International Radiation Protection Association

IRPA's recommendations and contributions to enhance RP culture through educational activities

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EUTERP Workshop
Optimising radiation protection training
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Qawra, Malta

EUROPEAN TRAINING AND EDUCATION IN RADIATION PROTECTION FOUNDATION

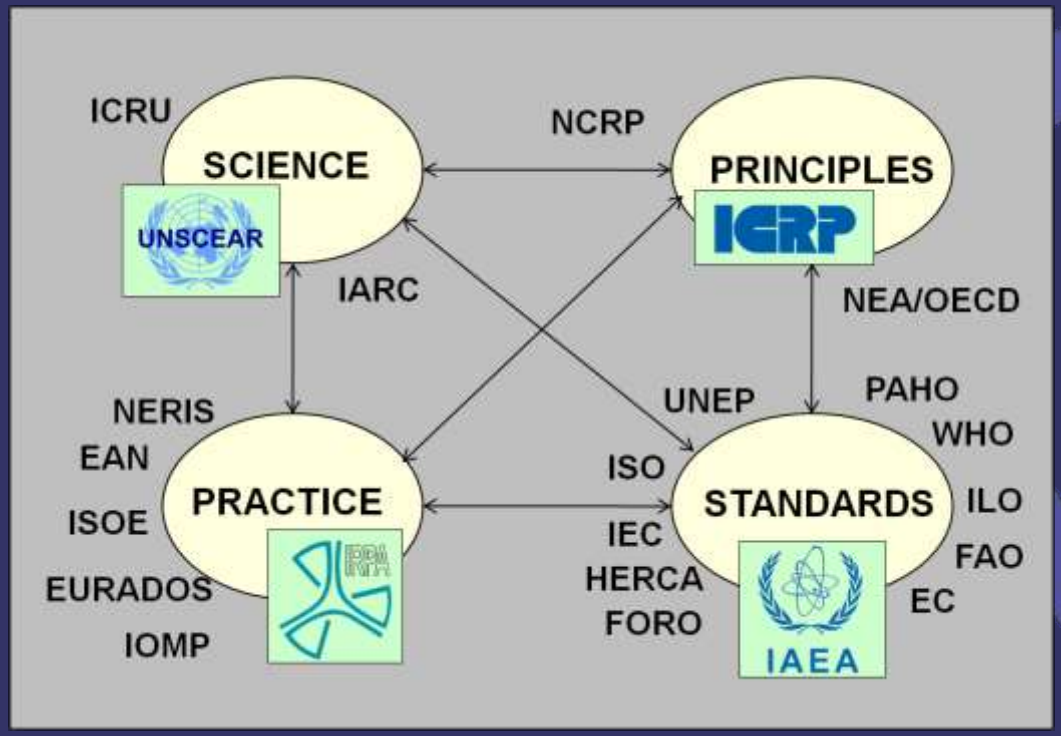
IRPA's Mission

Through Associate Societies, IRPA:

- **Promotes excellence in RP by**
  - providing benchmarks of good practice
  - enhancing professional competence and networking
- **Encourages the highest standards of professional conduct, skills and knowledge**

For the benefit of individuals and society

IRPA's Vision

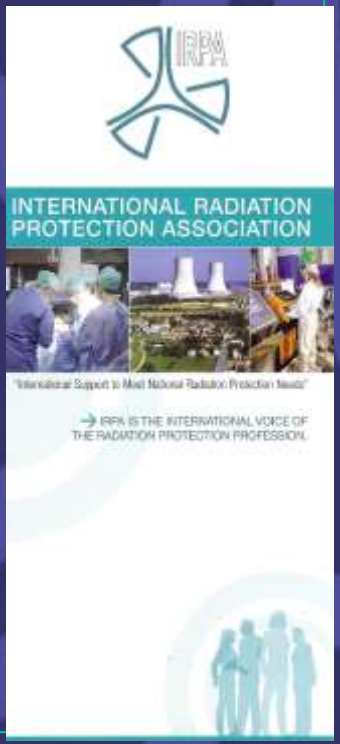


IRPA recognized by its members and stakeholders as the ***international voice of the radiation protection profession*** in the enhancement of radiation protection culture and practice worldwide.

