines, with the result a protection system that can deal effectively with both contemporary and future technologies.

There are important changes to both the structure and restrictions of the new ICNIRP (2020) guidelines. In terms of the structure: greater transparency has been achieved to make the logic and scientific basis of the guidelines easier for the health protection community to engage with; additional means of assessing compliance with the guidelines have been provided; and there is now greater specification of how to assess complicated exposure scenarios.

In terms of the restrictions, a number of additions and changes were made to ensure that the guidelines are not only protective for current radiofrequency EMF exposure scenarios, but will continue to be protective for future technological developments. These include: the addition of a restriction for exposure to the whole body for EMFs >6 GHz, to restrict body core temperature rise; the addition of a restriction for brief (less than 6-minute) exposures to small regions of the body for EMFs >400 MHz, to restrict localised temperature rise; and the reduction of the maximum exposure permitted over a small region of the body for EMFs >6 GHz, again to restrict localised temperature rise.

The full guidelines are published in Health Physics (ICNIRP. Guidelines for limiting exposure to electromagnetic fields (100 kHz to 300 GHz). Health Phys 118(00):000-000; 2020), and can be accessed at ICNIRP.org. Additional detail concerning the differences between the ICNIRP (2020) and ICNIRP (1998) guidelines is available at https://www.icnirp.org/en/activities/news/news-article/rf-guidelines-2020-published.html.

IBO LINDELL'S HISTORY OF RADIATION, RADIOACTIVITY, AND RADIOLOGICAL PROTECTION -THIRD BOOK, 'THE LABOURS OF HERCULES

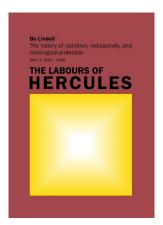


(CHRISTOPHER CLEMENT, IRPA PUBLICATIONS DIRECTOR)

Bo Lindell's authoritative four-book series, The History of Radiation, Radioactivity, and Radiological Protection, resting on his first-hand experience and scientific accuracy and spiced with his vivid sense of humour, has been translated into English as a joint effort by the Nordic Society for Radiation Protection (NSFS); the Nordic Nuclear Safety Research (NKS); the five Nordic regulatory authorities; and the International Radiation Protection Association (IRPA).

The third book in the series, The Labours of Hercules, is now available. This exciting and eminently readable book revolves around Rolf Sievert's achievements and the intense international developments from 1950 to 1966: progress of nuclear power, nuclear weapons proliferation and global radioactive fallout, significant releases of radioactive materials due to nuclear accidents, vast improvements in radiation-related medical diagnostics and therapy, far-reaching scientific discoveries including the role and structure of DNA, all described in Bo Lindell's personal narrative with many amusing and thought-provoking anecdotes. This book is free downloadable at: http://www.nks.org/scripts/getdocument.php? file=111010214696626; hardcopy is available at www.amazon.com.

The first two books, Pandora's Box and The Sword of Damocles, cover the history of radiation and protection from ancient Greece to the early use of x rays and radioactivity for medical and other purposes, and the development and first use of nuclear weapons. Both books have received rave reviews, e.g., in the Journal of Radiological Protection. You can download both from a review of the series posted by the Nordic Nuclear Safety Research (NKS) website at http://www.nks.org/en/news/bo-lindells-history-of-radiation-radioactivity-andradiological-protection.htm. The final part (The Toil of Sisyphus) is currently being typeset and will be available in the next few months.





THE IRPA YOUNG GENERATION NETWORK (IRPA YGN) WHERE ARE WE NOW?

(SYLVAIN ANDRESZ, AKIHIRO SAKODA, FRANZ KABRT, IRPA YGN)

Since the implementation of its new structure in 2018, the IRPA Young Ceneration Network has drafted a Strategic Agenda for the 2018-2020 period to lay out how the IRPA YCN intends to address its activities for the following years in line with its vision and objectives. This article aims to provide an illustration of the implementation of the Strategic Agenda with no intention to be exhaustive but to pinpoint some key actions.

The Portrait initiative initiated in 2019 aims to collect and advertise portraits from young professional and scientists, members of IRPA AS. A specific layout has been drafted with questions about the daily job in radiation protection, how this fit in the career framework and views and refection on the future of the profession. There are also a few funny questions!

