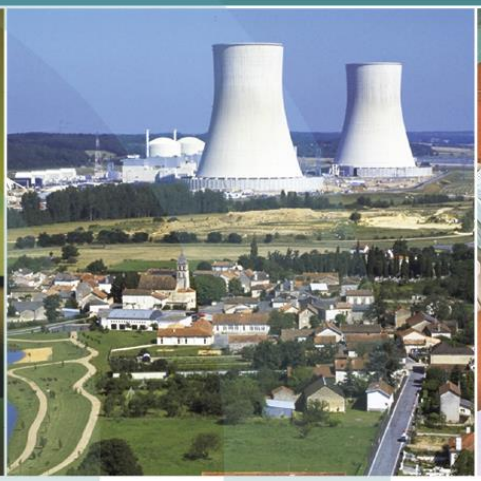
IRPA

INTERNATIONAL RADIATION PROTECTION ASSOCIATION

IRPA **EXECUTIVE COUNCIL REPORT** FOR THE TERM **2016 – 2020**



IRPA **EXECUTIVE COUNCIL REPORT** FOR THE TERM 2016– 2020

EDITION 2020

IRPA EXECUTIVE COUNCIL REPORT FOR THE TERM 2016 – 2020

President's Overview

The term 2016-2020 has seen significant growth and expansion for IRPA, both in terms of the depth of our programmes and of our influence over the developing international landscape of radiation protection.

There are many highlights of the four year term, as follows.

We have consolidated our role as 'The International Voice of the Radiation Protection Profession'. Our voice is both sought after and listened to by our international partners such as ICRP, IAEA and WHO. This is particularly important at this time, where many people are starting to reflect on the next iteration of our 'system of protection'. IRPA undertook two consultations with our members on key issues, covering general views on the system of protection and 'reasonableness in optimisation' – sharing our practitioner perspective with our international organisation colleagues.

We developed a wider range of Task Groups and work programmes:

- New Task Groups were established on Non-Ionising Radiation and NORM in Industry
- We recognised the importance of our profession engaging actively on public understanding, and through our Task Group and other experts we developed and published 'Practical Guidance for Engagement with the Public on Radiation and Risk'.
- Other publications on key topics were published:
  - Guidance on Certification of a Radiation Protection Expert
  - Guidance on Eye Dose Monitoring and Protection
  - Radiation Safety Culture in Healthcare Facilities
- The Young Generation Network was formally launched and is very active and successful, led by young professionals, for young professionals – representing the future of our profession.

Our four Regional Congresses (Africa, Asia/Oceania, Latin America and Europe) were well attended and met local needs. They had very good Refresher Course training lectures, and scientific programmes which reflected regional priorities and international experiences. The Regional Congresses planned for 2022 will be supplemented by a new addition – the North American Regional Congress. Sadly the IRPA15 International Congress planned for May 2020 in Seoul, Korea, had to be postponed due to the Covid-19 pandemic and has been rescheduled for January 2021, essentially as a virtual event with a small local in-person event in Seoul.

It was right to give attention to matters of internal administration. After wide consultation we adjusted our rules to help ensure a better balance in the elections to the Executive Council. We upgraded our website, improved communications with the Associate Societies, and we are making changes to our constitution and associated rules to bring our practices into the modern age.

IRPA has been busier than ever, but this success presents challenges in ensuring that we can meet the demands upon our limited resources – essentially the time and effort that the IRPA community, including the Associate Societies and our individual members, can voluntarily give to our programmes. Despite this challenge, IRPA is well placed to prosper, with a well-recognised role to play both at an international level and in supporting the Associate Societies.

We are ready for the future.

Roger Coates

IRPA President 2016-2020

1. Introduction

The International Radiation Protection Association (IRPA) is an independent non-profit association of radiation protection professionals joining through national and regional radiation protection societies (the Associate Societies - AS).

The **Mission Statement** of IRPA is as follows:

IRPA is the international professional association for radiation protection. Through national and regional Associate Societies and radiation protection professionals, IRPA promotes excellence in radiation protection by providing benchmarks of good practice and enhancing professional competence and networking. IRPA encourages the application of the highest standards of professional conduct, skills and knowledge for the benefit of individuals and society.

IRPA is recognized by its members, stakeholders and the public as the international voice of the radiation protection profession in the enhancement of radiation protection culture and practice worldwide

As part of its current Strategic Plan IRPA has declared the following **Vision**:

IRPA is the international voice of the radiation protection profession

Our strategic priorities for this period 2016 – 2020 are grouped under four headings:

- To promote our role as the international voice of the RP profession through engagement with other international organisations and professional bodies on the development of the system of protection, giving emphasis to impacts on practical implementation.
- To support the needs of the Associate Societies by developing, enhancing and sharing good practice and high standards of professionalism.
- To support the education and training of RP professionals
- To enhance IRPA Governance and the interface with the Associate Societies.

The programme of activities to address these priorities was developed and published on the IRPA website. This report sets out the progress made by IRPA and the Executive Council for the period up to the IRPA15 International Congress in January 2021,

2. International Voice of the RP Profession

Fig.1 shows schematically the relationship of the international organizations and professional bodies in the system of radiation protection. It identifies the primary functions of organizations in the four pillars of science, principles, standards and practice, and underlines the organizations having a leading role and a responsibility in these functions.

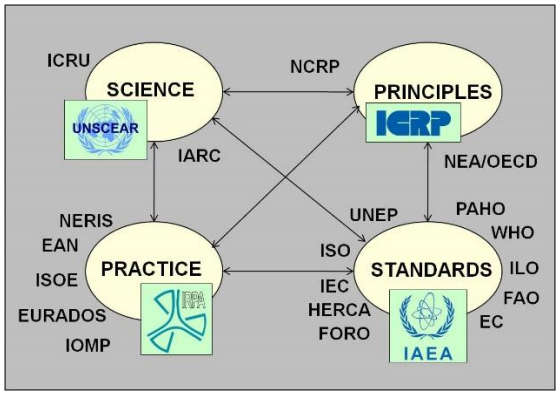


Figure 1: The Four Pillars of Radiation Protection

Noting our Vision as 'the international voice of the radiation protection profession', IRPA has the pre-eminent role in the generic field of 'practice'. Our strength is the involvement of professionals/practitioners across all fields of radiation protection, covering scientific research, teaching, regulation, medical practice, nuclear and non-nuclear industry, national/international policy and all other fields. Through more than 18,000 members in 53 Associate Societies covering 67 countries, we encompass the full spectrum of national experiences, from large developed countries through to practitioners working in small developing nations.

It is noted that the diagram is not an exhaustive identification of all the organizations involved in radiation protection worldwide. The diagram also illustrates the evolution of the international organization of radiation protection with the increasing role of professional networks.

IRPA has established excellent relationships with many of the international organisations engaged in the practice of radiation protection, and through these relationships we seek to influence the development of international principles, standards and practices by providing the perspectives and experiences of the practitioner.

2.1 Discussion/consultation on the System of Protection

A defining feature of many international meetings and conferences during the past several years has been the emphasis given to the future development of the system of protection. This has focused the minds of many international organisations, including IRPA. During this term IRPA completed a widespread consultation across the Associate Societies on the effectiveness of the system of protection.

The outcome of the consultation was published in the open literature and is available through the website*. The principal issues raised in the consultation include general perceptions of the system, risk uncertainties at low dose, the context of natural background exposure, dose limits and limitation, ALARA and reasonableness, and public understanding and communication of radiation and risk.

*https://iopscience.iop.org/article/10.1088/1361-6498/aa9e5c

This has been a major IRPA focus for this term, and this high profile will continue for the foreseeable future as those organisations involved in the development of the system of protection, principally ICRP, become increasingly engaged on the next set of general recommendations for the system of protection. The consultation output has provided the basis for IRPA's engagement in many presentations and discussions on this key theme. For example, IRPA was invited onto a panel discussion on the 'Future of Radiation Protection' during the meeting marking the 90th anniversary of the formation of ICRP and ICRU, held in Stockholm in October 2018. The IRPA contribution is attached as Appendix 3.

There are three closely-related themes that are particularly important from IRPA's perspective:

- Over-conservatism in our assessments and approaches: There is a need for the degree of conservatism to be proportionate to the level of risk, and to be aware that conservatisms in the choice of many parameters in assessments usually multiply together so that the outcome can totally over-estimate exposures to a very significant extent.
- Effective use of the Graded Approach in regulation: This is a well-established regulatory principle, aiming to apply increasing levels of regulatory stringency as the level of risk increases – i.e the extent of regulation should be proportionate to the risk. However, its application in practice is highly variable and patchy, often resulting in regulatory requirements which are unnecessarily strict for the circumstances.
- Consideration of what is 'Reasonable' in optimisation/ALARA: This is the dominant factor controlling exposures in any well-developed system of protection. However, there is a significant concern within the profession that an overly-simplistic approach,

perhaps plus natural regulatory caution, is leading to continuing expectations of ever lower doses. There is therefore a need to develop a wider consensus on what may be understood to be 'reasonable' in various situations. To this end the French RP Society (SFRP), in association with IRPA, held two workshops on this topic, with the conclusions published*. IRPA also engaged in an NEA Workshop on this topic [Lisbon, January 2020]. *https://doi.org/10.1051/radiopro/2019037

One common theme here is the increasing need to provide wider society with better value, including value for money, from our radiation protection practices. IRPA contends that we are spending too much of society's resources on saving very small doses, and we need a better framework within which we can judge what is appropriate.

These key themes were integrated into a consultation on a draft 'IRPA Statement on Reasonableness in the Optimisation of Protection'. Following a first round review and comment by the Associate Societies, a revised set of Guiding Principles on 'Reasonableness' is currently undergoing a wider review by the AS and also by our key international partner organisations, with the intention of publishing the final guidance early in 2021.

2.2 Cooperation and Partnership Activities of IRPA

2.2.1 IAEA

IRPA has observer status at IAEA's Radiation Safety Standards Committee (RASSC). Several presentations have been made, in many cases reflecting the above key IRPA issues. We were also presenters at the Agency conference on Implementation of the Bonn Call for Action, the Education and Training Steering Committee, and also at the Agency's RP2020 conference in November 2020. Agency staff are engaged in several of our work programmes, in particular on radiation safety culture in healthcare facilities, and we are also pleased to involve IAEA in all our regional and international congresses.

