RADIATION EMERGENCY MEDICAL PREPAREDNESS AND ASSISTANCE NETWORK

REMPAN e-NEWSLETTER

World Health Organization

Issue 23 August 2021

Editorial

Dear Reader,

The summer is almost over, we are coming back from holidays – hopefully well-rested and full of energy for the new school year that is about to begin. This issue is coming out with a bit of delay but since many things seem to be affected by the ongoing pandemic in various ways, hopefully we are learning to be more patient, more flexible and accommodating. Starting from this spring, we witnessed COVID-19 vaccination campaigns being rolled out world-wide. It led to certain relaxation of sanitary measures in many countries, which in turn allowed some of us to go on long-awaited vacations, to enjoy the nature, seaside, mountains, and spend some time with our loved ones at family reunions.

Having been fully vaccinated, I am lucky and extremely grateful for being able to visit Kazakhstan this summer and enjoy the holidays with my family. Simple things like being able to travel, meet and gather friends, engage in social life and outdoors activities, spend time with family etc., all that we used to take for granted before, have now become ever so important for our well-being. The on-going pandemic and the impact of the sanitary restrictions and various measures applied by governments have affected so many aspects of people's lives including our mental health.

We have been addressing extensively the issue of mental health also in the relation to the preparedness and response to radiation emergencies. Unfortunately, we still see a certain stigma related to the very term "mental health". Our recent publication dedicated to mental health and psychosocial support (MHPSS) in case of nuclear accidents has addressed the issue at a high level. As a next step we will be focusing on the practical implementation of the new MHPSS framework, developing practical tools and solutions.

Please read on about the network's recent activities and future in this and other directions. As always, we thank each of the contributors for this issue of the REMPAN eNewsletter and look forward to continuing our cooperation!

Dr Zhanat Carr
REMPAN Coordinator
World Health Organization
Geneva, Switzerland

In this issue

News – From REMPAN Secretariat

◆ The Joint Session of IRPA and WHO REMPAN at the 15th IRPA Congress – 19 January 2021

WHO co-sponsored and supported the planning and conduct of the IRPA-15 Congress held in Seoul, Republic of Korea. Within the topical area related to emergency preparedness and response, the WHO organized the Joint Session entitled "Protecting Human Health in Radiation Emergencies". The video recording of this session is available here (with kind permission of IRPA-15 organizers)

◆ The 3rd BioDoseNet Survey completed!

At the end of 2020 and Jan 2021 WHO completed the 3rd global survey of the WHO BioDoseNet – global network of cytogenetic labs that would be providing support in response to a large-scale emergency. In the lack of actual event, the network is actively collaborating in the areas of research and training. The survey report is being finalized and will be published by end 2021.

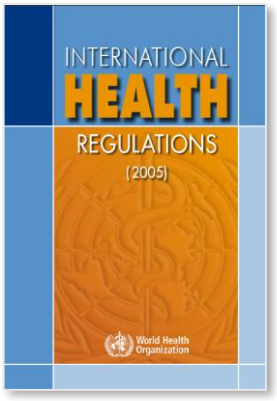
◆ The 16th Coordination and Planning Meeting of WHO REMPAN – 22-24 March 2021

Our first ever virtual meeting has gathered more than 200 participants and became as roaring success. We are grateful for your active participation over the three daily 3-hour sessions densely packed by rich material, for exciting deep discussions, and your kind feedback! Proceedings of the meeting are now in preparation. The deadline for submitting your articles is August 31!

WHO has adopted a new policy on publishing in scientific journals: since Jan 2021 WHO joined the Coalition Plan S that aims at ensuring free access to all scientific journals world-wide. Therefore, WHO is collaborating with newly opened journal Environmental Advances (Elsevier publishing).

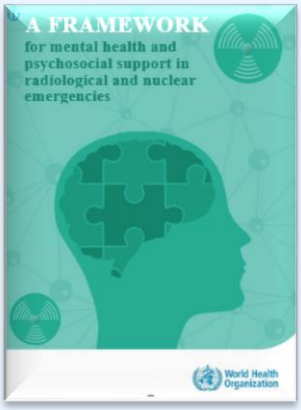
◆ Implementation of the International Health Regulations (IHR-2005)

WHO continues annual IHR monitoring, the latest data is available at: https://extranet.who.int/e-spar preparedness for radiation emergencies remains one of the top three challenges for IHR implementation, along with chemical events and points of entry (ports, airports, road-crossings). To date there have been 113 Joint External Evaluation (JEE) missions undertaken in total. Since 2020, face-to-face physical JEE missions have been put on hold in view of the on-going COVID-19 pandemic. Past JEE missions reports are published at https://extranet.who.int/sph/jee-dashboard



◆ Planning the implementation of the MHPSS Framework

WHO continues advocating for the importance of integrating the measures for mitigating psycho-social impact of radiation emergencies in response planning and continues cooperating with NEA's WPNM in the area of managing non-radiological impact of radiation emergencies. The WHO Framework for Mental Health and Psychosocial Support (MHPSS) in Radiological and Nuclear Emergencies was launched in Nov 2020. As a part of the joint NEA and WHO project, MHPSS Framework implementation activities are being discussed with the NEA and few research institutions members of the network.



◆ Contributing to the work of the IACRNE

WHO is a member organization of the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE) and participated in the virtual IACRNE meeting in March 2021 that discussed strengthening of communication and coordination between IOs engaged in the international arrangements for rad-nuc EPR. Also under IACRNE cooperation, WHO is contributing to the planning the Convex-3(2021) nuclear emergency exercise to be hosted by the new Baraka NPP on 26-27 October 2021 in Abu Dhabi, UAE. WHO contributed to the virtual planning meetings held in Dec 2020 and April 2021.

IACRNE
Inter-Agency Committee on Radiological and Nuclear Emergencies

News – From REMPAN Secretariat

◆ Fukushima Daiichi NPP accident – 10 year's commemoration

WHO is supported the events held for commemoration of the 10th anniversary of Fukushima accident, including the ICRP conference held in November 2020, two international symposia: The 3rd International Symposium organized by the Fukushima Medical University in Fukushima on 13-14 Feb 2021; and HICARE International Symposium dedicated to 75 years since the atomic bombings, 30 years since the establishment of HICARE and 10 years since the Fukushima Nuclear Power Plant accident – held in Hiroshima on 11 Feb 2021.

◆ WHO REMPAN webinars in 2021:

- Public Health consequences of Fukushima nuclear disaster: 10 years towards recovery – 23 March 2021 - (video recording) (webinar page)

- Joint IAEA-WHO Webinar "Long-term follow up of persons over-exposed to high-doses of radiation" – 21 April 2021 (video recording)
- Joint IAEA-WHO Webinar "EPR-Medical response to radiation emergencies" – 19 May 2021 (video recording)

- Joint WHO – NCRM (Ukraine) Webinar "Chernobyl at 35: Recovery lessons for radiation emergency preparedness" - (video recording) (webinar page)

◆ WHO contributes to the European association HERCA: Heads of the European Radiological Protection Competent Authorities

HERCA brings together 56 authorities from 32 European countries. As an observing member of HERCA's Working Group on Emergencies, WHO contributed to its meeting in April 2021. This European WG is considering renewing the survey of national policies on ITB, and WHO offered to share the data from its survey on national ITB policies conducted in 2017-2018.

◆ Revision of the 2007 WHO report of development of stockpiles for radiation emergencies has started in May 20201. REMPAN Working Group comprising the experts from Canada, France, Germany, Japan, Russia and USA held two virtual meetings and is compiling the first draft that will be circulated for your review and feedback in October 2021. Target publication date of the updated report in early 2022.

◆ 2021 Dr LEE Jong-wook Memorial Prize for Public Health

The Chernobyl nuclear disaster of April 1986 resulted in an unprecedented release of radioactive material. Making headlines around the world, this tragically cost the lives of those who responded to the incident and affected the health of those who lived in the surrounding area. In the decades since, there has been several studies involving people who have had diseases and disabilities linked to the accident, with health impact reverberating years on.

A less known aspect of the Chernobyl aftermath is the work undertaken by health workers, such as those at the WHO Collaborating Centre - National Research Centre for Radiation Medicine of the National Academy of Medical Sciences of Ukraine (NRCRM). For 30 years now, this institution leads Ukrainian research and practice in radiation medicine, biology, dosimetry, and epidemiology, including evaluating the high- and low-dose health effects of Chernobyl accident.