The Principal Challenge: **Making this Vision a reality**

IRPA membership

- **Value and strength of IRPA: NGO**
- Enormous resources of **practical knowledge and experience** in radiation protection and neighboring specialist fields
- **IRPA members** come through the **52 national and regional associate societies (67 countries) that involve over 19,000 individual members worldwide**
  - Percentage of female: 30% ; male: 70%
  - Percentages of members by sectors:
    - **University/Research/Teaching: 18%**
    - **Medical physics: 17%**
    - **Other medical: 10%**
    - **Nuclear industry: 17%**
    - **Other industry: 7%**
    - **Regulatory authorities: 6%**
    - **Government and advisory bodies: 8%**
    - **Consultancy: 7%**
    - **Others: 10%**



Role of IRPA

The international voice of RP professionals

IRPA provides a medium for communication and advancement of radiation protection throughout the world

We encompass the full spectrum of national experiences, from large developed countries through to practitioners working in small developing nations

IRPA Strategic Priorities 2016 - 2020

- 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**

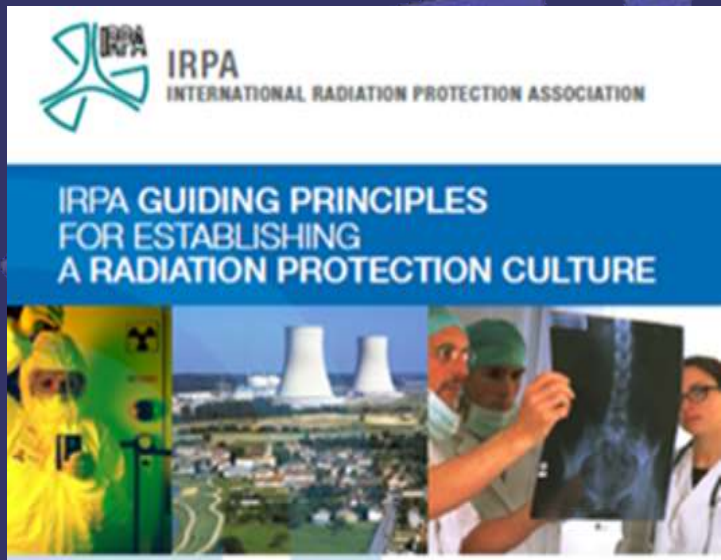
- To enhance IRPA Governance and the interface with the Associate Societies.

Selected IRPA Priorities

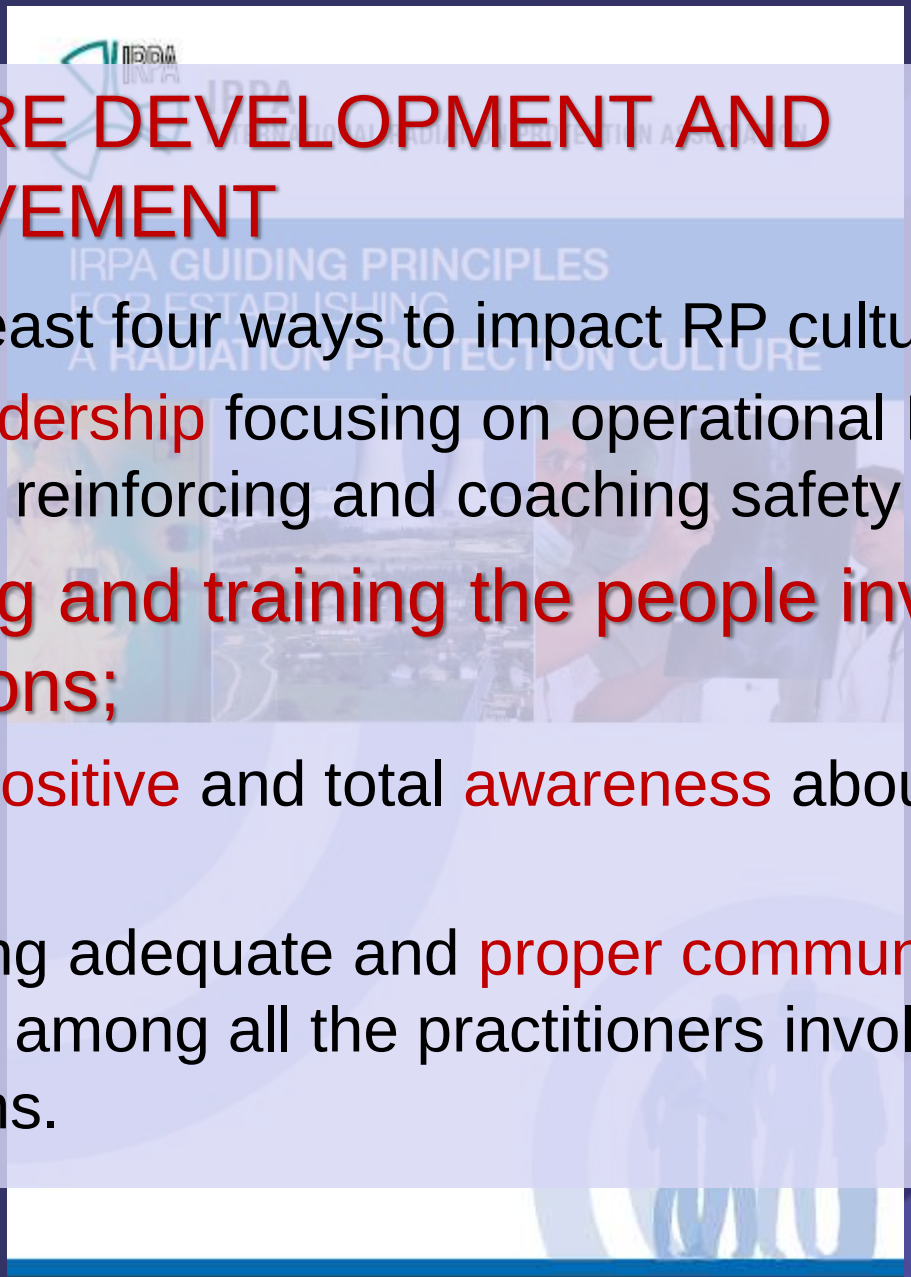
- The development of the System of Protection
- Public understanding
- **Radiation protection culture**
- The future of our profession – **Young Professionals Network**
- **Recognition of competence**
- Implementation of the eye lens dose limit
- Security of radioactive sources
- **Education and training**