This is all about giving visibility to young radiation protection professionals and scientists, and also information and sharing. The portraits already collected are available on the IRPA YCN website and the objective is to add regularly new portraits.

IRPA YGN is not limited to action of animation and networking but also involved in more professional and science grounded activities. Two actions illustrate this.

When it comes to the future of radiation protection, the Japan Health Physics Society (JHPS), in collaboration with IRPA and the Japanese Society of Radiation Safety Management (JRSM), organized the Joint JHPS-SRP-KARP Workshop of Young Generation Network on 'The future of radiation protection profession' at Tohoku University in December 2019. This workshop was fueled by previous discussions held at the IRPA YGN session in the 5th Asian and Oceanic IRPA Regional Congress on Radiation Protection (AOCRP-5, May 2018, Melbourne, Australia). The purpose was to encourage the active participation of young professionals and promote the interaction of several YGNs to help them establish mentoring scheme in their area of interest. The workshop gathered more than 70 participants from 13 countries and it is expected to publish a synthesis of the reflection in a scientific journal. A brief general report can be seen in IRPA Bulletin No.24.

A little bit later, in January 2020, the Nuclear Energy Agency (NEA) held a 3-days-workshop at Lisbon, Portugal to exchange experiences and identified approaches to better achieve radiation protection under the different exposure situations and how to achieve it at best given the circumstances (may it be scientific, economical, societal and ethical).

The programme committee was keen to include the views of the young professionals and what the new generation can bring to the theme. So, there was sent an appeal to the members of the IRPA YCN to join the event. Within the workshop young members from different background met and discussed the topic and on day-3, these young professionals gathered at a plenary session to show the audience their findings.

It was decided to explore the use of innovation and cutting-edge tools for optimization purposes:

- Social media and other up-to-date communication tools: The TV series Chernobyl was brought up. This format is rather new to cover a radiation protection topic. The public interest can be seen by increasing hit rates of corresponding radiation protection Wikipedia's articles at the release dates of the episodes. It also shows the public different aspects of radiation protection, which were probably not considered usually. Social media is a key challenge for communication and radiation protection professionals growing up with these media can use these tools properly for a fast and constructive communication in both ways.

- Crowdsourcing and how it can mutually beneficiate to the public and the experts were also explored: An example for crowdsourcing is navigation systems, where the optimized route is calculated based on the data of other users. Wikipedia, where everyone can contribute by writing an article, belongs also to crowdsourcing tools and the analysis of the hit rate after releasing the Chernobyl TV series is an example of the usage.

- Artificial Intelligence and its place in radiation protection has also been discussed, notably for decision-making in complicated situations. Artificial Intelligence – under its different form – offered great opportunities but also brought new challenges and ethical decision e.g. about the use of data and the transparency and ownership of the decision. Autonomously driving gives a good example which kind of questions come up.

The presented issues provided a fruitful basis for a discussion with the audience. A very interesting exchange of different views and new input for reflecting was the consequence.

All in all, it was a great experience for the young IRPA YGN members, who are grateful that they have been given the opportunity to contribute to the workshop in this way.

What's next?

The next chronological milestone for IRPA YGN is IRPA-15 congress (Seoul, South Korea, postponed to January 2021). At the congress, the IRPA YGN will contribute to the Future of Radiation Protection Session and in the Women in Radiation Protection Session. Thanks to the Organizing Committee, a specific time in the Innovation in Radiation Protection Special Session has been allocated to the IRPA YGN. The IRPA YGN has decided to raise the question "Does Artificial Intelligence have a place in Radiation Protection?" with a few keynotes from young speakers and time for a round table. Attendance to this session is not limited in age, feel free to come participate!

The Strategic Agenda is available in the document section of IRPA website.



Due to Corona-crisis, the long-planned meeting of the TG-leaders (Alexandre Legros, Julien Modolo) and the EC liaison (Klaus Henrichs) in Paris had to be changed into a video conference. In 2019, the experts nominated for TG membership by the Associate Societies (AS) had been asked to inform about their fields of expertise and formulate their expectations. On this basis, a working document "Terms-of-Reference (ToR)" has been drafted, which is currently circulated for discussion among those experts responding to the previous mailings.