On 28 May 2021, the Seventy-fourth World Health Assembly awarded the institute with the Dr LEE Jong-wook Memorial Prize for Public Health.

We congratulate the NRCRM colleagues and its head Prof. Dimitry BAZYKA for their contribution to the radiation research, to the today's state of knowledge on radiation risks and thank them for their great efforts towards international cooperation under the REMPAN framework.

Scientific Events

◆ The NEA (Nuclear Energy Agency) expert roundtable: "Ten years after the Fukushima Daiichi accident"

The NEA (Nuclear Energy Agency) marks ten years since the Great East Japan Earthquake on 11 March 2011 and the subsequent nuclear accident at the Fukushima Daiichi Nuclear Power Plant. The NEA has published a report that surveys the aftermath, lessons, and achievements in Japan and the global nuclear community in the decade since the accident. Fukushima Daiichi Nuclear Power Plant Accident, Ten Years On: Progress, Lessons and Challenges also analyses the current challenges stemming from the accident and makes policy recommendations to the international nuclear community in nine different areas.

The NEA hosted an expert roundtable discussion with seven prominent international experts on March 3rd, 2021 to present the report, review the effects of the accident and reflect on future perspectives. After a moment of silence to honour those who lost their lives when the tsunami wave hit north-eastern Japan, the discussion focused on the Fukushima Daiichi experience and its lessons. In the immediate aftermath of the Fukushima Daiichi accident and in the ten years since, Japanese authorities have committed to a very challenging work in order to address the on- and off-site consequences of the disaster and to rebuild the social and economic fabric of the areas impacted by the earthquake, the resulting tsunami and the nuclear accident. The global community has come together with Japan to offer both assistance and to strive at learning lessons to further improve nuclear safety worldwide.

◆ The 7th International Conference on Education and Training in Radiological Protection

Since 1999 the ETRAP conferences intend to bring together training providers, academics, policy makers, radiation protection experts, regulators and authorities, and end-users. It offers the opportunity for learning, discussing and networking about the latest findings and developments in education and training in radiation protection. This 7th edition focuses on the challenges and opportunities of educating and training in a virtual context. This Online conference organised by the Belgian Nuclear Research Centre (SCK CEN), in cooperation with the EUTERP Foundation, IRPA and IAEA.

More info: https://www.etrap.net/etrap-2021

◆ Launch of UNSCEAR's Report

Levels and effects of radiation exposure due to the accident at the Fukushima Daiichi nuclear power station: Implications of information published since the UNSCEAR 2013 report.

In 2013, the Scientific Committee assessed radiation exposures of the public, workers and non-human biota that resulted from the 11 March 2011 accident at the Fukushima Daiichi Nuclear Power Station in Japan and reported its findings, including a commentary on the associated risks and effects, to the United Nations General Assembly in October 2013. A full report with scientific annexes was published by the United Nations in 2014. Most of the scientific information used in the UNSCEAR report was limited to that published or disclosed by the end of October 2012.

Subsequently, a significant amount of relevant information has become available and been published, and more extensive and detailed monitoring data. With time, questions were anticipated about the continuing validity of the conclusions in the UNSCEAR 2013 report. Accordingly, the Scientific Committee implemented a plan to maintain awareness of new scientific developments in the follow-up to the accident and published three white papers (2015, 2016 and 2017) setting out evaluations of the implications of such developments for the period up to the end of 2016. Against this background, in 2018 the Committee decided to prepare a report summarizing all new information available up to the end of 2019 and assessing its implications for the findings of the UNSCEAR 2013 report.

The aim of this event was to present the key findings approved by the Scientific Committee at its sixty-seventh session (2–6 November 2020) with focus on the radiation exposures of the public and workers and their potential health implications. The event also acknowledges the tenth anniversary of the Fukushima Daiichi accident and highlighted the trends and conclusions since the previous UNSCEAR 2013 Report. The online event aimed at scientific and diplomatic communities, decision makers and experts from United Nations Member States.

Download link:
https://www.unscear.org/docs/publications/2020/UNSCEAR_2020_AnnexB_AdvanceCopy.pdf ◆

Scientific Events

◆ Global Conference on Radiation Topics, ConRad 2021, Munich, Germany (24th Nuclear Medical Defence Conference)

By Prof. M. Port, Director of the Institute of Radiobiology of the German Armed Forces (in association with the University of Ulm, Germany).

The „Global Conference on Radiation Topics“ took place at the Bundeswehr Medical Academy in Munich from May 10th till 12th. This year, the conference was fully virtually conducted for the very-first time due to the restrictions caused by the COVID-19 pandemic. Thus, new challenges had to be managed. In order to anticipate potential technical problems, pre-recorded presentations had to be submitted prior to the conference and the seminar room at the Bundeswehr Institute of Radiobiology (BIR) was transformed into a streaming studio. From here, scientists of the institute chaired the numerous live sessions offering a pleasant live streaming experience for all participants.

Overall, 233 registered experts from 26 countries have attended this year’s conference and were able to track 42 live, 39 poster and 8 video on-demand presentations. Three key sessions highlighted relevant and current topics. Colonel Prof. Dr. M. Abend led the first session on opportunities offered by gene expression and next-generation sequencing for the prediction of radiation-induced acute health effects. Regarding the 10th and 35th anniversary of the nuclear power plant catastrophes of Fukushima and Chernobyl, the second key session addressed improvement or establishment of new concepts on radiation preparedness. The final key session was dedicated to lessons the COVID-19 pandemic has taught us for radiation preparedness.

Overall, the virtual ConRad 2021 has received throughout positive feedback of the attendees. Conference contributions will stay available for participants for another month and could further be discussed with the authors in the “Q&A” sections. However, for celebrating the 25th anniversary ConRad in 2023 Colonel Prof. Dr. Port and the organization committee would strongly appreciate to host the conference on-site in order to meet as well as exchange in person.

This year, the auditorium of the Medical Academy in Munich stayed empty. Therefore, the BIR seminar room was transformed into a live streaming studio. A special issue for ConRad 2021 in the “International Journal of Radiation Biology” will be published.

More information can be found here: ConRad2021 ◆

◆ RENEB inter-laboratory comparison

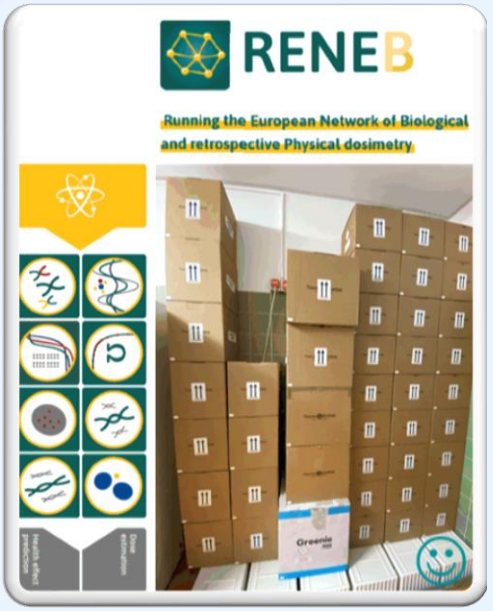
By M. Port, M. Abend and C. Siebenwirth, Institute of Radiobiology of the German Armed Forces (in association wih the University of Ulm, Germany).

RENEB (Running the European Network for Biological and retrospective Physical Dosimetry) is currently organizing a large scale inter-laboratory comparison. It comprises 8 different assays applicable for dose estimation. These assays are based on the following:

- Biological/cytogenetic endpoints (such as dicentric chromosomal aberrations, DCA; micronuclei, MN; premature chromosome condensation, PCC or translocations, FISH);
- Biological/molecular endpoints (gene expression and gH2AX measurements);
- Physical dosimetry including EPR and OSL measurements.

Altogether 40 participanting teams are coming from all over the world including Europe, USA and Asia. About 70 principal investigators specialized in their field of expertise are contributing. Blinded samples will be distributed mid of June 2021 and reported dose estimates of the teams will be compared among the assays.

This is the most complete and largest exercise of this kind and results are planned to be presented at Radiation Research Journal as a series of several publications.



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Scientific Events

◆ QST's new REM webinars foster interaction and networking among medical professionals around the world

By H. Ino, K. Kobayashi, T. Fujita, S. Fuma, H. Tatsuzaki, National Institutes for Quantum and Radiological Science and Technology (QST), Japan

"QST webinar series on Radiation Emergency Medicine 2021" has the same long-term goal as the in-person training activities conducted since 2001: establishing a network of medical professionals who respond to radiological/nuclear emergencies in Asia and elsewhere sharing information and experience on Radiation Emergency Medicine (REM).