IRPA Guiding Principles for Establishing a RP Culture

- Project commenced at IRPA12 2008
- Collaborative approach through Workshops and Working Groups
- Published in 2014



IRPA Guiding Principles for Establishing a RP Culture

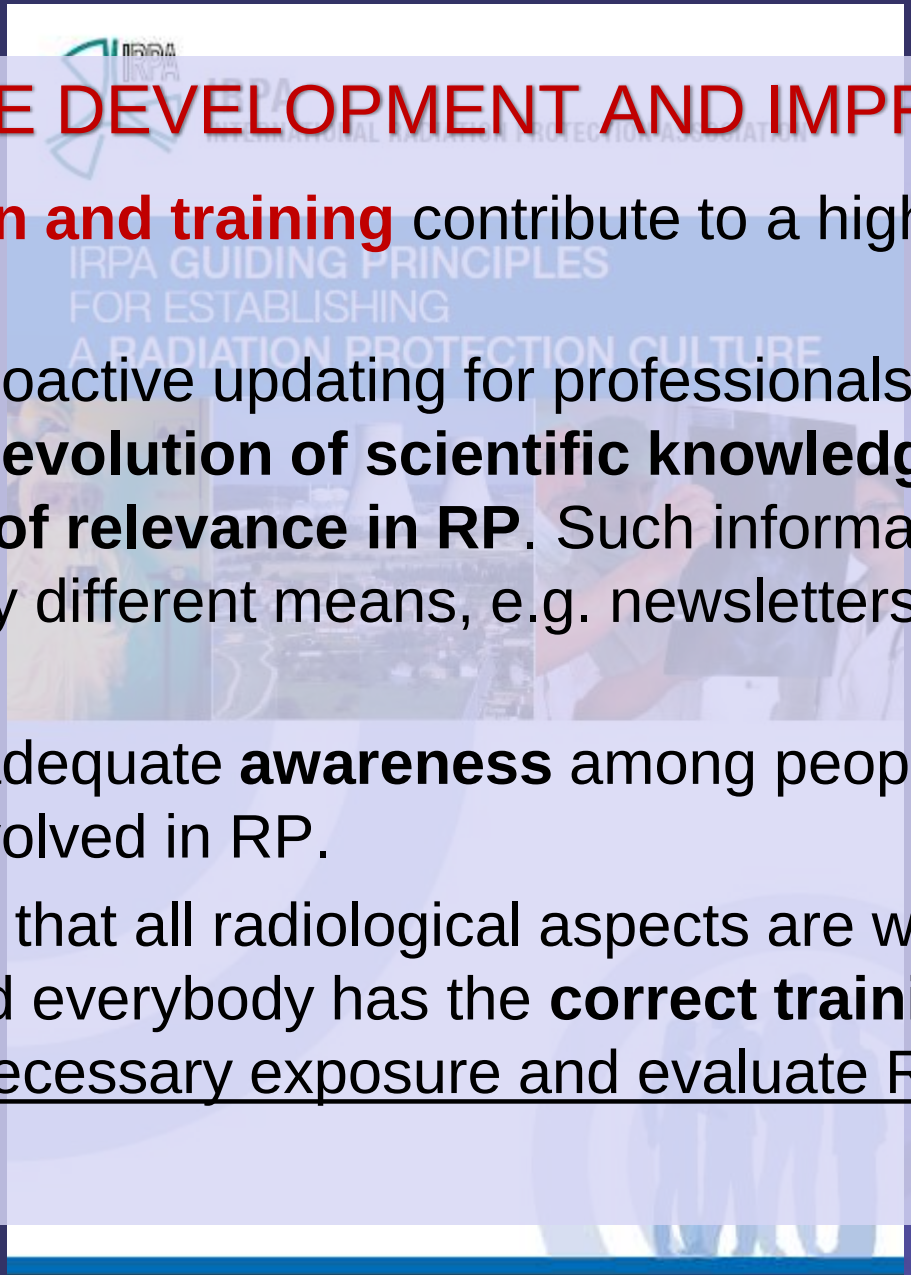


4.2 CULTURE DEVELOPMENT AND IMPROVEMENT

There are at least four ways to impact RP culture:

- Strong leadership focusing on operational RP culture, and modelling, reinforcing and coaching safety behaviours;
- **Educating and training the people involved in RP applications;**
- Creating positive and total awareness about RP at working places;
- Establishing adequate and proper communication processes among all the practitioners involved in RP applications.

IRPA Guiding Principles for Establishing a RP Culture



4.2 CULTURE DEVELOPMENT AND IMPROVEMENT

How **Education and training** contribute to a high level of RP culture:

- continued proactive updating for professionals and the general staff, on the **evolution of scientific knowledge and related judgments of relevance in RP**. Such information can be presented by different means, e.g. newsletters, discussions, etc.;
- **raising** an adequate **awareness** among people directly or indirectly involved in RP.
- making sure that all radiological aspects are well known to workers, and everybody has the **correct training** to take care, prevent unnecessary exposure and evaluate RP aspects;
- (…)

IRPA Guiding Principles for Establishing a RP Culture

4.2 CULTURE DEVELOPMENT AND IMPROVEMENT

How **Education and training** contribute to a high level of RP culture:

- (…)
- emphasizing that radiation protection culture is not an established area of knowledge, but one of continuous change and update, not only in its contents, but also in its approaches.

➢ Training is undertaken and updated periodically, and testing is done to evaluate training efficacy.

➢ Learning from events, incidents and near misses is an important part of culture development.

  ➢ The pace of retraining should be based on problem severity, and lessons learned are used for future training.