2.2.2 ICRP

IRPA is recognized by ICRP as a Special Liaison Organization, and in this capacity we are pleased to attend their annual meeting of SLOs, which typically explores issues within the system of protection. We also have observer status on Committee 3 (Medicine) and Committee 4 (Application of the Commission's Recommendations), and IRPA members have been nominated to the following Task Groups:

- TG 106: Application of the Commission's Recommendations to Activities involving Mobile High Activity Sources
- TG 109: Ethics in Radiological Protection for Medical Diagnosis and Treatment
- TG 114: Reasonableness and Tolerability in the System of Radiological Protection

IRPA responded to the following consultations on ICRP draft reports;

- ICRP/ICRU Operational Quantities for External Radiation Exposure
- The Use of Effective Dose as a Radiological Protection Quantity
- Application of the Commission's Recommendations for the Protection of People and the Environment in the Event of a Large Nuclear Accident
- Radiological Protection from Naturally Occurring Radioactive Materials (NORM) in Industrial Processes

We were very pleased to provide our ongoing financial support to ICRP, and also to support ICRP's initiative on 'Free the Annals', for which we also commended support from the Associate Societies.

2.2.3 NEA/CRPPH

IRPA is recognized by NEA as a Special Liaison Organization, and in this capacity we are pleased to attend their meetings of the CRRPH. It is an occasion to provide comments on the CRPPH activities and also to communicate on the IRPA activities to all CRPPH members. IRPA participated in several NEA workshop including on the SHAMISEN (Nuclear emergency situation, on stakeholder involvement in Nuclear Decision-Making, and on risk communication in 2019.

2.2.4 WHO/PAHO

During this four year term IRPA had the opportunity to participate in various round tables on key healthcare issues alongside WHO and PAHO.

We very much appreciate that WHO offered to make the professional editor available free of charge for publication on the IRPA/WHO/IOMP/IAEA Joint Initiative on Radiation Safety Culture in Healthcare. IRPA also recently invited WHO and PAHO, along with all the major international organisations, to give their vision on reasonableness in optimisation.

2.2.5 ICRU

IRPA provides a financial grant to support the work of ICRU. In support of this relationship we attended ICRU meetings as observers. As noted above we provided comments on the draft ICRP/ICRU report on Operational Quantities for External Radiation Exposure.

2.2.6 ICNIRP

IRPA enjoys a special relationship with ICNIRP since ICNIRP was chartered as an independent commission (to continue the work of the International Non-Ionizing Radiation Committee (INIRC) of IRPA) during the 7th IRPA International Congress in Montreal in 1992.

IRPA participated in an ICRP and ICNIRP joint meeting in November 2017 organised by the World Health Organization (WHO). The objectives of this meeting were to: increase mutual understanding of the approaches to protection; reach a common understanding of the state of the systems of protection; and explore possibilities for continued collaboration.

At the meeting ICRP and ICNIRP reached an agreement in principle to strengthen communication and collaboration between them and with other organisations with similar interests.

2.2.7 European Commission Article 31 Group

IRPA is an observer at the Article 31 Group meetings.

2.2.8 Heads of European Radiation Control Authorities (HERCA)

IRPA was invited to present views on the future of the system of protection.

2.2.9 Inter-Agency Committee on Radiation Protection (IACRS)

IRPA attends IACRS meetings as an observer. IACRS recently celebrated its 30th anniversary of the thirteen involved international organisations working together towards consistent and comprehensive radiation protection and safety principles and criteria. Of particular note was a comprehensive explanation of the current position regarding radon dose coefficients, following statements from UNSCEAR and ICRP.

2.2.10 International Labour Organization (ILO)

IRPA gave support to a proposal for ILO to formally recognize safety and health as a fundamental principle and a right at work.

2.2.11 International Organization for Medical Physics (IOMP) cooperation

Medical Physics is a broad profession in the healthcare sector, applying the concepts and techniques of physics in many sub-fields. As such it is broader than radiation technologies and radiation protection, but many medical physicists have a significant engagement in protection activities.

IRPA's radiation protection interests in the medical field focus on occupational and carer exposures, together with a broad interest in the justification and optimisation of patient exposures, including learning to avoid unplanned exposures and incidents. Issues relating to detailed treatment exposure planning and dose assessment, equipment calibration, quality control arrangements and wider issues relating to radiation technologies are beyond the normal engagement of the RP expert, and

fall within the scope of the Medical Physics Expert.

The Medical Physics Expert, as formally defined, is focused on radiation physics as applied to medical exposure, including those topics identified above which are outside the normal engagement of the radiation protection practitioner. As noted above many medical physics practitioners are also engaged in wider protection issues such as occupational exposures in healthcare.

It is therefore important for IRPA and IOMP to promote cooperation and joint working on our areas of common interest.

IRPA and the IOMP engaged in several work areas together on several initiatives during the period 2016–2020. The purpose of the Memorandum of Agreement signed between IRPA and IOMP in March 2012 was as follows:

- To develop guidance for fostering and enhancing radiation protection culture in health care,
- To foster medical physics in developing countries.

IRPA Executive Officer Bernard le Guen promoted the engagement of IOMP, WHO and more recently the IAEA in the IRPA initiative on developing medical safety culture in health care.

This resulted in the organization of joint workshops. The Executive Officer was invited by IOMP to present the outcome of this joint work at the June 2018 IOMP World Congress on Medical Physics and Biomedical Engineering in Prague (Czech Republic).

At a later stage, in September 2019, the IRPA Executive Officer was officially invited by IOMP in Santiago de Chile to participate in a session on the 'Future of Radiation Protection in the Medical Field'. On this occasion, the IOMP Executive Council set up an international session in their Executive Council meeting to discuss forthcoming joint actions.

IOMP also appointed a representative in the IRPA Public Understanding Task Group. With IOMP, IRPA is seeking enhanced cooperation between the RP and Medical Physics societies at a national level. This is the best way to work all together on Radiation Protection.

2.2.12 Ibero-American Forum of Radiation and Nuclear Safety Regulatory Agencies (FORO)

IRPA and FORO were invited to participate in their respective events as stated in the Practical Arrangements on Cooperation Activities signed between the parties.

The IRPA executive officer was invited to speak on the IRPA initiative on Radiation Safety Culture during the FORO event at the IAEA General Conference in September 2018.

2.3 Technical Agreements with international organizations:

ISRRT Radiographers

There is a long tradition of mutual interest between ISRRT (International Society of Radiographers and Radiological Technologists) and IRPA. During the 2016-2020 term, IRPA continued its ongoing cooperation with the medical field, which culminated in a

Memorandum of Understanding signed between IRPA and ISRRT in May 2016.

The purpose of this collaboration is:

- to recognize that both organizations can complement each other in promoting the safe use of radiation,
- to enhance the cooperation between both organizations in promoting high standards and ethics in radiation protection.

Consequently, the two organizations have committed to:

- organize joint events or sessions in the safe use of radiation
- exchange the link to ISRRT and IRPA website on their own webpage
- invite a designated representative of the other organization to participate in respective-events and venues
- send official letters of invitation for attendance of meetings.

2.4 Horizon scanning

In 2017, the IRPA Executive Council initiated an Horizon Scanning process, with the objectives of following key issues that might significantly impact the practice of radiation protection internationally, and sharing these major developments with the IRPA community through the IRPA website, news, and other means.

A page on the IRPA website was launched shortly thereafter, listing an initial set of issues to be followed:

- Practical aspects of the proposed revision to ICRU operational quantities
- Developments in tissue reactions and related science
- Assessment of dose to the lens of the eye
- Low-dose and low-dose-rate risk, and LNT for radiation protection
- Optimisation of radiation protection For (paediatric) Patients
- Revision of radon dose coefficients
- Practical radiation protection: reasonableness, conservatism and the graded approach
- ICRP review of the system of radiological protection

The intention is to maintain a relatively short list of the highest-priority issues. Each includes a brief description of the issue, and updates outlining major developments are provided primarily through the IRPA Bulletin and website. Executive Council members assigned to each issue provide information for further dissemination as developments arise.

The Executive Council regularly reviews and, as needed, revises the list of issues. Associate Societies are welcome to provide their views on this through any member of the Commission on Publications or Executive Council.

Please refer to the website*, or go to www.irpa.net and navigate to "Topics" - "Horizon Scan" to see the latest list of issues.

*http://www.irpa.net/page.asp?id=54778

3. Good Practice and Professionalism

3.1 New Societies and Associate Society Development

The Societies Admissions and Development Committee (SADC) is one of the standing committees of IRPA. One of its objectives is to encourage and support radiation protection societies that are not affiliated to IRPA to apply for Associate Society status according to the rules. The following progress has been achieved so far:

- A new society has become member of IRPA: the Chilean radiation protection society (SOCHIPRA). The admission process was successfully completed - it has been admitted by the EC on 3 November 2020. With Chile, the IRPA family has now 53 Associate Societies covering 68 countries
- The Turkish society RADKOR (Radyasyondan Korunma Uzmanlari Dernegi Association) that is the

association of Radiation Protection Experts has officially presented their application to become affiliated to IRPA. Negotiations are in progress.
- Other countries whose associations have been contacted are: Belarus, Cape Verde, Caribbean countries including Jamaica, also Georgia, Guatemala, Mongolia, Paraguay, United Arab Emirates and Ukraine. The progress towards their integration in IRPA will be a long process in many of them. However, the "seed" is planted and further contacts could make it fruitful.

The second objective of the SADC is to support and encourage the development of professionalism in all Associate Societies through the identification and sharing of good practices in the operation and activities of societies, and to support collaborative working on the development of additional relevant practices and activities. The main events to share good practices and to establish cooperation are the AS Forums organised in conjunction with the IRPA international and regional congresses.