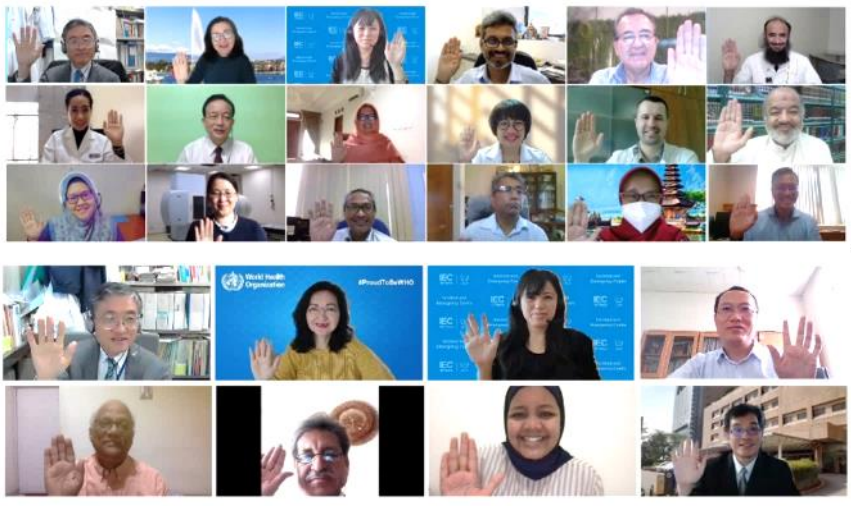
This online project consists of micro webinars with lectures, Q&A sessions, and discussions. Interaction among lecturers and participants is a key feature. Considering both online meeting application functions and discussion facilitation, the number of participants is limited. A total of 20 professionals from 16 countries participated in the first webinar, "The follow-up seminar: Overview of REM", held via WebEx in March and May 2021. One in-house lecturer reviewed key aspects of REM, and two invited lecturers from IAEA and WHO shared recent REM developments.

Before launching this project, QST conducted an online questionnaire to (a) determine the necessity for these REM webinars from medical professionals coping with daily duties under the COVID-19 pandemic, and (b) to find ways of easing online participation.

The questionnaire was carried out among participants of previous international workshops and training courses organized by NIRS, the predecessor of QST, between 2001 and March 2016.

Results were incorporated into designing the first webinar, and questionnaire respondents were invited to register. Furthermore, QST conducted pre-communication tests with all participants to confirm their internet environments and troubleshoot technical problems. It also gathered feedback after both webinars.

In June, QST is conducting the same needs questionnaire to participants of QST's training courses after April 2016.



QST will plan future webinars reflecting both survey responses.

More information can be found here: The QST webinar series on radiation emergency medicine 2021 ◆

◆ New research project on dose assessment for residents of the coastal area of Fukushima Prefecture

By Prof. S. Tokonami, Director, Institute of Radiation Emergency Medicine Hirosaki University, Hirosaki, Japan

Hirosaki University, in collaboration with Nagasaki University, have established new research project on dose estimation for residents of the coastal area of Fukushima Prefecture. This project will estimate annual effective doses due to inhalation, ingestion, and external exposure. These dose estimates will cover artificial radionuclides, such as radiocesium, and also natural radionuclides.

The doses from both sources will be compared to enable residents in the area judge the influence of the FDNPP accident on overall dose. Our project research plan is as follows: In terms of inhalation dose estimation, we will measure radiocesium concentration in the atmosphere at six public facilities by filter sampling. Indoor and outdoor radon concentrations will be measured at 70 houses using radon-thoron discriminative monitors (RADUET).

Additionally, we will collect drinking water from 30 houses to estimate an ingestion dose from radiocesium and radon. The annual effective doses from inhalation and ingestion will be estimated using these data while also taking into account seasonal variation. An estimate of the effective dose due to ingestion of natural and artificial radionuclides in foodstuffs will be derived from a literature review. In addition, a car-borne survey along main roads will be carried out using a 3-in NaI(Tl) scintillation spectrometer to determine the dose rate distribution in the study area.

We will also measure ambient dose equivalent rates, using a 3-in NaI(Tl) scintillation spectrometer, at fixed measurement points in each 2-km grid square to make a dose rate distribution map. The gamma-ray pulse height distributions can be analyzed using a response matrix method to evaluate the dose rates for natural and artificial radioactivity components. Finally, we will summarize the comprehensive doses from natural and artificial components to enable better radiation risk communication to residents.

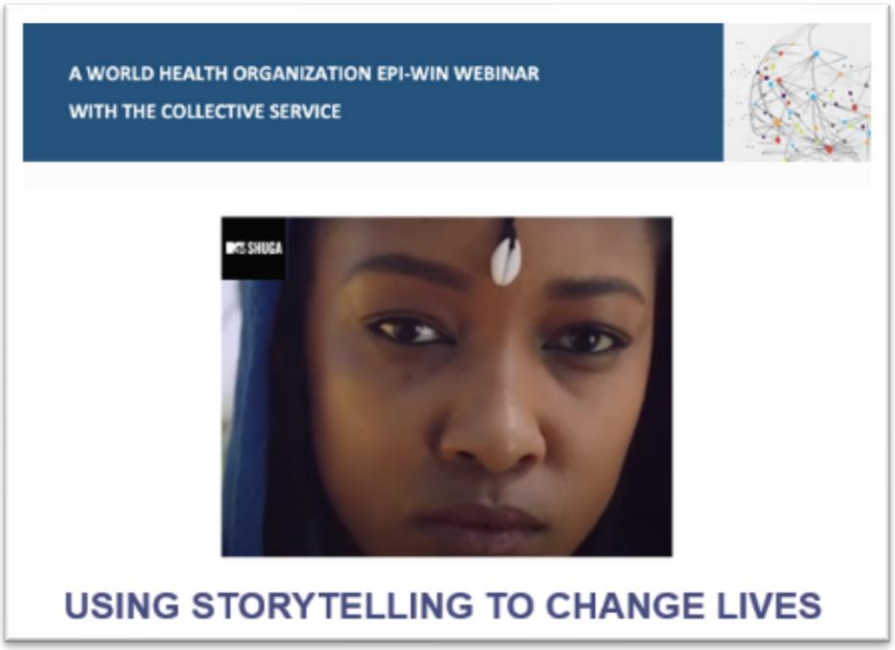
This work is supported by Research Project on the Health Effects of Radiation organized by Ministry of the Environment, Japan. ◆

Scientific Events

◆ EPI-WIN webinar: "Using storytelling to change lives"

Fundamentals of Risk Communication and Community Engagement (FoRCCE) Series

This webinar explored how storytelling can impact on youth behaviour. The MTV Staying Alive Foundation has developed the behaviour change campaign "MTV Shuga" over the last decade, and explained during this webinar their proven impact on youth behaviours when it comes to their sexual and reproductive health and how they adapted MTV Shuga to impact COVID-19.



More information : [FoRCCE/EPI-WIN Webinar: using-storytelling-to-change-lives]

◆ Social Media & COVID-19: A Global Study of Digital Crisis Interaction among Gen Z and Millennials

WHO is very proud to have partnered with Wunderman Thompson, the University of Melbourne and Pollfish in this study to investigate how Gen Z and Millennials get information on the COVID pandemic.

The unfolding of the COVID-19 pandemic has demonstrated how the spread of misinformation, amplified on social media and other digital platforms, is proving to be as much a threat to global public health as the virus itself. To better understand how young adults are engaging with COVID-19 information and technology during the pandemic, an international study was conducted covering approximately 23,500 respondents, aged 18-40 years in 24 countries, across five continents

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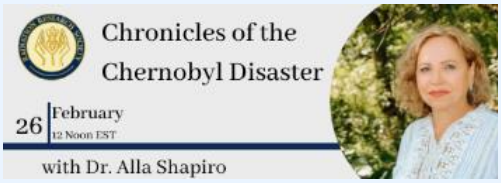
◆ Webinar of the Radiation Research Society (RRS), "Chronicles of the Chernobyl Disaster" – *April 2021*



With the participation of Dr. Alla Shapiro, former medical Officer for Counter-Terrorism and Emergency-Coordination Division at FDA (USA), now retired, and who has been with REMPAN since 2006. Dr. Shapiro was one of the first physician responders and researchers to the 1986 Chernobyl nuclear disaster, where she was sent to some of the most radiation contaminated areas.