IRPA Guiding Principles for Establishing a RP Culture

The importance of education:

"Radiation protection culture is a learned way of life"

- It is obvious that a way of life starts with a proper education
- RP Culture must be present in all the academic curricula on radiation applications
- IRPA Associate Societies can contribute significantly to continuous education of their members / IRPA can help!

RP Culture – current steps

- Each Associate Society is encouraged to prepare local guidance and support, and promote its application
- IRPA is working with IOMP, WHO and IAEA, to provide additional guidance for the medical sector: **to work for a joint publication**
- 6 Regional Workshops between April 2015 and February 2019
- Looking at guidance for other sectors – eg Higher Education and Training (university sector et al)

STRATEGIC PRIORITY

Education and Training of RP Professionals

- Education and training practices.
  - Cooperation with international and regional organizations dealing with E&T in Radiation Protection: IAEA, ETRAP conferences, ENETRAP/ EUTERP, AAHP
- IRPA Congresses: Refresher Courses. **Highly demanded!**
- Scientific developments update (and RP horizon scanning)
- Coordination and promotion of Associate Societies training activities and associated events
- Objective: Database of training events ←→ connected with EUTERP DB

Education and Training of RP Professionals

What role can play the IRPA Associate Societies?

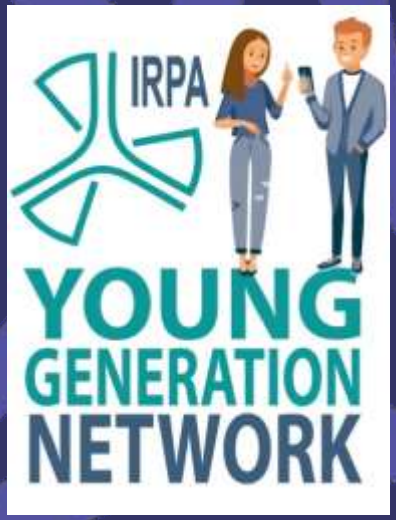
- To contribute to professionals continuous education;
- to organize and promote coordinated activities;
- to share E&T resources;
- to create E&T networks sharing language or regional proximity;
- to organize activities to attract young generations to the profession
- to create a young professionals network;

The future of our profession – finding and supporting the next generation

Many countries/societies report a concern over 'where are the next generation, and how do we transfer our knowledge?'