There are proposals from the SADC to organize a section at the IRPA website hosting AS materials on good practices. It can be either posters or concise datasheets about good practices like, for instance: Membership Structure; Young Persons; Public Understanding and Outreach; Regulatory and Government Liaison; Professional Standards and Guidance; Career Information and Guidance; International Liaison; Member Communications. This initiative should be further developed in the following term.

3.2 Education and Training

Education and Training (E&T) is a key factor in establishing effective national radiation protection programmes. The IRPA E&T Plan (2008-2020) has been developed through three main lines:

- Cooperation with international and regional organizations dealing with E&T in Radiation Protection.
- Internal stimulation of E&T within IRPA by organizing Refresher Courses and including E&T in the discussion forums during IRPA Congresses.
- Encouragement and support to the organization of E&T activities either by IRPA or by its Associate Societies.

3.2.1 International Cooperation on Education and Training

Cooperation has continued with the IAEA, by participating in the Steering Committee for Education and Training in Radiation Protection and Waste Safety, which comprises representatives from regional and collaborating centres, international organizations and the IAEA Secretariat. IAEA Member States have made significant progress in developing and strengthening their legal and regulatory framework for E&T in radiation protection and safety, and have built a core of staff and trainers that have been trained through various IAEA courses. This process will continue during the following period, and given the alignment of objectives with IRPA, the cooperation will continue. Also, in the European context, cooperation is continued with the EUTERP Foundation (www.euterp.eu) platform on European Training and Education in Radiation Protection, having participated at two workshops: in 2018, during the IRPA Regional Congress in The Hague, and in 2019 in Malta. These workshops aim at discussing policy issues and the implementation of E&T in radiation protection, for all professionals dealing with ionizing radiation.

In 2017, IRPA co-organised the ETRAP conference (6th International Conference on Education and Training in Radiological Protection), together with the Belgian Nuclear Research Centre (SCK•CEN), the European Nuclear Society (ENS), EUTERP, and the Polytechnic University of Valencia, in collaboration with the IAEA. The full proceedings are available at https://www.etrap.net/etrap-2017 . In March 2021, a new ETRAP Conference is being prepared (https://www.etrap.net/) that intends to bring together training providers, policy makers, radiation protection experts,

regulators and authorities and end-users. It will discuss the latest findings and developments in the field, with emphasis on the challenges and opportunities of online and distance learning forced by the COVID-19 pandemic, and what can be the useful outcomes for the future. This conference is organized by SCK:CEN and the University of Groningen, in collaboration with EUTERP, IRPA and IAEA.

3.2.2 IRPA Refresher Courses

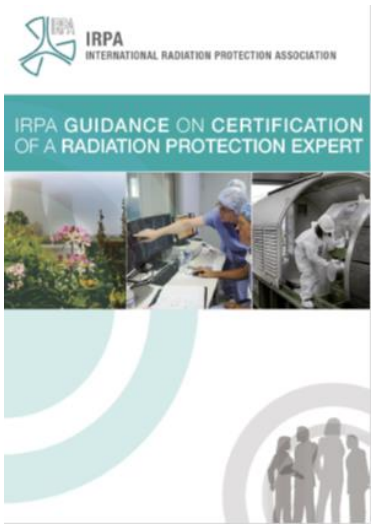
One of the most demanded and traditional component of the IRPA international and regional congresses is the Refresher Courses (RC) programme. RCs provide participants with the opportunity to update their knowledge in specific areas of RP science and practice. They are aimed either at providing a broad overview of the current state of a given topic, or at giving experienced practitioners a more detailed understanding of up-to-date developments in a field. They also offer obvious benefits in terms of radiation protection culture enhancement. Guidance on RCs has been included as annex to the Guidance for Organisers of an IRPA Regional Congress.

The number of RCs during the term 2016-2020 is quite large, and if extended to the period 2008-2018 it reaches a figure of about 150 courses. The IRPA 15 congress will feature 25 RCs. They constitute a valuable asset for all RP professionals, which IRPA wishes to preserve properly on its website, making them accessible to everyone.

RCs are evaluated by distributing a questionnaire on the quality and degree of satisfaction of attendees. The feedback received from the Regional Congresses in 2018 is in general positive, with also some suggestions for improvement provided.

3.2.3 Task Group on Certification of the Radiation Protection Expert

The TG on Certification of the Radiation Protection Expert (RPE) was active between 2013 and 2016, co-chaired by Kent Lambert (HPS) and Colin Partington (SRP). In 2016, at the IRPA14 Congress, the last draft of the Guidance Report was presented and discussed. Final comments were collected and the report was finished and published in November 2016. The objective of this IRPA Guidance Document is not to offer a single template of how to establish a certification scheme, but rather to explore and describe the different options and approaches, to identify their respective strengths and weaknesses, and to outline the key considerations which must be taken into account when introducing and establishing such schemes.



The key attributes of an RPE certification scheme are discussed: the scheme management and governance; the scope of the role to be certified; the requirements for certification as an RPE; the assessment methods; renewals of certifications; Code of Conduct; appeals, disciplinary aspects, withdrawal of certification and insurance cover; accreditation of the scheme and reciprocity. The document is complemented with useful relevant annexes.

3.2.4 The Future of Our Profession (Human Capital)

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. There are many facets to this challenge, covering for example:

- Making STEM (science, technology, engineering and maths) subjects more attractive for prospective students
- Effective marketing of RP as an attractive and rewarding career
- Provision of relevant university courses and radiation research funding
- Effective education, training and knowledge transfer for new entrants to the profession
- Providing support networks, recognition and career progression for young members of the profession (note IRPA's emphasis on the Young Generation Network).

Several Associate Societies and national and international organisations have programmes to address some of 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.

3.3 Young Professionals Program

The period 2016 to 2020 was a very fruitful period in respect of the Young Generation. As well as the well-established awarding of young scientists and professionals during the International (South Africa, 2016) and the 2018 Regional Congresses (The Hague, Havana; Tunisia and Melbourne) there were many opportunities for young members to meet at these events and discuss their problems. This led to the development of an effective leadership group for the Young Generation Network and the establishment of a wider network.

Christoff Stettner from the Austrian Association began as interim leader. A first survey was arranged to have an overlook on all ideas for a YGN (Young Generation Network) and to categorise them. This survey was the first step to find out the status quo in the different Associations. It asked about the description of the work of their young members, the future projects and if there are existing Young Networks. The outcome was that only a few associations had such a Network.

During the EC meeting in Madrid 2016 it was the first time that the YGN was directly represented. They illustrated the difficulties of the young people in having enough time and support from their employer to work in the Network.

In 2017 Sylvain Andresz from the French Society took over the lead and initiated together with Pete Bryant of the UK Society an

international survey and the results have been presented at several meetings.

Also 2017 young members of the French, UK, Japanese and Austrian Associations formed a core group of the Young Generation Network. Several online meetings were held, and other new members from South Korea (with A. Sakoda becoming the first YGN secretary), USA, Ghana, Tunisia and Spain have been welcomed into the group. The survey results have been shared online on the IRPA YGN newly installed Website (www.irpa.net/irpa_mini.asp?site=YPN/index.asp)

In autumn 2018 a connection with EUTERP was established, and also with the Korean Association (KARP) regarding young persons' activities at the upcoming IRPA15 Congress. Also the first proposal of "Terms and conditions for the operating of the IRPA YGN" was laid down and also a strategic agenda for the period 2018 to 2020.

In 2019 new members (Czech Republic and China) have been welcomed and further online meeting of the YGN group have been realized. Important was also the participation in a meeting of IRPA and NEA to explore a career framework agreement.

In May 2018, an integrated session on "Young Generation Network (YGN)" was held during the Melbourne AOCRP-5 Regional Congress. Young leaders from the region joined the session and discussed creating a network among themselves.

Melbourne Australia May 2018

In December 2019, the Joint JHPS-SRP-KARP Workshop of YGN, which was organised by the IRPA YGN members, was held in Sendai, Japan. Seventy-eight RP professionals and students from 13 countries joined the workshop. Participants visited the Fukushima Daiichi site and then shared current status and future plans in their YGN activities, followed by discussion of some current issues in RP and its allied field.

Sendai Japan Dec. 2019

Future priorities for the YGN include:

- More education and training sessions for the young persons
- More YGNs should be created in the different associations around the world.
- Improving the interface with the IRPA EC.
- The YGN should also bring in new ideas and communication tools like Facebook, Twitter etc.
- Establishing better integration of the YGN within the Regional and International IRPA conferences as well in other radiation protection conferences and seminars. Also more attraction should be given to young people to take part in congresses.

3.4 Radiation Protection Culture: General and Medical

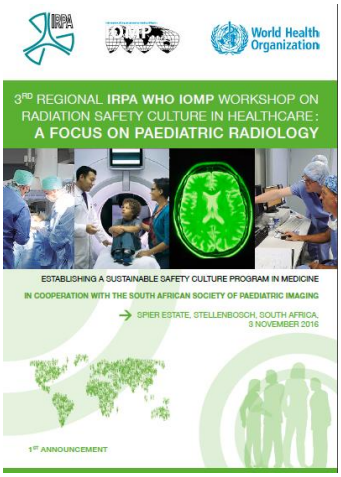
The trends in healthcare, across the globe, involve rapidly advancing scientific and technological developments, and their implementation. Radiation safety culture (RSC) is becoming a topic of increasing interest and importance globally. Note that 'RSC' is a more appropriate term than 'radiation protection culture' because it aligns with the wider safety culture approaches, of which it is a subset. Culture incorporates both characteristics and attitudes of organisations and individuals, and includes the ideas, values, and customs and social behavior. IRPA does have a legitimate role

to play in the medical sector. As a follow-up of the publication of the Guiding Principles for Establishing a Radiation Protection Culture in 2014, a joint initiative of IRPA, IOMP, IAEA and WHO, has been the radiation safety culture in healthcare. While radiation safety of patients and staff is getting improved, there is a need for actions to develop a culture of safety and to integrate the actions with safety culture of the hospitals. The Bonn call for action in 2012 encourages every organization and stakeholder to contribute to the implementation of 10 Actions where RSC is well identified as action 8 "Strengthen radiation safety culture in health care"

A series of workshops were organized in various regions of the world in the course of the 2016-2020 term, gathering representatives from health care providers, regulatory bodies, health authorities, manufacturers, and patients' associations, to collect feedback and identify key elements of RSC. The aim of these workshops was also to collect safety and culture issues in different regions to help in setting priorities for establishing and maintaining RSC.