There, she witnessed the disastrous impact Chernobyl had on families, responders and the community. After immigrating to the US, her experiences during that devastating time inspired her impactful career as one of the world's leading experts in MCMs against radiation exposure. ◆

◆ NAS (USA) The Fourth Gilbert W. Beebe Webinar: Health Effects from Chernobyl and Fukushima, 7-8 April 2021 – video recording link:

https://www.nationalacademies.org/event/04-07-2021/the-fourth-gilbert-w-beebe-webinar-health-effects-from-chernobyl-and-fukushima

Links to downloading the presentations:

- *4.1 Chanock - Lack of Transgenerational Effects of Ionizing Radiation Exposure (pdf, 3 MB)*
- *4.2 Okubo - Establishing Long Term Epi-Study on Fukushima Emergency workers (pdf, 2.7 MB)*
- *4.3 Tsubokura - Overview of Secondary Health Issues after the Fukushima Incident (pdf, 867 KB)*
- *4.4 Maeda - Mental Health Consequences of the Fukushima Disaster (pdf, 2.4 MB)*
- *Public Agenda (pdf, 333 KB)*

Education, Training, Exercise

◆ New OpenWHO.org online Curriculum: Ready4Response

Ready4Response is a multi-tiered core curriculum that aims at developing consistent learning standards across the emergency response workforces at national level. It equips participants with essential competencies needed to work within public health emergency response.

The COVID-19 pandemic has highlighted that all countries are challenged in their abilities to respond to emergencies. Having access to the right people, with the right skills and training, at the right time and location is essential to saving lives and protecting the health of people, societies and economies during an emergency.

Tier 1 provides context and principles of the all-hazards approach to emergency response, outlining the various actors involved, their roles and structural relationships. It also examines in-depth WHO's role in response and discusses core ethics and principles all responders must follow. In Tier 1 you will learn about the emergency response context and principles, focusing on the all-hazards approach. Through examining the various response actors, their roles and structural relationships, you will become more familiar with how to best manage a response and maximize intersectional cooperation

Tier 2 focuses on the Incident Management System (IMS) and its core functions. It also examines core skills required to work effectively in a response team and describes the basic principles of risk management.

In Tier 2 you will learn about the Incident Management System (IMS), its core functions and various sub-functions. You will also learn about the core skills required to work effectively in a response team. ◆

◆ WHO on-line training courses:

- ✓ Open WHO

WHO Academy:

- ✓ WHO Academy News
- ✓ WHO Academy Home

HHS/CDC on-line training courses:

- ✓ Radiation Emergency Training and Education (HHS/CDC)

- **Basic radiation principles**

- ✓ Radiological Contamination and Exposure
- ✓ Types of Radiation
- ✓ Radiation Basics Made Simple, including:
  - ❖ Sources of Radiation
  - ❖ Radioactive Decay
  - ❖ Measuring Radiation
  - ❖ Biological Effects of Radiation
  - ❖ Radiation Protection
  - ❖ Decontamination
  - ❖ Environmental Impact of Radioactivity
  - ❖ Responding to Radiation Emergencies

- **Radiation detectors, screening of external contamination**

- ✓ How to Use Hand-held Radiation Survey Equipment (Part 1)
- ✓ Ionization Chambers (Part 2)
- ✓ Alpha Scintillation Detectors (Part 3)
- ✓ Public Health Response to Radiological and Nuclear Threats
- ✓ Radiological Terrorism: Just in Time Training for Hospital Clinicians

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Education, Training, Exercises

◆Opening of a Radiation Emergency Medical Training Centre at Nagasaki University, Japan

By Prof. Noboru Takamura, Department of Global Health, Medicine and Welfare Atomic Bomb Disease Institute, Nagasaki University, Nagasaki, Japan

On 24 June 2020, Nagasaki University (Japan), a WHO Collaborating Centre for Research on Nuclear Disaster Response and Radiation Health Sciences, opened a Radiation Emergency Medical Training Centre on the campus. Nagasaki University is designated by the Nuclear Regulation Agency, Japan (NRA) as an Advanced Radiation Emergency Medical Support Centre and Nuclear Emergency Medical Support Centre, in addition to Hiroshima University, Hirosaki University, Fukushima Medical University and QST (NIRS).

Advanced Radiation Emergency Medical Support Centres provide medical training courses on radiation emergencies for the medical staffs of nuclear emergency core hospitals and nuclear emergency medical cooperative institutions located near nuclear facilities. During times of emergency, they lead the advanced medical care and support for nuclear emergency core hospitals. Nuclear Emergency Medical Support Centres support nuclear emergency core hospitals and establish networks with relevant medical institutions. They also coordinate the dispatching of nuclear disaster medical teams during radiation emergencies. For the effective management of these centres, Nagasaki University has established a Headquarters for Nuclear Disaster Response and Preparedness and worked to prepare for the nuclear disasters on Kyushu Island (home to two nuclear power stations, in the Saga and Kagoshima Prefectures).

The Radiation Emergency Medical Training Centre on the Nagasaki University campus equips emergency rooms for the triage of patients with ARS, the evaluation of their surface contamination levels and initial treatment, including decontamination. It also equips facilities for biological dosimetry, so they can quantify exposures and perform dose assessments for patients.

At the opening ceremony, Dr. Toyoshi Fuketa, Chairman of the NRA; Dr Shunichi Yamashita, Director of National Institute for Radiological Sciences; and Dr. Zhanat Carr, coordinator of REMPAN, delivered congratulatory speeches, following opening remarks by Professor Shigeru Kohno, President of Nagasaki University.

With the opening of this new facility, Nagasaki University will be able to fulfil its responsibilities as an Advanced Radiation Emergency Medical Support Centre and Nuclear Emergency Medical Support Centre and as a WHO Collaborating Centre for Research on Nuclear Disaster Response and Radiation Health Sciences. ◆

◆ **CRIMEDIM** - Centre for Research and Training in Disaster Medicine, Humanitarian Aid and Global Health WHO Collaborating Centre - Università del Piemonte Orientale, Italy.

The International Doctoral Program in Global Health, Humanitarian Aid and Disaster Medicine is an interdisciplinary and intersectoral PhD designed and offered by the University of Piemonte Orientale (UPO), through the Centre for Research and Training in Disaster Medicine, Humanitarian Aid and Global Health (CRIMEDIM). Outstanding candidates have time until July 20th at 12 p.m. CEST to submit their application for the International Doctoral Program in Global Health, Humanitarian Aid and Disaster Medicine.

For more information: International Doctoral Program in Global Health, Humanitarian Aid and Disaster Medicine

◆ The Radiation Emergency Assistance Centre/Training Site (REAC/TS): courses and training

REAC/TS hosted its inaugural "MicroREM Course" 30 March-1 April 2021. This new 12-hour virtual course is an abridged version of REAC/TS' renowned Radiation Emergency Medicine (REM) class and focuses on the fundamentals of medical care and management of patients involved in radiological/nuclear incidents. The courses have had participants from around the world representing a variety of medical disciplines, health physics personnel, emergency managers/planners, and researchers.

The American College of Medical Toxicology (ACMT) and the Radiation Emergency Assistance Centre/Training Site (REAC/TS), in partnership with the United States Environmental Protection Agency (EPA) and County of San Diego Hazardous Incident Response Team, offered a virtual Agents of Opportunity (AoO) Course 22-23 February 2021. The Office of Emergency Management, within the Agency for Toxic Substances & Disease Registry (ATSDR) and the National Centre for Environmental Health (NCEH) at the Centres for Disease Control & Prevention (CDC), supported the development of this unique course to familiarize health care providers and responders with toxic exposures to chemicals and radioactive materials. REAC/TS' radiological day had 687 registrants from the United States, Africa, Asia, Europe, and South America with participants representing a myriad of medical, response, and planning disciplines both civilian and military. ◆

News – From Network Members

◆ Unveiling ceremony: Experiment Building for Frontier Radiation Science, Hiroshima, Japan

By Prof. N. Hirohashi, Department of Radiation Disaster Medicine, Research Centre for Radiation Casualty Medicine, Research Institute for Radiation Biology and Medicine, Hiroshima University, Hiroshima, Japan

Hiroshima University held a signboard unveiling ceremony on May 13 to mark the opening of the Experiment Building for Frontier Radiation Science — located in the university's Research Institute for Radiation Biology and Medicine (RIRBM). HU President Ochi and RIRBM Director Satoshi Tashiro delivered greetings at the ceremony.