The IRPA programme:

- Share good ideas on informing and enthusing students on RP as a career
- Young Generation Network, linking national association groups and sharing good ideas
- Every IRPA congress has a Young Persons programme:
  - including YP Prize for best presentation
  - engagement in the full scientific programme (eg session co-chairs)
  - networking opportunities



Recognition of Competence

There is an increasing expectation of formal recognition of competency to practice – especially for the Radiation Protection Expert (or Qualified Expert)

Recognition schemes may be a legal requirement or voluntary: in either case the national RP Society should play a lead role

There is no 'single best way' to arrange a scheme – local practice, culture and legal requirements require differing approaches

IRPA has published guidance on the key components and strengths and weaknesses of various options for certification

The IRPA Guidance on Certification of a Radiation Protection Expert. Table of Contents

- Introduction
- Underpinning Basis of a Certification Scheme
- Regulatory Background
- Key Attributes of a Certification Scheme
- Conclusions
- Annexes
  - IAEA and EU Basic Safety Standards
  - IRPA Definition of Radiation Protection Expert
  - Model RPE Knowledge and Skills Syllabus
  - The RPE Training Scheme (ENETRAP projects)
  - Model Code of Practice
  - Accreditation Standards for Certification Boards
  - Representative Certification Schemes: USA, UK, Canada, Slovenia, Netherlands, Spain, Australasia, Italy, Germany

Key Attributes of a Certification Scheme

- Scheme Management and Governance
- Scope of the Role to be Certified
- Requirements for Certification as an RPE
- Assessment methods
- Renewals of Certifications
- Code of Conduct
- Appeals, Disciplinary Aspects, Withdrawal of Certification, Insurance Cover
- Accreditation
- Reciprocity

International and Regional Congresses

- The IRPA Congresses are a major and well-recognised part of our role:
  - They provide training opportunities for professionals
  - Facilitate the exchange of ideas between societies and individuals
  - Provide a platform for the principal international organisations (such as ICRP, IAEA, EC and UNSCEAR) to interact with the wider RP community

LATIN AMERICA	Havana · Cuba · 23-27 April 2018
ASIA / OCEANIA	Melbourne · Australia · 20-24 May 2018
EUROPE	The Hague · Netherlands · 4-8 June 2018
AFRICA	Tunis · Tunisia · 6-9 September 2018

IRPA 15

11-15 May 2020 I COEX, Seoul, Korea

Bridging Radiation Protection Culture and Science - Widening Public Empathy

www.irpa2020.org

Education and Training. International and Regional Congresses

- Traditionally, every IRPA congress includes a number of refresher courses (RC)
- RC provide participants with the opportunity to update their knowledge in specific areas of RP science and practice
- RC 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
- Obvious benefits in terms of RP culture enhancement
- The number of RC in the last few years is quite large. They constitute a valuable asset for all RP professionals, which IRPA wishes to preserve properly on its website, making them accessible to everyone

Education and Training. International and Regional Congresses

20 Refresher Courses

3 Seminars: 9 – 7 – 12 presentations

Education and Training. International and Regional Congresses

www.irpa2010europe.com

IRPA

Third Europea

NSFS

14–18 June 2010, Helsinki, Finland

13 Refresher Courses

- Home
- News and Updates
- Organisers
- Programme
- Abstracts
- Proceedings
- Posters
- Young Scientist Award
- Exhibition / Sponsors
- Congress Venue
- Registration