These consisted in plenary and breakout sessions to discuss the process of establishing and maintaining radiation safety culture in RSCHC.

- The 1st RSCHC for Latin American countries was held in Buenos Aires in April 2015, with a focus on stakeholders' engagement;
- The 2nd RSCHC for European countries took place in Geneva at WHO headquarters in December 2015, aiming at identifying key elements in each area;
- The 3rd RSCHC for African countries in South Africa was held in November 2016, (with the IAEA as a sponsor), its main topic being pediatric imaging;



- The 4th RSCHC for the Middle East and Arabic Countries in Qatar took place in February 2017 and looked at challenges from advanced technologies;

Doha Qatar Feb. 2017

- In November 2017, the 5th RSCHC for Asian and Pacific countries in Kuala Lumpur, Malaysia, was sponsored by the IAEA and handled the integration of RSCHC into the broader concept of patient safety;
- And finally, the 6th Regional Workshop on Radiation Safety Culture in Health Care (RSCHC) for North American countries, USA, (February 2019) was supported by HPS and focused on dialogue about guidance and tools.

San Diego Feb. 2019

In addition, during Regional IRPA Congresses and IOMP Congresses, this initiative was

presented by IRPA and discussed with the audience:

- AOCRP05 (May 2018, Melbourne, Australia),
- IOMP WC2018 (June 2018, Prague, Czech Republic),
- AFRIRPA05 (September 2018, Tunis).

The purpose was to develop a framework document providing guidance for the establishment and maintenance of a Radiation Safety Culture, as part of a sustainable safety culture program in health care settings. It is up to RP professionals to develop, at the highest level, their own policy statement relating to radiation safety culture and also for it to be owned at the highest management level in organizations. It is indeed organizational structures that determine how people interact with each other, how communication flows and how relationships are defined. It also reflects the value based choices made by the professional society The final regional workshop was organized in San Diego in February 2019, and was an opportunity to present and discuss the preliminary draft. The final document will be presented at the IRPA15 Congress and published in early 2021.

We have a motto for the radiation safety culture initiative which is: 'Embedding Radiation Protection at a common cultural level within an organization is by far the most effective way of delivering the performance to which we all aspire'. Continuous improvement in Radiation Protection is our common responsibility!

3.5 RP Culture in Higher Education, Research and Teaching (HERT) TG

The TG is led by Pete Cole (UK SRP) and has a membership from the following countries: Austria, Colombia, Italy, Ghana, Japan, Netherlands, South Africa, UK and USA. The TG has produced a document containing '10 points for developing a good RS Culture in HERT sectors'. Steps have been taken to translate this document from English into other languages, including Spanish (circulated to Latin American countries) and Japanese. In Ghana the '10 points' were presented at a meeting of Ghana Atomic Energy Commission Radiation Protection Institute and were received well. In Japan there has been a questionnaire to seek further information, and survey work has been conducted on "Trial Activities on RS Culture Improvement in the Japanese HERT Sector". Results from some organizations relating to this work will be shared at the IRPA15 Congress.

In the UK, the Association of University Radiation Protection Officers (AURPO – a partner society of the SRP) developed and conducted a survey to assess the current state of radiation safety culture in UK HERT sectors. The preliminary results of this survey were presented at the 5th European IRPA Congress in The Hague in May 2018, and a paper is being published in the Journal of Radiological Protection.

The TG aspires to establish a dedicated HERT RS Culture webpage on IRPA website with a view to populating this page with useful resources that can be downloaded and adopted by IRPA Associate Societies throughout the world. The TG also aspires to develop a 'Radiation Safety Toolkit' for the HERT sectors which could be downloaded from the webpage. Such a 'toolkit' might include:

- Briefing notes on RS Culture in HERT sectors for CEO's and senior HERT managers
- The '10 points' document for good RS culture in HERT sectors
- Newsletter templates/examples
- Case studies
- Videos of good and bad RS practices.
- UK and Japanese culture survey results.
- Information about RP professional societies, the benefits of membership, and instructions on how to join (with membership application forms included).
- Templates for feedback questionnaires and suggestion forms, methods for establishing and running an RP discussion forum on the organisation's website, and instructions on how to use Twitter to garner RP comments from staff and students.
- Training resources such as slides, videos, suggestions for practical exercises, exam

questions, and quizzes for use by RP workers and other RP trainers/coaches.

3.6 Public Understanding *TG,*

Experiences from past emergencies, including the accident at TEPCO's Fukushima Daiichi Nuclear Power Plant in 2011 and the following post-disaster recovery, highlight public understanding as one of the most important challenges, and this challenge is common across all public interfaces regarding radiation and risk. There is a growing need and interest for the Associate Societies to enhance their programmes in this important area, and also for every individual radiation protection professional to become much more engaged and competent in communicating with members of the public. This is a key but challenging activity which needs further support. IRPA therefore continued a TG activity for Public Understanding based on the results in the previous TG on Public Understanding (2013-2016). The current TG has a membership from the following 13 countries: Argentina, Australia, Austria, Belgium, Canada, Hungary, Italy, Japan, Netherlands, South Africa, South Korea, UK and USA, and from IOMP. The objective of the TG was broadened from sharing materials to assisting the AS and individual professionals to better understand the challenges of communication, and to be better equipped to meet them in all relevant situations including normal activities, emergencies, and post- accident recovery.

A series of workshops was organized in various regions of the world from 2018 to 2019 to develop "IRPA Practical Guidance for Engagement with the Public on Radiation and Risk".

- In June 2018, the work of the IRPA TG on public understanding of radiation risk, and the progress towards establishing guiding principles for communication and engagement with the public, was discussed at the 5th European Regional Congress.

The Hague, Netherlands, June 2018

- The first IRPA regional workshop on 'Communication and public engagement of IRPA Societies' was supported by RICOMET in June 2018, gathering representatives from the Associate Societies in Europe to identify key elements for guidance.

Antwerp, Belgium June 2018

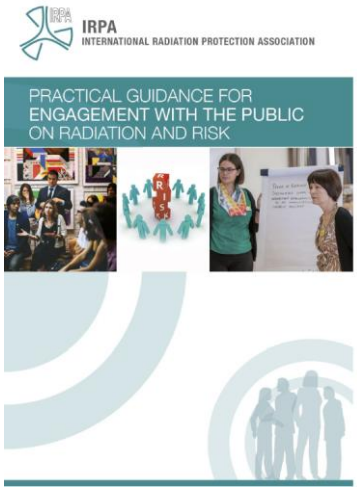
- In RICOMET 2019 Barcelona Spain, "Towards improved communication and engagement with publics: Consultation about the IRPA draft guidance with the RICOMET delegates" was presented by the TG member, Tanja Perko, which consulted with the conference participants about possible improvements of the IRPA draft guidance.
- In July 2019, "IRPA Workshop on Guidance for Engagement with the Public'" took place in association with the HPS Annual Meeting in Orlando to collect feedback on the IRPA draft guidance from participants.

In addition, during Regional IRPA Congresses and other meetings, the initiatives of the TG and the guidance were presented by IRPA and discussed with the audience:

- AOCRP-5 (May 2018, Melbourne, Australia),
- 5th African IRPA Congress (September 2018, Tunis, Tunisia)

- SRP Annual Conference (May 2019, Scarborough, UK)
- JHPS Annual Meeting (December 2019, Sendai, Japan).

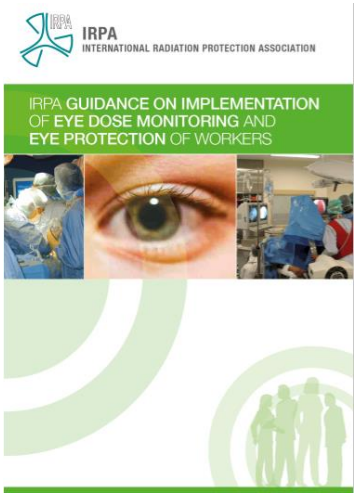
In 2019 the IRPA draft guidance was then issued for consultation of the Associate Societies and the final guidance was published in September 2020. The objective of the guidance is two-fold. Firstly, it is to enthuse all of us in our profession to become more active public advocates for radiation protection. Secondly, it is to provide information, experiences and techniques to help us to become more effective and comfortable in this challenging task.



In a closely related activity IRPA issued encouragement and guidance for AS to engage in reviewing and editing the content of Wikipedia relating to radiation. Wikipedia is often the first port of call for non-specialists wanting to find out about radiation. It is therefore very important that what is written is accurate and reliable, and we as Radiation Protection Societies can all play our part to help ensure that this is the case. What is not widely understood is that changing a Wikipedia entry in one language does not automatically carry through into other languages – there is no translation system. Hence the AS should review the content in their local language and ensure that it remains accurate.

3.7 Other IRPA Task Groups:

3.7.1 Eye Dose TG



In 2012 IRPA established a TG to identify key issues in the implementation of the revised eye lens dose limit. The TG reported its conclusions in 2013. In 2015 a second TG was created to review progress. In 2017 the results of the survey on the view of the professionals of the IRPA Associate Societies on the new limit to the lens of the eye and on the wider issue of tissue reactions, was presented in the new IRPA TG document 'Report of Task Group on the impact of the Eye Lens Dose Limits'. The TG also developed further guidance, 'IRPA Guidance on Implementation of Eye Dose Monitoring and Eye Protection of Workers' to provide practical recommendations about when and how eye lens dose should be monitored in the framework of the implementation of the new ICRP dose limit for the lens of the eye, as well as guidance on use of protective devices, depending on the exposure levels. This was published in 2017.

In 2019, within the third IRPA TG, a new survey was launched with the objective to collect and report the experience and the evaluation of the radiation protection community about:

-the methods for monitoring dose to the lens of the eye and protecting the eye lens;

-the implementation of the revised lens dose limit in the different countries and occupations, such as medical applications (including radiology, interventional radiology and

cardiology, nuclear medicine, etc.), nuclear applications, and industrial applications in general;

- wider implications of implementing the revised limit .