The Experiment Building for Frontier Radiation Science is equipped with several experimental facilities (radiation, animal, genetic) for joint use of researchers in Japan and overseas. It also has a Nuclear Disaster Training Centre dedicated to radiation disaster medicine. The Division of Radiation Information Registry — responsible for the storage, investigation, and analysis of medical materials related to the atomic bombing of Hiroshima and other cities — was relocated to this building. The auditorium and meeting rooms for seminars and other events are now complete and fully operational.
The building aims to become a centre for studies that contribute to the global development of radiation disaster medical science.

After the unveiling ceremony, the experiment building was opened to the public, and explanations were given about the Nuclear Disaster Training Centre, the radiation experiment facilities, the Division of Radiation Information Registry, the collaborative research laboratories, and the animal breeding facility.

We hope that after the COVID-19 calamity many REMPAN contributors from all over the world will have the chance to visit this facility.
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◆ Update from REAC/TS

By Dr. C. Iddins, REAC/TS , Oak Ridge, TN

REAC/TS staff members were invited speakers at ConRad 2021: The Global Conference on Radiation Topics that was held May 10-12, 2021. REAC/TS CBL Director Dr. Adayabalam Balajee gave an oral presentation on "Molecular Analysis of Ionizing Radiation Induced Effects on Human 3-Dimensional Genome Organization". REAC/TS Nurse/Paramedic Angie Bowen provided a poster presentation on "Exploring Nurse Readiness for a Radiological or Nuclear Incident: A Cross Sectional Study".

REAC/TS Director Dr. Carol Iddins has been elected to the National Council on Radiation Protection and Measurements (NCRP). The U.S.-based public service organization is an educational and scientific body that supports radiation protection by providing independent scientific analysis, information, and recommendations that represent the consensus of leading scientists. Iddins begins a six-year term and becomes one of 100 council members selected based on their scientific expertise.

You can find this and more resources at:
https://orise.orau.gov/reacts/index.html ◆

News – From Network Members

◆ Project SIREN: development of a real-time system for reporting and collecting data in anomalous events in nuclear medicine therapy.

By Dr. P. Fattibene, Dr. C. Nuccetelli, ISS (The Italian National Institute of Health), Rome, Italy

In September 2020 the Project SIREN (Development of a real time system for reporting and collecting data in anomalous events in nuclear medicine therapy) started being funded by INAIL (Italian Institute against Accidents at Work - Research Sector) and led by ISS. SIREN aims at improving the procedures for reporting accident and for acquisition of data useful for rebuilding scenarios, dose assessment and proactive monitoring for medical and paramedical personnel assigned to the assistance of patients in nuclear medicine therapies (NMT), as recommended by the IAEA BSS.

The added value of this project is to improve, by technologically advanced solutions, the dose estimation of operators of the TMN departments in case of anomalous events. This aim will be pursued through the implementation of a system that includes an application for mobile devices and other digital solutions. This system should enable the operator to report events quickly, easily and accurately, providing useful data both to reconstruct the dynamics of the event and therefore allow a dose estimate, and to build a proactive approach to managing the risk. The prototype of the system will be implemented at the Regina Elena National Cancer Institute in Rome in collaboration with the Deep Blue Consulting and Research, with the consultancy of the Policlinico of Milano.

This system will have to meet the following concrete objectives: simplify the procedure for entering data in the reporting of incidents and reduce the time required for its completion; increase the quality of the data and information collected and therefore the reconstruction of the scenarios and the dose estimation; increase the number of reports of accidents, including those that do not lead to undue doses; simplify the subsequent classification of data and information for proactive risk monitoring.

The innovative aspects of the proposed methodology with respect to the procedures currently followed are: the involvement of operators in the design of the system; the use of digital technologies for real-time collection of data on the dynamics of the event and the level of exposure; the use of methodologies of social science techniques to obtain reliable narratives of events.

At the current state, interviews with the radiation protection expert and the nuclear medicine doctors, physicists, technicians and nurses, have been carried out to collect their needs and expectations. The app mock-up is under design. ◆

◆ NRER Registry: 35 years after the Chernobyl accident

By Prof. V. Ivanov, National Radiation Epidemiological Registry (NRER), Moscow, Russian Federation

In April 26, 2021, a special issue of the NRER Bulletin "Radiation and Risk" dedicatd to the 35th anniversary of the Chernobyl accident was published. The issue presents the latest results of 35-year research and practical work in the field of radiation epidemiology and radiation protection performed at NRER, the WHO Collaborating Centre.

Photo: the staff od the NRER, Obnisk, Russian Fedration

The first paper written by Ivanov et al., provides detailed information on the Registry. Currently the NRER database contains updatable health information on 751 thousand people affected by the Chernobyl accident. The data collected during 1986-2020 are used for research of health effects of low-level radiation, radiation protection.

Several papers in the Bulletin are devoted to updated cancer and non-cancer risks estimates. Interesting results of assessment of cancer risk for Chernobyl cleanup workers with ICRP model and non-parametric model are considered in a recent paper by Kashcheev's *et al.*.

Correctness of application of models for risk assessment at high radiation dose to estimate the risks at low doses is also discussed in Ivanov's et al. and Chekin's et al. papers.

It is the first published paper on morbidity among children from Chernobyl liquidators by Kochergina's et.al. During the follow up period no statistically significant radiation risks of diseases "All neoplasms" and "Congenital anomalies (malformations), deformities and chromosomal abnormalities" were found.

The current results of the follow-up of the cohort of residents exposed to radiation after the fallout are discussed in Ivanov's et al. paper.

To optimize the use of resources dedicated to mitigating health effects of the accident, it is reasonable to define the people at the higher radiation risk. How to form the group at increased risk is considered in the Chernobyl issue as well

Find out more: Radiation&Risk 2021 ◆

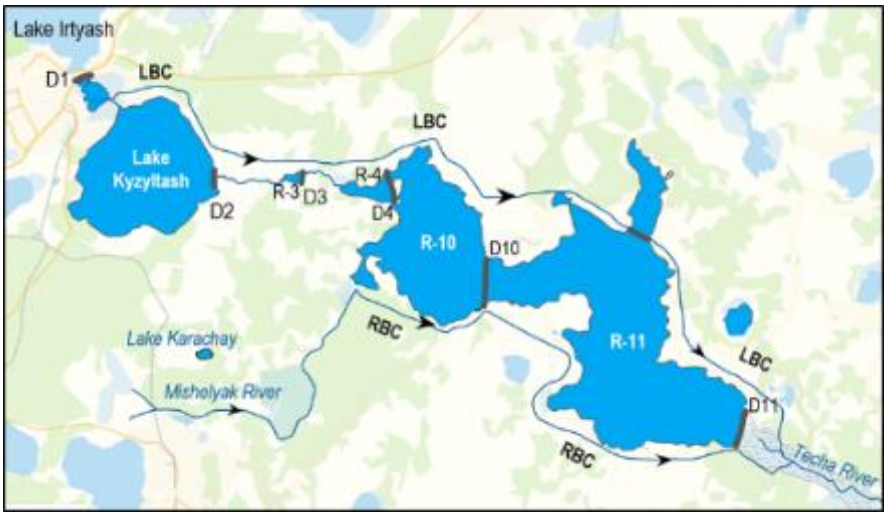
News – From Network Members

◆ Update from the Urals Research Centre for Radiation Medicine (URCRM) of the FMBA of Russia, Chelyabinsk, Russian Federation

By A. Akleyev, Head of the WHO CC, URCRM

The WHO Collaborating Centre URCRM staff prepared a series of papers with the focus on effects of chronic exposure of people. The special issue of the Journal of Radiological Protection published a review by CC's Prof. A. Akleyev and Dr M. Degteva. The manuscript "Radioecological consequences of radioactive releases due to weapons-grade plutonium production at the "Mayak" facility in the Russian Federation" (https://iopscience.iop.org/article/10.1088/1361-6498/abdfbb) examines the current radioecological situation around the Mayak PA.

It is shown that the removal of radionuclides from Lake Karachay and the Techa cascade of reservoirs into groundwater and the Techa River requires on-going radioecological monitoring, management and regulatory supervision.