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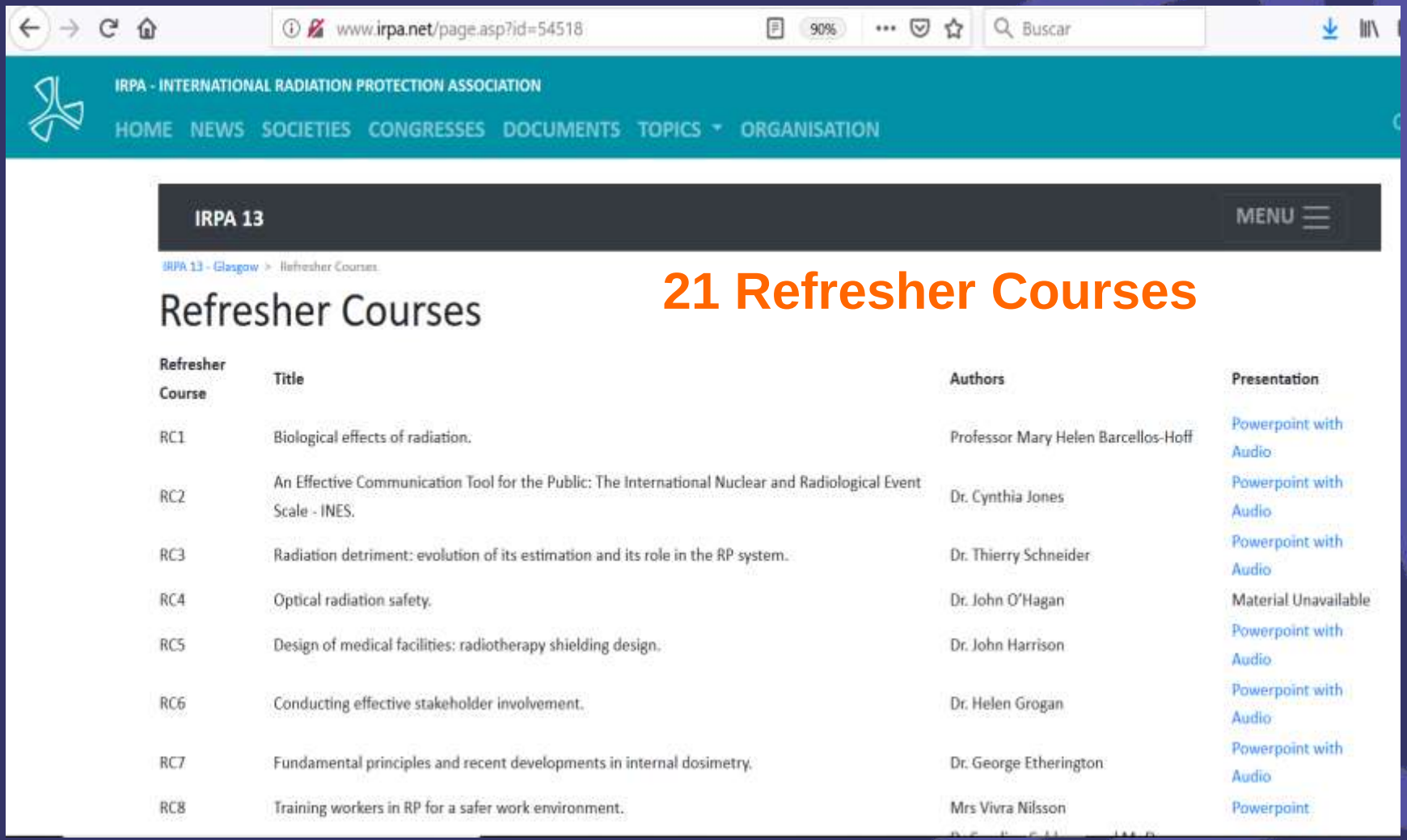
R Refresher courses
Oral presentations

Education and Training. International and Regional Congresses



Refresher Course	Title	Authors	Presentation
RC1	Biological effects of radiation.	Professor Mary Helen Barcellos-Hoff	Powerpoint with Audio
RC2	An Effective Communication Tool for the Public: The International Nuclear and Radiological Event Scale - INES.	Dr. Cynthia Jones	Powerpoint with Audio
RC3	Radiation detriment: evolution of its estimation and its role in the RP system.	Dr. Thierry Schneider	Powerpoint with Audio
RC4	Optical radiation safety.	Dr. John O'Hagan	Material Unavailable
RC5	Design of medical facilities: radiotherapy shielding design.	Dr. John Harrison	Powerpoint with Audio
RC6	Conducting effective stakeholder involvement.	Dr. Helen Grogan	Powerpoint with Audio
RC7	Fundamental principles and recent developments in internal dosimetry.	Dr. George Etherington	Powerpoint with Audio
RC8	Training workers in RP for a safer work environment.	Mrs Vivra Nilsson	Powerpoint

Education and Training. International and Regional Congresses

3. REFRESHER COURSES PROGRAMME

Tuesday, June 24, 2014 – 8:00 - 9:00

Refresher Course 1-1 Radiation biology *by Wolfgang Müller*	Room 18
Refresher Course 2-1 Internal dosimetry and individual monitoring *by George Etherington*	Room 15

Wednesday, June 25, 2014 – 8:00 - 9:00

Refresher Course 1-2 Clinical auditing and quality assurance *by Hannu Jarvinen*	Room 7
Refresher Course 2-2 Optical safety *by Werner Horak*	Room 15
Refresher Course 3-2 Radiation epidemiology *by Linda Walsh*	Room 18

Thursday, June 26, 2014 – 8:00 - 9:00

Refresher Course 1-3 Optical radiation risk assessment in the working environment *by Hans-Dieter Reidenbach*	Room 15
Refresher Course 3-3 Radiation protection metrology and measurements *by Claude Bailat*	Room 18

Friday, June 27, 2014 – 8:00 - 9:00

Refresher Course 1-4 The role of medical physicist in optimizing protection of patients in medicine *by Francis Verdun*	Room 15
Refresher Course 2-4 Radiation protection in NORM industries *by Wouter Schroeyers*	Room 18
Refresher Course 3-4 EMF Safety *by Ralf Bodemann*	Room 7

10 Refresher Courses

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Refresher Courses

The Refresher Course programme provides delegates with the opportunity to update their knowledge in specific areas of radiation protection science and practice. The courses are aimed at providing a broad overview of the current state of a given topic, thereby giving delegates not working directly in that field a sound understanding of the current status, and at giving experienced practitioners a more detailed understanding of up-to-date developments in a field.