Answers to this new survey were received from 34 countries and the analysis of the outcome was published in the scientific literature: https://doi.org/10.1088/1361-6498/abb5ec .

The thematic of this IRPA TG has attracted significant attention and not only in relation to IRPA events, or to scientific article, but in the same period, e.g.:

- ICRP Publication 139, 2018. 'Occupational Radiological Protection in Interventional Procedures' notes that dose constraints for the lens of the eye have been reviewed by IRPA 2017, and that monitoring procedures for the lens of the eye have been provided by ISO 2013, IAEA 2014, and IRPA 2017 [1];

- IAEA dedicated a page 'New Link of the Eye Area' in relation to IRPA Website on the lens [2];

- the OECD NEA Mandate for Expert Group EGDLE, in 2019, indicates interaction of the new NEA group with international organisations as ICRP, IAEA, IRPA and ISOE [3];

-the international webinar, 2018, organised by the Canadian Nuclear Safety Commission, invited speakers from ICRP and IRPA in the session dedicated to the implementation of the dose limits for the lens of the eye [4].

1) ICRP, 2018. Occupational radiological protection in interventional procedures. ICRP Publication 139. Ann. ICRP 47(2).
2) https://www.iaea.org/newscenter/news/new-lens-of-eye-area-on-the-irpa-website
3) https://www.oecd-nea.org/tools/mandates/index/id/7972/lang/en_gb
4) http://nuclearsafety.gc.ca/eng/acts-and-regulations/consultation/history/dis-13-01-webinar.cfm?pedisable=true

3.7.2 Security of Sources TG

The Task Group on Security of Sources had been already initiated during the previous IRPA EC term. During the current term there has been little progress towards establishing a work programme for the group.

3.7.3 NORM in Industry

IRPA identified that the regulation and management of naturally occurring radioactive material (NORM) is an important area that would benefit from more active involvement of practitioners. Following consultation with the AS, IRPA therefore established a Task Group on NORM in Industry, which commenced in April 2019. The TG is led jointly by Jim Hondros (Australia, ARPS) and Rainer Gellermann (Germany, FS), with membership from Argentina, Australia, Belgium, Czech Republic, France, Germany, Ghana, Italy, Japan, Netherlands, Nigeria, South Korea, Spain, UK and USA.

The primary purpose of the TG is to provide practical expertise to increase awareness of issues related NORM in industry and to develop a common understanding of requirements, good practice and challenges faced by industry practitioners and regulatory bodies. This is all within an international context where significant diversity of national and technical conditions exist.

IRPA recognizes that from a practical perspective, it is critical to ensure that controls are commensurate with the actual risk and that NORM is not over-managed or over-regulated. In this regard, there is a need to identify good practices for a graded approach to regulation.

Activities to date are as follows:

- Establishment of the TG, including introductions by all members,
- Refinement of the TG Terms of Reference,
- Development of an action plan in response to the ToR items,
- Presentation on the role of TG at a recent IAEA NORM Webinars,
- Responding to recent the ICRP draft document on NORM,
- Delivery of paper describing the TG at NORM IX in Denver
- Commencing collation of practical examples of regulation of NORM.

3.7.4 Non-Ionising Radiation TG

The IRPA EC identified an increasing need to develop a strategy for activities in the field of Non Ionising Radiation (NIR).

In the spring of 2018 IRPA sought views of AS on whether, and if so then how, IRPA should engage with a higher profile in the field of NIR. The response was an overwhelming 'yes', with a broad remit to develop an active role in line with IRPA´s extensive programme in ionising radiation – that is both to act as the International Voice of the Profession and also to share good practices and ideas around our societies. An overview of the responses received was provided in the IRPA Bulletin (No 19, November 2018).

Some AS already had a very active engagement in this field, and they recognised the importance of working to enhance the 'NIR' knowledge of their practitioners and to support those specialists engaged in this field.

A decision was taken by the IRPA EC at the 2018 June meeting to establish a Task Group on Non-Ionizing Radiation and Associate Societies were invited to nominate a member for this task group before end of 2018.

From the nominees, IRPA EC appointed Dr. Alexandre Legros as the NIR TG Chair and Dr. Julien Modolo as the Co-Chair at the July 2019 EC meeting.

After his nomination as a first step the TG leader made an inquiry among the nominated task group members asking their expertise, their field of interest and their expectations concerning the future cooperation. The answers are currently evaluated.

4. Enhancing Effectiveness of IRPA

The IRPA EC recognized the need to upgrade some of our internal systems in order to provide a better service to the Associate Societies. Particular attention has been given to improving the website and to developing the IRPA Bulletin as key communications tools. The opportunity has also been taken to update the Rules and propose changes to the Constitution in order to align with modern practices. This will be considered at the upcoming General Assembly during IRPA15.

A new procedure for determining the 'IRPA view of the profession' has been established, noting that as the "voice of the profession", IRPA is expected and must be able to formulate positions and opinions. This is available on the website.

4.1 Financial Management and the Montreal Fund

In general, IRPA finances remained stable during this period, with dues at $3.50 per member (discounted for Associate Societies in developing countries, based on their per capita income level), as in the previous period. We also received the proceeds from the IRPA-14 Congress in South Africa ($129,000). The EC decided to take almost one half of these proceeds ($57,000) to support increased stakeholder engagement activities and to contribute $12,000 to ICRP's "Free the Annals" campaign. Consequently, the monies spent on stakeholder engagement increased from a budgeted amount of $65,000 to approximately $122,000. This includes EC member travel to various conferences and meetings to "show the IRPA flag" and represent the views of the practitioners at the international level, and a grant of $15,000 to the AFRIRPA-5 Regional Congress in Tunis (2018).

The AS have been diligent in paying their annual dues to IRPA and at the end of this period only a few of the active AS are in arrears. As the dues are the main source of income, IRPA´s diverse activities depend on receiving AS dues on time.

Dr Richard Toohey, who had been IRPA Treasurer since 2008, resigned due to personal reasons in 2019, and the EC resolved to appoint Sigurd Magnusson as Treasurer. IRPA is most grateful to Dr Toohey for his devoted service.

The Montreal Fund, which exists to provide bursary support for the attendance of

professionals (particularly younger persons, and those from lesser developed countries) at IRPA congresses and other significant conferences, received contributions from the Colombian, Netherlands, Russian Federation and UK AS in the amount of $12,407, and disbursed $8,430 to AFRIRPA-5 for support of young professionals. The Montreal Fund also received a very generous contribution of $3 000 from Dr. Eliseo Vano, the recipient of the IRPA15 Sievert Award. IRPA is most grateful for continued support of the Montreal Fund, which currently contains about $60,000. Support for attendance at the IRPA15 International Congress in the amount of $ 30,000 will be provided.

4.2 Publications and Communication

The Commission on Publications plays a major role in IRPA communications through the IRPA website (which includes the IRPA News), the IRPA Bulletin, social media, and other means.

The IRPA Bulletin has published quarterly without fail since it was established in 2014. The 29th issue will be released in March 2021. The Bulletin's motto, "For RP Professionals, by RP Professionals", reflects both its main purpose, and how each issue is developed. While some news articles are written by members of the Executive Council or Commission on Publications, most come from Associate Societies sharing news of interest to radiation protection professionals world-wide. Written originally in English, a network of volunteers from Associate Societies translates each issue to assure the widest possible distribution. Issues have been translated into Arabic, Chinese, Spanish, Japanese.

Recently there has been a trend to keep each issue of the IRPA Bulletin relatively short, to ease the translation work and make it easier for readers to rapidly scan the main stories. Articles that require more detail continue in longer form through links to the IRPA News.

The IRPA website saw a major overhaul towards the beginning of the 2016-2020 term. It now has a more modern look, is more functional, and is easier to navigate with most information available in two clicks or less. Additional back-end functionality has also been added that could enable even more useful features in the coming term.

IRPA joined the world of social media with a Twitter account in September 2013. Progress has been slow but steady, now with about 300 tweets (most within the last few years) and nearly 1000 followers. IRPA also has a presence on Facebook (IRPA0), with more than 2400 followers and nearly that many likes.

As social media is now mainstream, a key focus in the coming term is likely to be improving the frequency and quality of social media posts on Twitter, Facebook, and likely other platform. This will increase followers to ensure IRPA is the international voice of the radiation protection profession on social media.

Another key role of the Commission on Publications in the term has been to support proceedings of international, and, increasingly, regional, IRPA congresses. An enormous undertaking at the beginning of the 2016-2020 term was the preparation and publication of the proceedings of IRPA14 Cape Town, comprising well over 2000 pages in 5 volumes. Working with ICPC Chair Jack Valentin, and IRPA14 President Thiagan Pather, several volunteers spent hundreds of hours to make the proceedings a reality. Now, the Commission on Publications focuses its involvement on providing advice to congress organisers, and logistical support related to publishing under the IRPA banner.

4.3 IRPA Questionnaire Outcome

During each four-year term, IRPA arranges for a questionnaire seeking information and opinion from the Ass, which was sent out in 2019. Of the current 53 Associate Societies located in 66 countries, 21 responded, representing a 42% response rate. This result is way below our expectations (for example compared with 27 responses of 50 ASs in 2016). The 21 Associate Societies having responded represent

approximately 2/3 of IRPA's membership (18,000+ members).

According to the survey respondents, over 80% of the ASs have a website, while over 62% publish a newsletter on a regular basis. The respondents have organized a total of 188 meetings/ workshops/congresses with RP professionals in 2017 and 2018, representing some 4 to 5 meetings per AS per year.

Also, of the 21 respondents, 15 (71%) Associate Societies have adopted a Code of Ethics. 13 ASs (i.e. 62%) are involved in training of professionals but only 3 (14%) play a role in the accreditation of professionals. 7 Associate Societies (33%) have developed and published standards or guidance documents. In addition, 14 ASs (67%) have special arrangements to promote the involvement of young members.