Map of Techa cascade of reservoirs since 1965: R-3, R-4, R-10 and R-11 (LBC – left bypass canal; RBC – right bypass canal)

In the Journal "Radiation and Environmental Biophysics" a manuscript by professor A.V. Akleyev has been published. "Early signs of chronic radiation syndrome in residents of the Techa riverside settlements" (https://link.springer.com/article/10.1007/s00411-021-00897-8). A retrospective analysis of clinical manifestations made it possible to describe the initial symptoms of this rare radiation pathology in humans.

The issues of mental health of people residing in radioactively contaminated territories of the Ural region of Russia are considered in the article by E. Burtovaya et al. "Incidence of mental disorders in the population of municipal areas of the Chelyabinsk region in the remote period after accidental radioactive contamination", published in the journal "Medico-biological and socio-psychological problems of safety in emergency situations" (https://doi.org/10.25016/2541-7487-2021-0-1-22-30).

A model of xenotransplantation of human hematopoietic stem cells into immunodeficient mice, adapted for radiobiological studies, is discussed in the paper by N.I. Atamanyuk et al. "Use of xenotransplantation of human hematopoietic cells isolated from human peripheral blood and umbilical cord blood to immunodeficient mice for studying the effect of ionizing radiation" in the Journal of radiation safety Issues. ◆

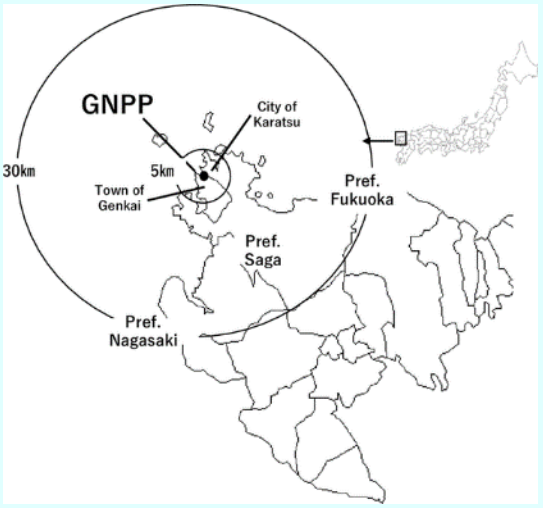
◆Risk perception of the pre-distribution of stable iodine to guardians of children living around the Genkai Nuclear Power Plant, Saga Prefecture, Japan

By N. Takamura, Department of Global Health, Medicine and Welfare Atomic Bomb Disease Institute, Nagasaki University, Japan

Recently, our manuscript entitled "Risk perception of the pre-distribution of stable iodine to guardians of children living around the Genkai Nuclear Power Plant, Saga Prefecture, Japan" has been published on PLoS One (Matsunaga H et al. PLoS One 16(5):e0250570, 2021).

Currently, Japan employs the pre-distribution of stable iodine (PDSI) to residents living near nuclear power plants; however, the number of residents who have actually received stable iodine to date remains limited. We evaluated the profile of guardians of children living around the Genkai Nuclear Power Plant (GNPP), Saga Prefecture (Kyushu Island) in Japan.

We distributed self-administered questionnaires regarding perception of risks associated with administration of stable iodide to guardians of children aged 0-6 in 10 kindergartens located in four municipalities.



Location of the Genkai Nuclear Power Plant (GNPP) in Saga Prefecture, Japan.

Logistic regression analysis revealed that living within 5 km of the GNPP, awareness of preferential implementation of ITB to children, and awareness of the prophylaxis booklet published by the local government were independently associated with PDSI for children.

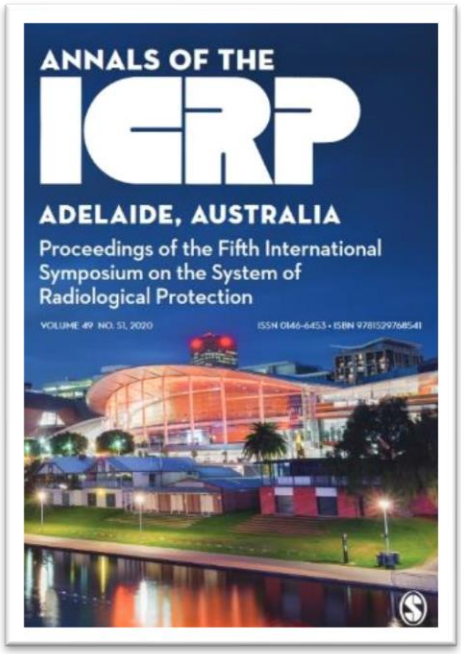
The main reasons for not receiving PDSI were "anxiety about the side effects of stable iodine" (40.2%), "distrust of the effectiveness of SI" (23.5%), "complicated procedures for receiving stable iodine" (15.7%) and "missed the date for receiving stable iodine" (8.8%).

In the case of ITB implementation during a nuclear emergency, it is necessary to clarify the risk perceptions of guardians and adapt risk communication accordingly.

Find the published work here: PLoS One - Matsunaga H et al. ◆

New Publications & Resources

◆ Proceedings of the Fifth International Symposium on the System of Radiological Protection, International Commission on Radiological Protection (ICRP)



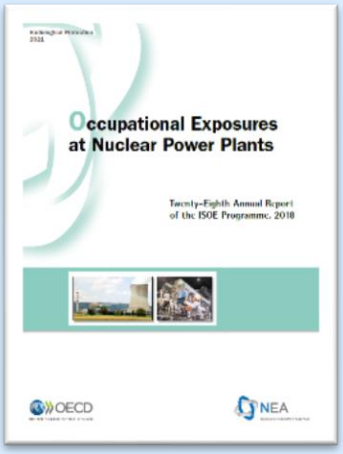
From the Editorial by C. H. Clement (edited) In November 2019, ICRP held the 5th International Symposium on the System of Radiological Protection in Adelaide, Australia. Each of these symposia, held once every 2 years, has been a milestone event for ICRP. They give us a platform to present our recent, ongoing, and upcoming work, and create a forum for a broad discussion about how ICRP can best fulfil our mission to advance radiological protection for the public benefit worldwide. The symposia are also opportunities for ICRP members to come together. Although most of our work is done remotely, by telephone, e-mail, video calls, web meetings, and other means, occasional physical meetings continue to be important. This is especially true for an organisation like ICRP whose 300 or so members come from approximately 40 countries, most working on ICRP business part-time while employed by universities, research institutes, government agencies, hospitals, private companies, and the like.

Physical meetings transform groups of individual experts into teams dedicated to achieving a common goal. They make it possible, for a few days, to focus together on this goal without the usual distractions. They create professional connections that enrich careers and benefit organisations, and personal connections that can last a lifetime. Typically, each year, the Main Commission meets once or twice, each committee meets once, and many, but not all, task groups meet once each. These joint meetings promote good collaboration between the committees and strengthen the connection between the Main Commission and the committees.

ICRP has now held symposia in five major regions of the world: North America, the Middle East, Asia, Europe, and Oceania. Opportunities for experts in radiological protection from all over the world to join these symposia are crucial for an international organisation like ICRP, whose mission encompasses the globe and beyond. Despite Australia being far from just about everywhere, the symposium attracted around 400 experts from 40 countries. The structure of the event was different from those in the past, with a focus on three main themes – Mines, Medicine, and Mars – with these and other topics also being covered in a poster session and in other oral sessions organised in conjunction with a symposium by the Australasian Radiation Protection Society (ARPS).

Highlights of the event included the three keynote talks linked to the three main themes: Paul Cuthbert, General Manager, Olympic Dam, Broken Hill Propriety Company (BHP) opened the Mines session; Professor Brendan Murphy, Chief Medical Officer of Australia, opened the Medicine session; and Dr Robert Thirsk, Canadian Space Agency, an astronaut who has spent more than 200 days in space, opened the Mars session. You can see videos of these presentations and most others from this and the previous symposia on the ICRP website or on ICRPs YouTube channel.