Twenty refresher courses are scheduled to be delivered by selected instructors according to their outstanding expertise and competence in teaching. The courses are offered in five parallel sessions each morning, Monday through Thursday, beginning at 07:30.

The list below presents outline information on the course schedule.

18 Refresher Courses

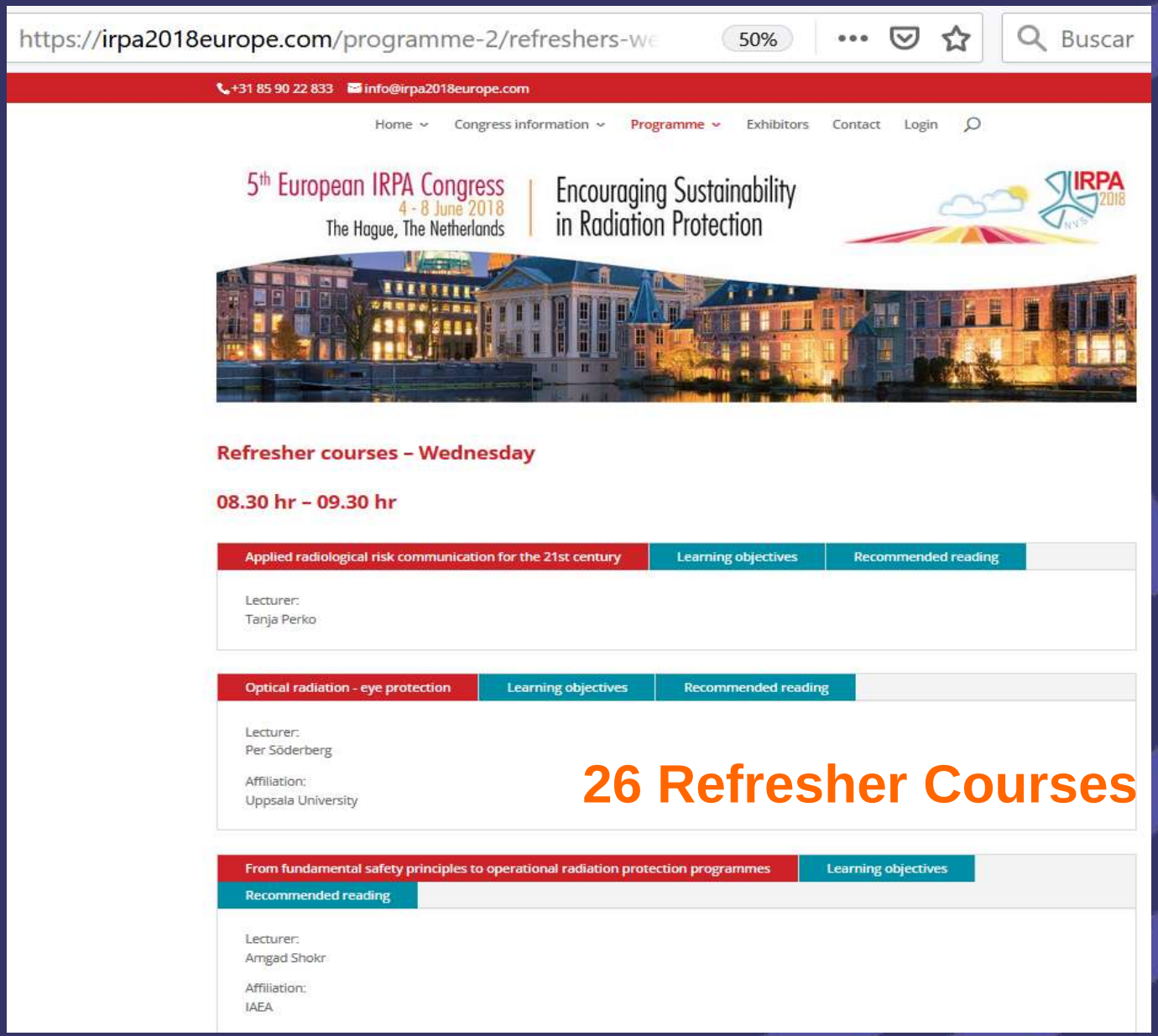
IRPA14 Programme

Refresher Course Programme

MONDAY, 9 MAY 2016 – 07:30 – 08:30				
No	**Title**	**Lecturer**	**Meeting Room**	**Description**
RC 1	Biological effects and individual human radio-susceptibility	Michel Bourguignon *IRSN*	1.4	Regarding the biological effects of ionising radiation there is evidence of some degree of individual susceptibility in humans (up to 25 % of the population). Individual susceptibility to ionising radiation has 3 features which are related to different mechanisms and pathways: 1- sensitivity with the complications of radiation therapy in the absence of error in the dose delivery, 2- esthesia which is a radiation related cancer proneness, and 3- degeneration with late effects on tissues, i.e., cataracts. Modern radiation biology means of investigation allow to identify those persons, especially patients, and may help in the near future the screening of people for preventive and personalized medicine.
RC2	Dosimetry and optimisation in computed tomography	Christoph Trauernicht *UCT*	1.6	This course will give an overview of current CT dosimetry techniques, including recent developments for modern wide beam scanners. Optimisation methods for patient exposures will be reviewed, including both equipment & technique factors, and the correct utilisation of new dose-saving features on modern CT equipment will be discussed.