43% of the ASs reported having appointed a delegate to an IRPA Task Group. It is worth mentioning that almost 50% of the ASs have signed a partnership with other ASs. In addition, 52% of the ASs have organized joint meetings with neighboring societies.

16 Associate Societies (76%) are involved in governmental/regulatory advisory bodies or in responding to consultations at a national or local level.

Among local initiatives and specific activities launched by the ASs and targeting the public at large, we can name just a few: in France, for instance, where specific meetings were organized on the effect of non-ionizing radiations for physicians. There were also an Annual Radiation Protection Meeting targeting high school students.

The Spanish Society has designed a successful section on their website, providing information to the public with questions asked that are answered by volunteer experts.

The UK Society (SRP) has an section with Answers to Frequently Asked Questions (FAQs) about radiation at large and has also developed a glossary of terms and concepts behind radiation sciences.

To conclude 86% of the ASs stated that they are satisfied with IRPA's communication, and 90% are satisfied with IRPA's developed guiding principles.

4.4 Constitution and Rules update

There were two distinct drivers for updating the IRPA constitution and rules, as follows.

Firstly it was recognised that the arrangements for elections to the Executive Council had not consistently resulted in what was regarded by some as a balanced composition, particularly in terms of geographical representation. The EC therefore decided to hold a consultation amongst the AS regarding options available for improvement. The outcome identified that whilst there are many factors relevent to 'balance', including age (or length of experience), field of experience, and gender, none the less regional representation was viewed as important. Taking account of this outcome the EC decided to amend the rules so that a maximum of five places on the EC could be held by any one region. Strengthening the arrangements for proxy voting at the General Assembly was also introduced to ensure that those AS unable to attend can allocate their votes to other delegates who are present. The EC believes that these changes will help to ensure a better balance of representation on the EC.

Secondly, it was recognised that the basics of the constitution are over 50 years old and that some changes are appropriate to reflect modern practice. The proposed changes are not substantive, but aim to move from procedures based on mail-based communications and paper-based ballots to the internet and electronic age, together with using more up-to-date terminology.

5. Congresses Overview

5.1 General (rules, guidance and arrangements)

The IRPA Congresses are perhaps the best known features of IRPA's programme. There is an International Congress every four years, hosted by an Associate Society (or societies) decided by the General Assembly. In the mid-year of this four yearly cycle there are four Regional Congresses covering Africa, Asia/Oceania, Europe and Latin America, with the locations decided according to regional discussions. The congresses provide for the exchange of experiences amongst practitioners, discussions between the Associate Societies, and an opportunity for the key international organisations to present their programmes for discussion by the profession.

IRPA has drafted 'Guidance on the Organization of Regional Congresses*', which is kept under review. The guidance is also largely relevant to an International Congress.

* http://www.irpa.net/page.asp?id=54758

5.2 IRPA13 International Congress, Cape Town – May 2016

IRPA14 was organized by the Southern African Radiation Protection Association (SARPA) and the South African Radiation Protection Society (SARPS) under the leadership of Congress President Thiagan Pather and Jack Valentin, Chair of the ICPC. The theme was 'Practising Radiation Protection: Sharing the Experience, and New Challenges'. There were 872 delegates from 68 countries, 47 exhibitors, around 300 oral presentations, 750 posters, and 20 Refresher Courses.

There were 20 entrants for the Young Scientists and Professionals Award, and the Sievert Lecture was given by Dr John Boice from the USA. One morning was devoted to the 50th Anniversary of the founding of IRPA, with presentations reviewing the historic development of radiation protection through the eyes of the Sievert Lectures and a panel discussion on 'Key Challenges of an NGO in Radiation Protection', looking at issues facing IRPA and the Associate Societies.

The congress scientific proceedings were published on the IRPA website*, and 44 papers were selected for publication in the peer-reviewed journal Radiation Protection Dosimetry.

*http://www.irpa.net/page.asp?id=2

5.3 IRPA Regional Congresses

5.3.1 XIth Latin America Regional Congress, La Havana, Cuba, April 2018

This congress was organized by the Cuban Radiation Protection Society with the support of FRALC. The congress theme was ¨Safety Culture, a shared commitment¨. The Congress was attended by more than 400 participants from 22 countries. The Thematic Sessions covered all the radiation protection topics and ten Refresher Courses were delivered. There was a Young Professional Award and, for the first time in a Latin America Regional IRPA Congress, a thematic panel on gender took place.

Young generation award in Cuba

5.3.2 5th Asian and Oceanic Congress on Radiation Protection, Melbourne, Australia, May 2018

The congress was organized by the Australasian Radiation Protection Society (ARPS) with support of AS from Asia as well as IRPA, IAEA, ICRP, IOMP, UNSCEAR and WHO.

The theme of the congress was "Key Issues in Radiation Protection: Evolving Standards, Risk Perception and Opportunities". It was attended by more than 300 participants from 16 countries. An integrated YGN session was held for networking. Prizes were awarded for the Best Young Scientist and Best Poster. Special sessions were held on Radiation Protection in Medicine, Emergency Response and Preparedness, and Safety Culture in Healthcare. In a special roundtable session with representatives from industry, regulators, and national and international authorities, participants discussed the regulatory challenges and opportunities of NORM in mining and mineral processing.

20–23 MAY 2018
MELBOURNE CONVENTION & EXHIBITION CENTRE
OCRP5 2018
5TH ASIAN & OCEANIC IRPA REGIONAL CONGRESS ON RADIATION PROTECTION
Key Issues in Radiation Protection | Evolving Standards, Risk Perception & Opportunities

5.3.3 5th European Regional Congress, The Hague, Netherland, June 2018

The 5th European Regional IRPA Congress was organized by the Dutch Society for Radiation Protection (NVS) under the leadership of Hielke Freerk Boersma. The congress took place from June 4 to June 8 in the historic city of The Hague, Netherlands. The theme was "Encouraging Sustainability in Radiation Protection". Comprehensive material (proceedings, refresher courses, poster book, book of abstract, evaluation report) is available on the website https://irpa2018europe.com/.

621 participants were registered, among these 71 students and young professionals. 331 contributions were submitted (126 oral). Invited speakers gave a total number of 16 keynotes in four sessions introducing into the topic of the day. Among the invited speakers were representatives of the international organizations that supported the congress: IRPA, ICRP, WHO, IAEA, ICNIRP and the European Commission.

The poster sessions (14 in total, two parallel sessions) were held supported by digital screens. The sessions focused on the poster pitches with a time slot of 5 minutes each.

The NVS used IRPA2018 as the start of an outreach program for secondary school students. NVS-members prepared an interesting program consisting of three theoretical presentations along with an extended exhibition where students could do small experiments. A total of 150 students from secondary schools in the Hague region visited the event.

The new approach to Refresher Courses (no extra charge, at both 'basic' and 'advanced' levels) was very well appreciated.

The Young Scientists and Professionals Prize Competition showed an extremely high standard of both work itself and the presentations.

5.3.4 5th African Regional IRPA Congress (AFRIRPA05), Tunis, Tunisia, September, 2018

The AFRIRPA05 Congress was attended by around 200 delegates (~180 from Africa, from 25 countries) who were very enthusiastic and engaged well with the proceedings. There were 105 oral presentations and 102 posters (although with several 'no shows'). The advance organisation of the Congress was very challenging, after the untimely death of the president of the Tunisian society Dr. Azza Hammou in the summer of 2017. The cooperation of IAEA and WHO was central to the planning and development of the scientific programme, which comprised ten plenary sessions and seven

double parallel sessions – organised as medical and 'other topics', noting the importance of having a strong medical component for Africa. There were six refresher courses, three of which were medical.

The theme of the congress was **'Towards sustainability in RP'**, and this was reflected in many of the sessions. The final plenary was directly focussed on this theme, with clear challenges emerging. The session identified at least three key mechanisms for addressing some of the challenges identified.

- Noting the relatively small size and potential isolation of the RP community in Africa, it is vital to work together through **effective networks**. The Congress identified several networks which have recently been formed, or where new networks can be established:
    - African Regulators Network
    - African ALARA Network
    - AfroSafe
    - IRPA YGN (launched at this Congress)
    - African RP Society Presidents Meeting/Network (agreed at this Congress)
- Greater use of **sharing resources** between countries on a sub-regional basis. This applies in particular to education and training opportunities and key physical resources such as calibration facilities.
- The vital importance of **international support** was recognised, particularly from the IAEA and WHO, whose regional support programmes are essential at this time for sustainability of RP in Africa.

There was a short, focussed ASF which was immediately followed by the African launch of the YGN. There are two very keen leaders for the African network (Francis Otoo from Ghana and Tahar Hamida from Tunisia) who are now members of the IRPA YGN Leadership Committee. Nine candidates had declared for the Young Scientists Competition, but only five were able to attend. The winner was the only female, Ruth Njantang Nana from Ghana.

A session was held on **Public Understanding**, with presentations from IRPA (overview of our TG work), IAEA, WHO and the NORM sector. Another round table session was dealing with **education and training**, with presentations from IOMP, IAEA, IRPA, and three representative countries: Ghana, Algeria and Tunisia. Recognising the specific environment in each country, the key role of the international organisations to help establishing and maintaining effective education and training programmes was acknowledged, especially the IAEA through its regional training centres. Also the potential role of IRPA in order to provide reference education and training frameworks and course accreditation by the Associate Societies in some countries.

5.4 IRPA15 International Congress, Seoul, Korea, January 2021

The IRPA15 (www.irpa2020.org), hosted by the Korean Association of Radiation Protection (KARP) on behalf of IRPA, is a meaningful event being held for the second time in the Asia-Oceania regions, and its congress theme is "Bridging Radiation Protection Culture and Science – Widening Public Empathy.