Read More: ICRP 2019 Proceedings ◆



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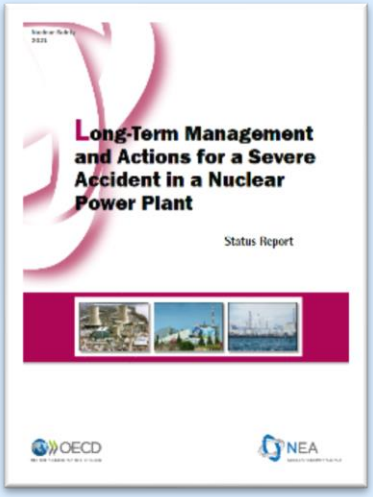
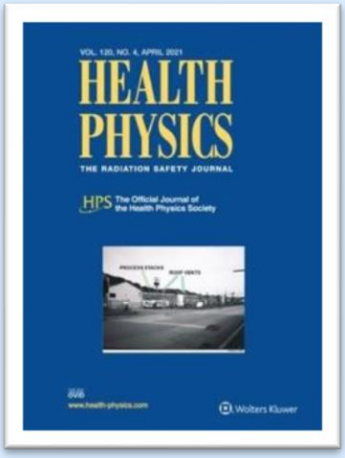


https://www.oecd-nea.org/jcms/pl_58676/long-term-management-and-actions-for-a-severe-accident-in-a-nuclear-power-plant ◆



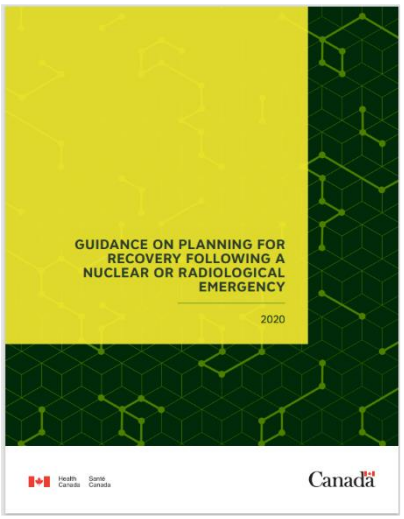

Software Tools for the Evaluation of Clinical Signs and Symptoms in the Medical Management of Acute Radiation Syndrome—A Five-year Experience

https://journals.lww.com/health-physics/Abstract/2021/04000/Software_Tools_for_the_Evaluation_of_Clinical.4.aspx ◆

New Publications & Resources

◆ Guidance on planning for recovery following a nuclear or radiological emergency

By T. Barr, K. Corriveau, D. Nsengiyumva, Nuclear Emergency Preparedness and Response Division, Radiation Protection Bureau, Health Canada



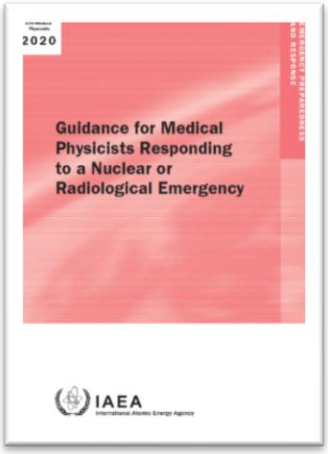
Health Canada, the federal department responsible for nuclear emergency preparedness and response, published the Guidance on planning for recovery following a nuclear or radiological emergency in February 2021. This guidance document is a product of ongoing collaboration between Health Canada, the Canadian Nuclear Safety Commission, Natural Resources Canada, the Department of National Defence/Canadian Armed Forces and Public Safety Canada. The document aligns with the most recent guidance from the International Atomic Energy Agency on the termination of a nuclear emergency and addresses recommendations that were identified following an international review of Canada's preparedness to respond to a nuclear emergency.

This document provides guidance to decision-makers by incorporating lessons learned from past nuclear disasters, for planning off-site recovery activities, including individual monitoring, environmental monitoring, food chain monitoring, remediation and waste management. Key themes introduced include exposure situations, reference levels, psychosocial considerations, establishment of a Recovery Management Organization and community engagement throughout the preparedness, response and recovery phases. The role of the Recovery Management Organization is highlighted so that long term objectives can be achieved to allow relief of emergency management organizations to be ready to respond to the next emergency, and to ensure that the roles and responsibilities for recovery are managed from the transition to the end point. The document also focusses on the non-radiological impacts of nuclear emergencies to the public, namely psychosocial impacts, and provides best practices for minimizing the psychosocial impacts that are applicable to most emergency recovery scenarios. The inclusion of psychosocial consequences is new to the field of emergency management in general, and to nuclear emergency management. This guidance provides federal, provincial and municipal emergency management organizations with a starting point for developing detailed recovery plans and arrangements.

Guidance on planning for recovery following a nuclear or radiological emergency

◆ IAEA EPR series – Guidance for Medical Physicists Responding to Emergencies

To reduce the impact of a nuclear or radiological emergency, it is necessary for the experts involved to be adequately and continuously trained at regular intervals. In addition to their normal duties, medical physicists (MPs) employed in hospitals may also be responsible for radiation protection aspects, including providing support to a response to nuclear or radiological emergencies.



To this end, a special training programme for MPs was developed under the auspices of the IAEA that focuses on the specific requirements, roles and responsibilities of clinically qualified medical physicists (CQMPs).

However, there is a lack of specific training for MPs in the area of emergency preparedness and response (EPR) to nuclear or radiological emergencies.

To promote effective EPR, the IAEA organized workshops to share experience and contribute to the involvement of MPs supporting the response to nuclear or radiological emergencies

URL: https://www-pub.iaea.org/MTCD/Publications/PDF/EPR-MEDPHY_web.pdf

ICRP Annual Report 2020-202161133238.pdf

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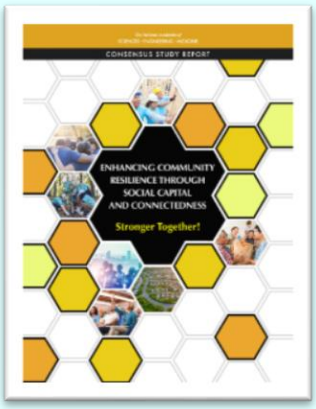
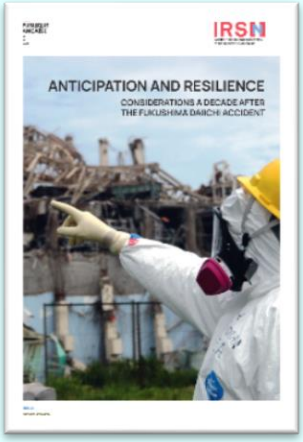


http://nap.edu/26123

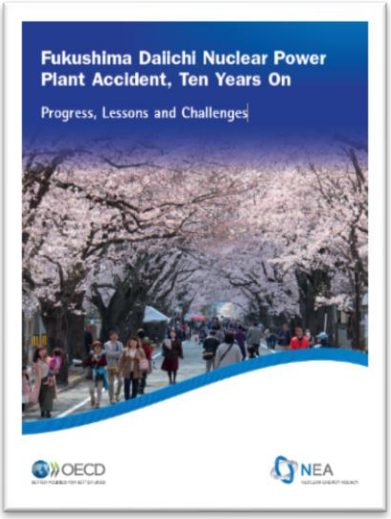
◆

https://www.irsn.fr/EN/publications/thematic-safety/fukushima/Documents/IRSN_Report-2021-00176_Anticipation-and-Resilience-10-years-after-Fukushima_202103.pdf



New Publications & Resources

◆ Fukushima Daiichi Nuclear Power Plant Accident, Ten Years On: Progress, Lessons and Challenges



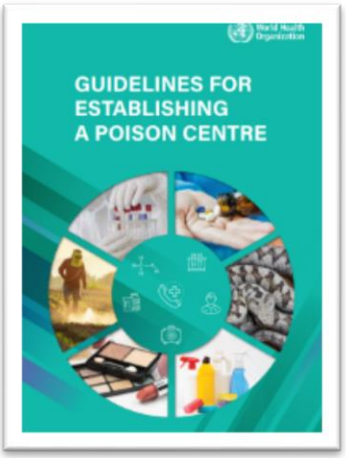
From the Forward by W.D. Magwood, IV (edited):

The 11 March 2011 accident at the Fukushima Daiichi Nuclear Power Plant is an experience with significant global policy and regulatory impact. The NEA published reports on the accident in 2013 (The Fukushima Daiichi Nuclear Power Plant Accident: OECD/NEA Nuclear Safety Response and Lessons Learnt) and in 2016 (Five Years after the Fukushima Daiichi Accident: Nuclear Safety Improvements and Lessons Learnt).

Those mainly discuss safety improvements and legal matters. This new report covers more comprehensively the effects of the accident and future perspectives. It provides information about the achievements of the international community and the NEA, gives analyses on current challenges and suggests future activities of international programmes of co-operation. As the work of decommissioning the power station and remediating radiological effects and socio-economic impacts on the affected areas continues, there are many areas for international communities to learn, assist Japan and support each other.