After adoption by the TG (May 2020), this document will be the basis for the workplan. Following the expectations of the AS (questionnaire in 2016), it was already decided to cover not only issues concerning electromagnetic fields but also optical radiation. It is the intention of the TG-leaders to initially address the general public communicating the status of knowledge about health risks including ICNIRP recommendations and IEEE-ICES standards (exposure limits).

Finally, it must be stated that less than half of the nominated experts responded to the mailings sent out by the TG leader. The AS are kindly asked to check whether their nominations are still up to date.



The Egyptian Society for Nuclear Sciences and Application (ESNSA) held its 12th International Conference during 15-18 February 2020 in Hurghada, Egypt, with 200 participants from Africa, Europe, and majority were from Egyptian Atomic Energy Authorities and Egyptian Universities. The program included daily invited talks and scientific sessions and several workshops, including the 3rd Radiation Protection Workshop as IRPA-Egypt is the radiation protection group of ESNSA.

At the 3rd workshop, there was presentations by radiation protection experts in the fields of transport of radioactive materials, medical diagnosis and therapy, regulations and mining. Peter Johnston, Director of Radiation, Transport and Waste Safety and Security Division of IAEA, presented the International Basic Safety Standards, via video-conference; and I gave a presentation on the roles of the international organisations, such as UNSCEAR, ICRP, IAEA, ILO and IRPA, in the field of radiation protection, with highlighting the role of IRPA –Egypt.

THE AUSTRIAN RADIATION PROTECTION ASSOCIATION, EARLY MEMBERS OF THE INTERNATIONAL RADIATION PROTECTION ASSOCIATION (IRPA)

(ALEXANDER BRANDL, AUSTRIAN RADIATION PROTECTION ASSOCIATION)

The Austrian Radiation Protection Association (German: Österreichischer Verband für Strahlenschutz - ÖVS) is the non-profit professional organization connecting scientists, educators, first responders, regulators, and operational professionals in health physics / radiological protection in Austria. We are proud to have been serving our members, our country's decision makers, and the general public in Austria for more than 50 years. Our main objective is to motivate and support cooperation and collaboration between institutions and individuals in radiological protection in the country, and to support effective emergency response for radiological incidents or accidents. To this effect, we aim to provide a platform for information exchange and to maintain a wide network of national and international scientists, professionals, and organizations in radiological protection. Our initiatives include support for our members, in particular our more junior members, to participate in international congresses, dissemination and discussion of current information and recent developments in the field, and the organization of professional conferences and workshops. Our main emphasis over the last decade, or so, has been the maintenance of expertise and knowledge transfer from our experienced members to the next generation of radiological protection professionals. Awards and stipends for students and young professionals are designed to motivate the pursuit of studies in radiological sciences and to stimulate retention of young professionals after completion of their degrees. Individual members of the ÖVS and the Association have maintained an excellent reputation, nationally and internationally, in the field, such that our work and expertise are valued in political and socio-economic discussions regarding the use and application of sources of ionizing and non-ionizing radiation, as the ÖVS is the independent professional association in radiological protection in Austria.

The ÖVS was an early member of the International Radiation Protection Association (IRPA), which was founded in 1965. The ÖVS was founded and joined IRPA in 1966; we celebrated our 50-year anniversary together with our members in the festive ambience of a historical Viennese meeting venue in 2016. Over the decades, our members have been prolific in the science and profession of radiation protection, and they have been active, not only within Austria, but also at the international level. Their involvement has earned them high regard and elected service to IRPA in various leadership positions. Two of our former or current members have served as IRPA President, three as IRPA Vice President, and three on the IRPA Executive Council. They continue to support IRPA through information and outreach; Fig. 1 shows former IRPA President and Vice President R. Czarwinski and IRPA Executive Council member A. Hefner with a member of the ÖVS Executive Council, F. Kabrt, at a poster display of IRPA during a conference of the International Atomic Energy Agency (IAEA) at the Vienna International Centre. Other members have been and are involved regularly in the activities and initiatives of IRPA, contributing to IRPA working groups and task groups and providing comments and feedback on questionnaires and documents disseminated by IRPA.