The Congress was originally scheduled to be held in Seoul, Korea, in May 2020, but the outbreak of the worldwide Covid-19 pandemic made this date untenable and the Congress has been rescheduled to take place from 18th January 2021 until 5th February 2021. The Congress has also changed to the very first online & offline combined format in the history of IRPA, so-called 'hybrid' for IRPA15. The offline congress of hybrid IRPA15 will be held for two days on 18-19 January 2021 in COEX, Seoul, Korea for those who wish to participate in and

interact offline, while the virtual congress for both local and international attendees will run a further extended period for three weeks, aiming to bring out the hope and solidarity within the RP global community. This created many challenges for the International Congress Organizing Committee (ICOC), who had diligently prepared for the successful hosting of the IRPA15 for the past four and a half years. However, the overwhelming majority of the planned programme has been completed on the rescheduled timetable.

The ICPC (Chairman: Wolfgang Weiss) organized a Core Group with experts representing each topic area in the global radiation protection field. Furthermore, Corresponding Group members for supporting the Core Group were recommended by IRPA Associate Societies (AS), organizing an expert group comprised of about 60 people. The ICPC Core Group held face-to-face meetings every year in Seoul for the past three years to come up with a comprehensive scientific program. This scientific program includes a total of eight topic areas ranging from underpinning science to non-ionizing radiation.

The program at large was comprised of eight plenary sessions, 15 special sessions, four thematic sessions, and 48 technical sessions including eight 'Enhanced Topic' sessions. In particular, the special 'Open Session,' which is an opportunity for experts and the general public to hold discussions and share consensus on the vague concerns and fears about radiation exposure, is organized in line with the Congress Theme of IRPA15. In addition, joint sessions for IRPA together with IAEA, ICRP, ICRU, and WHO are prepared. Moreover, a special session for young scientists hosted by IRPA Young Generation Network (YGN) is organized, and a competition program is prepared for the Young Scientist Award (YSA). The 'Women in Radiation' is newly organized as a special session for female scientists in the RP field.

As E&T is a key component of IRPA's activities, twenty-five refresher courses also organized. These are all completed successfully thanks to the outstanding leadership and meticulousness of Chairman Wolfgang Weiss, who led the Core Group.

The ICSC (Chairman: Steven King) worked on recommending and selecting about 50 young scientists/researchers from developing countries who received a grant for registration fee in funding provided by IRPA-Montreal Fund (USD 30,000) or were sponsored by IAEA and WHO to attend IRPA15.

The '2020 IRPA Sievert Award' that aims at commemorating the achievements and memories of Professor Rolf M. Sievert, who was a pioneer of the radiation protection field, is given to Emeritus Professor Vañó of the Complutense University of Madrid in Spain. Professor Vañó, who receives the world's most prestigious award in radiation protection, is recognized for his unparalleled contributions to the development of radiation protection by the international community and his passionate devotion spanning over 30 years in the medical exposures in medicine and medical physics as Spain's first medical physics professor.

5.5 IRPA16 International Congress, 2024

At the IRPA General Assembly in Cape Town, May 2016, the delegates selected as the preferred candidate the proposal of the US Health Physics Society to hold the IRPA16 International Congress in Orlando, Florida. The HPS will present their detailed proposals for this congress, to be held 7–12 July 2024, for acceptance at the upcoming General Assembly.

5.6 IRPA Regional Congresses, 2022

Over recent times there have been four Regional Congresses held during the mid-year of the IRPA four year cycle. We are particularly pleased that in 2022 there will be a new addition to this pattern – there will be a North American Regional Congress, hosted by the US Health

Physics Society with support from both the Canadian and Mexican Associations.

- Asia/Oceania Regional Congress (AOCRP6): 6-9 February, Mumbai, India
- North America Regional Congress: 20-24 February, St Louis, US
- European Regional Congress: 30 May to 3 June, Budapest, Hungary
- African Regional Congress: 22-28 July, Accra, Ghana
- Latin American Regional Congress: April Santiago, Chile

6. Challenges for the Future

During the next IRPA term 2021-2024 the international radiation protection community will be giving considerable emphasis to the on-going development of the system of protection, leading eventually to the publication of a new set of ICRP general recommendations around the end of the decade. It is vital that IRPA engages with this process and is able to represent the viewpoint of the practitioner in these developments. Several relevant themes have already been progressed in the current term, and it will be important to continue to develop these further:

- **Reasonableness**: The optimisation of protection (ALARA) has been the driving force behind radiation protection progress for over 30 years. Decision-making is based on the ethical approach (beneficence, prudence, justice and dignity), discussion with the stakeholders and should include considerations of how to get the best value for society. With low doses, tolerability and integration of reasonableness have become indispensable elements of decision-making. IRPA must continue to develop approaches to 'reasonableness' based on views from the profession.
- **Conservatism**: As a profession we have often been too conservative in our approach. We emphasise prudence, and the uncertainty at low dose, but in day to day practice this has translated into the need to always take a *conservative approach* – in assessments, safety cases and operational judgements. This may be appropriate in some situations such as at higher exposure levels, but where exposures (and therefore risks) are low this is neither necessary nor helpful, and ultimately it inevitably introduces an intrinsic bias towards lower and lower doses. It is important that within our profession, when we take decisions based on exposure levels, that such decisions are based on a true knowledge of the exposures and not on assessments which include multiple conservatisms
- **Graded approach**: In essence this is the need for a proportionate approach to the regulation of radiation activities. Whilst the principle is accepted in the system of protection and in top-tier regulatory guidance, its application in practice is patchy at best. We should help to promote its application.
- **Decision-making at low dose**: Science continues its attempts to clarify the dose/response relationship at low doses, although uncertainties remain (and are likely to do so for some considerable time). Noting this uncertainty it is important to recognize that what we do know is that, at levels around a few mSv/y where we as RP professionals must make the majority of our decisions, the risk is at most very low and comparable to the risk from normal variations in natural background exposure. It would be helpful to consider a revised framework for how risks are viewed within the whole of the system of protection, ultimately giving more weight to everyday experiences, including the context of natural background exposures. Whilst recognising that LNT provides a prudent approach for the regulation of radiation activities, this wider perspective could provide additional insights into how to address lower levels of exposure.
- **Public engagement and risk communication**: IRPA recognizes the central importance of effective communication and engagement with members of the public impacted by

radiation situations. As a first step we have published guidance on how to become more effective in this necessary activity. We should now consider further steps to promote engagement and share experiences across the full range of situations which we encounter.

- **RP safety culture**: Culture-based approaches have become accepted as a key underpinning mechanism for improving protection in many situations. IRPA has indeed been leading this development, and it is important that we continue to explore and through international campaign share learning from the varied situations where culture-based approaches can make a real difference.

In all the above activities it is important for IRPA to work through effective cooperation with the key international organisations, including ICRP, IAEA and WHO.

There are several other key issues that IRPA must continue to address:

- **Future of the profession**: As already noted in this report, 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. There are concerns over the age profile of the current professionals, with a significant proportion approaching retirement age. There are many good ideas on how to address this issue, and IRPA should help explore and share these amongst the AS. As a part of this initiative we already have a well-established **Young Generation Network**, consisting of those who represent our future, and we must continue to encourage and develop this group.
- **Education and Training**: E&T is a key component of IRPA's activities. Our international and regional congresses play an important role in the training and development of the members of our profession. With the growing experience of on-line training there are other opportunities to facilitate effective learning across the profession.
- **Medical and Healthcare sector**: In the medical field there are both significant radiation protection challenges and also many exciting new developments. There are also some key interfaces, particularly between radiation protection practitioners, medical physicists, radiographers and radiologists. IRPA should continue to work with all these key players to develop and promote effective radiation protection practice across this sector.
- We will continue to support newly-established Task Groups in the fields of **Non-Ionising Radiation** and **NORM in Industry**.
- **Strengthening the interactions with the Associate Societies and RP practitioners**: As we can see above, there are many challenges within our profession. These can only be addressed through using the experience of all our members, and by sharing lessons and experiences effectively. We must work to include all RP professionals in IRPA activities to benefit from international exchanges between societies and colleagues, by looking at innovate ways to connect more to all AS and individual members especially where travel options are limited; and to further encourage all RP professionals to engage in IRPA AS.
- **New RP Societies**: We must also continue to support the development of radiation protection societies in countries and regions where there is no current professional RP network.

IRPA Executive Council
December 2020

Appendices -

Appendix1 IRPA & Stakeholders Meetings: Term 2016 – 2020

2016

June	IARCS	Vienna
June	RASSC	IAEA Vienna
June	Eurados	Munich Workshop
Sep	-	Nuclear Security Berlin Workshop
Sep	IAEA	General Conference, Vienna
Sep	IRPA	European Presidents Meeting, Germany
Oct	ICRP	Environment Workshop, Japan
Oct	OVS	Austrian Society 50th Anniversary
Oct	CIPRAM	Ibero-American Radiological Protection in Medicine:
Oct	HERCA	Paris Workshop: Medical Justification
Nov	EC	Article 31 Luxembourg
Nov	IRPA	Executive Council, Madrid
Nov	IAEA	E&T Steering Committee
Nov	IAEA	RASSC Vienna
Nov	ICRP	Meeting of Special Liaison Organisations, Vienna

2017

Jan	NEA	Paris Workshop on Stakeholders in Nuclear
Feb	IRPA	Radiation Safety Culture in Medicine, Qatar
Feb	IARCS	Web meeting
Feb	SFRP	Paris Workshop: ALARA & Reasonableness
March	HERCA	CT Optimisation, Vienna
March	SHAMISEN	Paris Workshop: Nuclear Emergency
April	KARP	IRPA15 ICOC/ICPC Seoul
April	COMET	Radioecology Symposium, Bruges
May	EC	Article 31 Luxembourg
May	Canadian RPA	Annual Meeting: IRPA overview
May	Japan HPS	Meeting on International Cooperation
May	ETRAP	6th Intl Conference on Education & Training in RP
Jun	IAEA	RASSC
July	WHO	REMPAN Geneva
Sept	IRPA	Executive Council Meeting, Reykjavik, Iceland
Sept	IACRS	19th IACRS Meeting, Washington
Oct	ICRP	Paris Symposium – System of Protection
Oct	IRPA	European Presidents Meeting, Vienna
Oct	WNA	RPWG meeting, Paris
Nov	EC	Article 31 Luxembourg
Nov	IAEA	RASSC
Nov	ICRP	Special Liaison Organisations Meeting, Geneva
Dec	IAEA	Intl Conference on Radiation Protection in Medicine
Dec	IAEA	Steering Committee on Education & Training