RC3	Management systems for radiation safety	Phil Metcalf *ENSTTI*	2.41	The management systems concept for radiation safety has evolved over a number of years. The concept has developed from quality control through quality assurance and quality management to the present day integrated management system. The concept involves systematic planning, controlled implementation and continuous review and assessment to assure high levels of quality in radiation safety and protection operations and supporting services. The course presents and discusses the management system for radiation safety and its evolution.

Education and Training. International and Regional Congresses

Education and Training. International and Regional Congresses



26 Refresher Courses

Education and Training. International and Regional Congresses

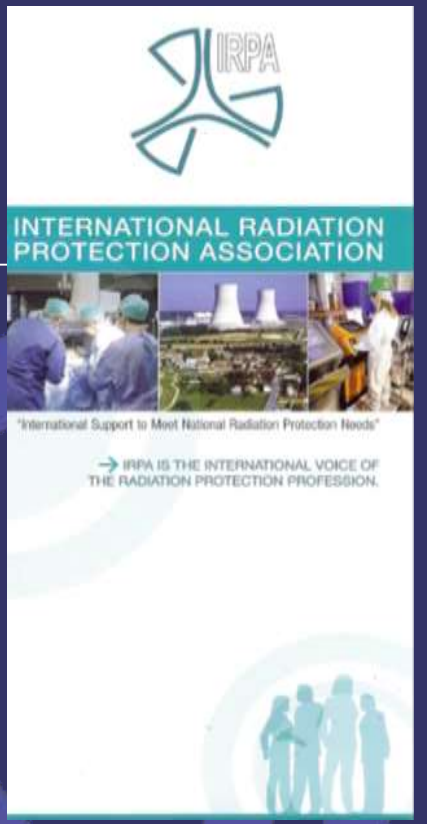
6 Refresher Courses

Education and Training. International and Regional Congresses

Main Fields	Scientific Areas	Number of RC(2008-2018)
I *Science*	I.1 Characterization of radiation exposure	3+4+2+2+4+-+2
	I.2 Biological effects of radiation exposure and epidemiology	2+1+-+2+1+-+2
II *Radiation protection Principles and Standards*	II.1 Developing the Radiation Protection Framework	3+1+1+-+-+1+1+2
	II.2 Developing protection policies, criteria, methods and culture	3+1+4+-+1+1+4+5
	II.3 Emergency planning, preparedness & response	2+1+1+-+1+-+
III *Radiation protection and safety in practice*	III.1 Nuclear installations	1+12(S)+1+4+-+3+
	III.2 Medicine	2+9(S)+2+5+2+3+2+3+3
	III.3 Natural radiation and NORM	1+7(S)+2+2+1+1+4+1
	III.4 Other applications and practices	2+1+2+-+1+4+2+34
	III.5 NIRs	1+1+-+3+1-+1

150 Refresher Courses

Conclusions



- IRPA has an extensive programme of activities to support good practice, enhancing professional competence and networking, and encouraging the application of the highest standards of professional conduct, skills and knowledge in the profession.
- Giving support to Education and Training of the RP professionals is one of the main strategic priorities of IRPA since its creation.
- The IRPA RC have given RP professionals –young and veterans– an opportunity to improve their knowledge on given subjects.
- All that knowledge must be preserved at the IRPA website

International Radiation Protection Association

http://www.irpa.net