The efforts by our members and their contributions to the international radiological protection community were recognized by the award to the ÖVS of IRPA 9 in Vienna in 1996. The ÖVS was honored to welcome IRPA leadership, the representatives of the IRPA associate societies, and international speakers and participants for the 9th International Congress of IRPA at the Hofburg in Vienna. We believe that the resounding success of that congress provides further testimony to the hard work, professional integrity, and personal engagement of our members. We are proud to have recognized early that support for the next generation of radiological protection professionals is crucial for maintaining expertise in our field. Already in 1981, the OVS initiated an award competition for young scientists and professionals, rewarding early career achievements in the systematic study and responsible application of sources of ionizing and non-ionizing radiation. The Žakovsky-Award, in the meantime, has been awarded 24 times; the fact that F. Kabrt (Fig. 1) was one of the more recent awardees shows that our efforts to retain our junior members in the profession are met with some success. The earlier Żakovsky-Award was supplemented by the Konrad-Mück-Stipend in 2002 to support students in radiological protection. This stipend has been awarded to 11 students since its inception. Additionally, the ÖVS also supports student research exchange with other European countries to conduct part of their thesis or dissertation research at an institution abroad. Most importantly, however, we aim to provide opportunities for our young scientists and professionals for integration in the international network of radiological protection professionals. We routinely sponsor conference travel and participation for our junior members to a variety of conferences and workshops, including also participation in the Young Scientists and Professionals Award competition at International Congresses of IRPA or IRPA Regional Congresses. In Fig. 2, the Austrian participant in the Award competition is introduced together with the other competitors during an IRPA Regional Congress.

In support of our objective to facilitate cooperation and collaboration and information exchange, we organize regular conferences for our members. Twice a year, during our spring and fall meetings, we invite national and international presenters to introduce and discuss current topics in radiological protection. These meetings are intended to provide pertinent information to our members, but also to allow for informal exchange with the speakers and with each other during the course of the meetings. On a less regular basis, and frequently in collaboration with other European societies, we co-organize larger conferences which, since they are located regionally, are easier to attend for our members than some of the larger international or regional congresses. Fig. 3 shows the participants of a week-long conference co-hosted by the ÖVS and the Swiss-German Fachverband für Strahlenschutz (FS) in Baden, Austria.

Our members are professionals in science and education, in governmental organizations or regulatory agencies, with first response organizations, or as consultants for or employees with licensees. Their experience and expertise collectively comprises an important part of Austria's radiological protection professional capital. The ÖVS, therefore, also serves as an important partner and consultant in matters related to our profession. Through our website and publications we aim to inform and educate the general public, and our members help draft, review, and revise new national legislation and recommendations pertaining to radiological protection. On the international level, our working groups and individual members support the development and implementation of radiological protection standards and guidelines.

In summary, the ÖVS is an independent professional association whose members provide experience and expertise in a wide range of occupational and professional settings related to the use and application of ionizing and non-ionizing radiation. Individual members and the Association are recognized nationally and internationally for their expertise, integrity, and personal engagement. For more than 50 years, we Association are recognized nationally and internationally for their expertise, integration, our initiatives to motivate and support the next generation have been serving the Austrian general public and decision makers with distinction. Our initiatives to motivate and support the next generation of radiological protection professionals, hopefully, will allow this tradition to continue for at least as long into the future.

THE AUSTRIAN RADIATION PROTECTION ASSOCIATION, EARLY MEMBERS OF THE INTERNATIONAL RADIATION PROTECTION ASSOCIATION (IRPA)

(ALEXANDER BRANDL, AUSTRIAN RADIATION PROTECTION ASSOCIATION)



Fig. 1: Former IRPA President and Vice President R. Czarwinski (center), IRPA Executive Council member A. Hefner (right), and member of the ÖVS Executive Council F. Kabrt (left) staffing a poster display for IRPA during an IAEA conference



Fig. 2: The representative of the ÖVS to the Young Scientists and Professionals Award competition, L. Jägerhofer (third from right), together with the international co-competitors during an IRPA Regional Congress



Fig. 3: Participants of a conference co-hosted by the ÖVS and the FS in Baden, Austria