2018

Jan	India AS	Conference: 50th Anniversary of IARP, Mumbai
March	IAEA	Implementation of Bonn Call for Action
April	NEA	CRPPH Paris
Apr	IRPA	Latin America Regional Congress, Havana, Cuba
May	Israel AS	Israel RP Society conference, Tel Aviv
May	IRPA	Asia/Oceania Regional Congress, Melbourne
May	Nuc Reg Conf	Regulatory Information Conference, S Africa
June	IOMP	World Congress, Prague
June	IRPA	European Regional Congress, The Hague
June	IAEA	RASSC
June	RICOMET	Risk communication 2018, Antwerp
June	IRPA	Executive Council meeting, Milan
July	IRPA +	Medical Culture drafting group, Geneva
July	HPS	HPS conference , Cleveland, US

Sep	IRPA	African Regional Congress, Tunis
Sept	IAEA	General Conference, Vienna
Sept	FORO	General Conference side event: safety/security
Sept	NEA	Science & Values in RP Decisions, Milan
Oct	IAEA	Safety Culture in Medical Uses of Radiation
Oct	ICRU	ICRU Commission meeting, Stockholm
Oct	ICRP	Special Liaison Organisations Meeting, Stockholm
Oct	ICRP/ICRU	90th Anniversary Celebratory Meeting, Stockholm
Oct	WNA	RPWG Meeting, Stockholm
Oct	SFRP	European Presidents Meeting, Paris
Oct	SFRP	ALARA Workshop, Paris
Nov	INLA	Inter-Jura Conference on Nuclear Law, Abu Dhabi
Nov	ICRP	Committee 3 Observer, Beijing
Nov	ICRP	Committee 4 Observer, Abu Dhabi
Nov	EC	Article 31 Luxembourg
Nov	IAEA	RASSC
Nov	KARP	IRPA15 ICPC Seoul

2019

Feb	IRPA +	Medical Culture Workshop, San Diego
March	NEA	CRPPH, Paris
April	EUTERP	Workshop, Malta
May	HERCA	HERCA Board, Liverpool
May	CRPA	Canadian CRPA Conference, Ottawa
June	ICRU	Annual Meeting, Singapore
June	IAEA	RASSC Vienna
July	IACRS	Coordination Meeting, Geneva
July	IRPA	Executive Council Meeting, Orlando [during HPS Annual Meeting]
July	IRPA	IRPA Public Understanding Workshop
July	ISORD-10	Safety in Detection Technology, Taiyuan, China
Sept	WHO	Workshop: Ethical Aspects of RP in Medicine
Sept	IOMP	ICMP Congress, Santiago, Chile
Sept	ICRP	Special Liaison Organisations meeting, Paris
Sept	NEA	Workshop: Stakeholder Risk Communication, Paris
Oct	IRPA	European Presidents Meeting, Zagreb
Nov	EC	Article 31 Luxembourg
Nov	IAEA	RASSC, Vienna
Nov	ICRP	ICRP Symposium, Adelaide
Nov	ICRP	ICRP C3 and C4 Observers, Adelaide
Dec	IAEA	Steering Committee on Education & Training
Dec	Japan HPS	Annual Conference + YGN event
Dec	IRPA15	ICPC meeting, Seoul

2020 (Note: due to the Covid-19 pandemic, many activities have been postponed or cancelled)

Jan	NEA	Art of Reasonableness Workshop, (Lisbon)
March	IACRS	Coordination Meeting, (virtual)
June	IACRS	Coordination Meeting, (virtual)
June	EC	Article 31 (virtual)
Sept	NEA	CRPPH (virtual)
Oct	IAEA	NORM in Industry Conference (virtual)
Oct	HSRA	Jamaican regulatory authority launch (virtual)
Nov	IAEA	RASSC, Vienna (virtual)
Nov	IAEA	RP2020 Conference (virtual)
Nov	EUTERP	EUTERP Liaison Meeting (virtual)
Nov	EC	Article 31 (virtual)
Dec	IAEA	Steering Committee on Education & Training (virtual)

Appendix 2 IRPA EC members 2016-2020

President	**Roger Coates**	UK, SRP
Vice President	**Eduardo Gallego**	Spain, SEPR
Vice President for Congress Affairs	**Jong Kyung Kim**	South Korea, KARP
Executive Officer	**Bernard Le Guen**	France, SFRP
Publications Director	**Chris Clement**	Canada, CRPA
Treasurer	**Richard E Toohey***	USA, HPS
Elected Members		
Elected 2012	**Alfred Hefner**	Austria, OVS
	Ana Maria Bomben	Argentina, SAR
	Sigurdur Magnusson	Iceland, NSFS
Elected 2016	**Marie-Claire Cantone**	Italy, AIRP
	Klaus Henrichs	Germany, FS
	Hiroko Yoshida	Japan, JHPS

*Note: In March 2020, noting the extension of the term of office of EC members until January 2021 due to the Covid-19 pandemic, the Executive Council was informed that **Richard E Toohey** felt unable to continue in his role and therefore with regret accepted his resignation. **Sigurdur Magnusson** was appointed as Treasurer for the remainder of the term, and **Andrew Karam** (US HPS) was seconded to the EC to assist in financial control.

Appendix 3 IRPA Contribution to the Panel Discussion on 'Future Perspectives on Radiological Protection'

SSM Colloquium, Stockholm, 18 October 2018

Roger Coates, IRPA President

IRPA is delighted to be invited to contribute to this important discussion. The thoughts are based on the recent IRPA consultation on the system of protection, which has been published in the Journal of Radiological Protection and is available through the IRPA website.

We have a system of protection which essentially hangs together, even if quite complex and relying on a lot of 'fine print'. Whilst we can suggest some detailed changes, we recognise that the system provides a good basis for protection. Our main focus is on how it works at the level of the practitioner - those of us who deal with day to day activities, whether as regulators or front line practitioners in the medical field, industry or research, where we believe that there are some challenges in always delivering good outcomes for society.

Firstly we would like more recognition of the context of the normal radiation world, where each and every one of us receives a dose of at least 2mSv/y from natural sources, with many doses at much higher levels. We do not always recognise that any additional dose we consider in the profession is not an absolute dose. When we discuss a dose of say 0.3 mSv/y, the real situation is that it increases a person's overall dose from at least 2mSv/y to 2.3mSv/y. And as well as the large variation in natural background, we should recognise that individual lifestyle decisions by all of us can change this dose significantly, for example through moving house, where we go on holiday (eg to a scenically attractive high natural background area) and whether we choose to fly. This adds an extra 'Delta' to our dose which could easily be a significant fraction of a mSv/y, and these decisions are made without any interest or concern (and usually without knowledge) of radiation by the persons involved.

And quite right – these should not be issues of concern. But within our profession we agonise over much smaller contributions to dose, and sometimes ensure that society has to spend a lot of money to reduce exposures to much lower levels still – often well within the 'Delta' of variable exposure discussed above. The overwhelming majority of our RP decisions involve consideration of doses at a few mSv/y or lower, which in practice do not make a material impact on the overall dose received by an individual – it is still within the 'few mSv/y' range which is inescapable in our normal lives, and well within the variability of natural exposures.

Perhaps we have to reset the way in which we make decisions around the 'few mSv/y' range, where all that we really know about radiation risk is that 'if there is a risk, it is quite small'.

Having set this scene I would like to come on to what our profession can do to help us be more realistic and relevant, and avoid the drive towards unnecessary ever lower doses. The first thing is to be more conscious of how we address prudence and conservatisms. We need to recognise that what may be reasonable prudence at high doses may be over-conservative at much lower doses. The degree of precaution should be proportionate to the risk. Conservatisms usually multiply together in our assessment studies and regimes. As an example, the basis for the clearance process was set at 10 μSv/y, but because of multiple conservatisms in the assessment processes the impact of material being released is around one hundred times lower – at most a small fraction of a μSv/y. And this comes at a very significant expense to society – many hundreds of millions of dollars if all aspects are added up. Is this good value for society? For me it is not something I can

be proud of as an outcome from my profession. No-one has set out to deliberately achieve this outcome, we have just sleepwalked into it. But we must wake up!

Secondly, we must give more attention to what 'Reasonable' means in ALARA. Of course, optimisation has been a great success story – just look at the downward trend in nuclear industry occupational exposures. But there are now hints of an expectation of 'ever lower doses', with more attention on 'As Low As' rather than 'Reasonable' and a trend towards minimisation rather than optimisation. We therefore need to give more conscious thought to 'how low is low enough' in the various situations we address.

Thirdly, we must move towards a more effective application of the Graded Approach, especially in regulation. This would ensure a more proportionate use of society's resources, focussing greatest attention onto the higher dose activities.

So what does my future world of radiation protection look like? When additional doses are around the 'few mSv/y range and lower, where the total dose to an individual remains within the common range of natural background, then we should address protection issues within the framework of a radiation protection culture which is integrated within the wider safety culture of an organisation. This would ensure the leadership, engagement with affected parties, learning from experience and integration within effective procedures and QA which are equally important to all aspects of safety. For such exposures which impact on members of the public then of course there needs to be careful stakeholder engagement, such is the sensitivity of radiation, but we should not always presume that this would lead to ever lower doses.

For exposures above this dose range, this is where we should really focus our positive attention. This would include the upper ranges of occupational exposure, the higher natural background exposures (especially radon) and in particular the increasingly important medical exposures - e.g. in CT scans, radiotherapy and related areas.

In summary, the future challenge is to make the system of protection work in practice and ensure full benefits and value for society. We should focus our attention on the higher exposures, where there are so many clever and important developments taking place of which we can indeed be very proud. We should not ignore the lower doses, but integrate these into 'normal life', be proportionate, and don't seek to chase out every last microsievert at great expense to society.

www.IRPA.net

For correspondance IRPA

International Radiation Protection Association

C/O Dr. Bernard le Guen
1 Place Pleyel
Site de Cap Ampère
93282 SAINT DENIS CEDEX

bernard.le-guen@edf.fr