This report is intended to provide clear information to policy makers involved in providing clean energy, a clean environment and healthy societies through the peaceful use of nuclear energy, as well as any member of the general public wishing to engage and understand the accident and its aftermath.

◆ WHO Guidelines for establishing a poison centre



WHO estimates that, in 2016, unintentional poisoning caused 106 683 deaths and the loss of 6.3 million years of healthy life (disability-adjusted life years). It is estimated that about 20% of global suicides are due to pesticide self-poisoning, mostly in rural agricultural areas in low- and middle-income countries. In many countries, poisoning is one of the main causes of emergency attendance at hospitals. Poisoning is a time-dependent emergency and requires a trained specialist for appropriate diagnosis and treatment. Poison centres are established in many countries as sources of specialized expertise to address the fact that health professionals could not be expected to know about the toxicity of every chemical substance and product and to provide a focus for toxicological research. Poisons Centres have an important role in implementation of the International Health Regulations (2005) which require that countries have the capacity for surveillance, detection and response to public health events caused by chemicals. Much of this capacity can be provided by a well-resourced poisons centre. The Guidelines for establishing a poison centre provides information on the services that may be offered by a poison centre as well as detailed practical guidance on planning and operations. ◆

New member

◆ Colonel Mohammad Naeem, MD, FACR - the new Directors of AFRRI

In July 2020, Colonel **Mohammad Naeem**, MD, FACR became the 20th Director of the Armed Forces Radiobiology Research Institute (AFRRI). AFRRI is responsible for preserving and protecting the health and performance of U.S. military personnel operating in potential radiologically contaminated multi-domain battle spaces or urban environments; through research, education, and operational training that advance understanding of the effects of ionizing radiation and development of medical countermeasures in line with the 21st century national security threats posed by non-state actors and near-peer adversaries, as well as providing rapidly deployable radiation medicine expertise in response to a radiological or nuclear event domestically or abroad.

A medical graduate from Pakistan, Naeem completed a Diagnostic Radiology residency and abdominal and thoracic imaging fellowships in the United States. He has held several challenging assignments in the U.S. Army Medical Corps including as the Diagnostic Radiology Residency Program Director, consultant radiologist at Landstuhl Regional Medical Centre (NATO Role 4 hospital) in Germany for 7 years, chief of Radiology at an ISAF NATO-ROLE 2E Spanish Air Force hospital in Afghanistan and as a physician member of several US Military nuclear and radiological medical advisory globally deployable response teams.

As a medical warfighter, COL (Dr.) Naeem's professional focus has been on medical aspects of asymmetric warfare, CBRNE preparedness, international security environment, combat radiology, imaging high velocity missile and Improvised Explosive Device related trauma, and military readiness. He has lectured at 40 medical and allied conferences. ◆

Obituary - Prof. Dr. Wolfgang Weiss (1946 – 2021)

By Z. Carr

On 4th June, 2021 with deepest sadness we learned about the passing of our dear friend and colleagues, long-term collaborator, advsor and a mentor – Professor Wolfgang Weiss, the former Head of the Radiation Protection and Health Department at the Federal Office for Radiation Protection, Germany. He played an instrumental role in many key developments in Europe and world-wide and have left a very deep trace in the filed of radiation protection.

Wolfgang was full of energy and ideas for new projects… He worked tirelessly to make sure the world would be a better place. He had soft manners and friendly and smiley appearance but he knew exactly how to make his point and to be heard. A physicist by training, he had a brilliant career, held key positions and made an enormous contribution to the national and global field of radiation protection. It is a huge loss to the global radiation protection and radiation research community, as well as for Radiation and Health Program of the WHO, as was still involved in a number of our on-going activities.

For the EPR area specifically, he was the one who inspired, guided and helped us to address the area of non-radiological health impact of radiation emergencies – it was an honor to worked by his side and to learn from his expertise and to co-author some publications together. Most recently, we interacted under his strong leadership for the IRPA-15 congress Scientific Committee… Wolfgang Weiss left quite a large impact and very large shoes to fit. In the YouTube video of his interview by the CTBTO in 2012 he is talking about global things and the future of the planet. He was truly a man of a global vision and a big heart.

Our condolences go to his family, friends and colleagues. He will be missed terribly by all of us. Rest in Peace Wolfgang!

Obituary - Dr Ciara McMahon

By Z. Carr

On January 15, 2021 Dr Ciara McMahon had suddenly passed away.

Dr Ciara McMahon was appointed as one of the five directors of the Environmental Protection Agency (EPA) of Ireland. Dr McMahon previously held the position of programme manager in the agency's office of radiation protection and environmental monitoring, focussing on the area of environment and health.

She had a wide range of national, EU and international experience and specialist knowledge in radiological and environmental protection with over 20 years' experience in areas including **emergency preparedness**, environmental surveillance, radiation monitoring, citizen science, radon and air quality.

Dr McMahon has represented the agency on the government task force on emergency planning and also at the international bodies such us Committee for Radiation Protection and Public Health of the Nuclear Energy Agency (NEA/OECD) and safety standards committees of the IAEA.

I had a great honor to know Ciara personally and to collaborate with her at various technical commitees, meetings, and conferences. Her kind smile, a cheerful personality and her always ready to help with her outstanding technical expertise she is forever missed by many of us – her friends, colleagues and her family.

Rest in peace dear Ciara !

Here is the link to the video featuring the last interview with Ciara. It was released after her passing: *https://youtu.be/kkGFb_QHKEA?t=226*

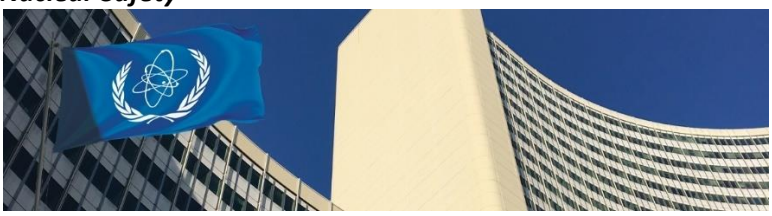
Upcoming Events

- ***International Conference on the Development of Preparedness for National and International Emergency Response (EPR2021)***

11–15 October 2021, Vienna, Austria

URL: https://www.iaea.org/events/epr-2021/scientific-programme ◆

- ***International Conference on a Decade of Progress after Fukushima-Daiichi: Building on the Lessons Learned to Further Strengthen Nuclear Safety***



08-12 November 2021, Vienna, Austria

https://www.iaea.org/events/international-conference-on-a-decade-of-progress-after-fukushima-daiichi-building-on-the-lessons-learned-to-further-strengthen-nuclear-safety-2021 ◆

- ***New MELODI mobility programme for young researchers***

MELODI
Multidisciplinary
European Low Dose Initiative

MELODI (Multidisciplinary European Low Dose Initiative) is a European Platform dedicated to low dose ionizing radiation risk research. The aspects of the research as defined in the MELODI Strategic Research Agenda are: basic mechanisms, health risk evaluation, and impact of radiation exposure characteristics.

The MELODI Mobility Programme is intended for those who would like to improve their knowledge and skills in the field of low dose ionizing radiation **research**. This means early career researchers, PhD and MSc students working in the broad field of radiation research including but not limited to biology, chemistry, physics and medicine.

For full details of the grants available, eligibility and how to apply, please see the website: *https://melodi-online.eu/news/mobility-programme-for-young-researcher/.* ◆

- ***The 2nd NATO workshop on Software tools for Triage of the Acute Radiation Syndrome:***

StTARS 2021
16th - 19th November 2021
at REAC/TS in Oak Ridge, Tennessee, USA

Workshop is jointly organized by the Bundeswehr Institute of Radiobiology (Munich, Gremany) and REAC/TS (Oak Ridge TN, USA).

URL: StTARS 2021 - StTARS 2021 (cvent.com) ◆

RICOMET 2021
RICOMET is a conference on social science and humanities in ionising radiation research

08-10 September 2021

The 7th RICOMET conference with the focus on:

- Beyond scientific disciplinary boundaries: the future of radiation protection research and practice?
- Making nuclear cultural heritage: An institutional challenge for the nuclear industry?
- Investigating societal aspects of radon and NORM: improving methodology
- Participatory approaches to environmental remediation decision-making
- Ethics and implications for medical applications of ionizing radiation
- Societal aspects of radon at workplaces: from legal requirements to implementation

URL:

https://app.azavista.com/w/event/609b045353325a0012b9b2f9/?page_id=609b045b567d575daf089af7 ◆

Upcoming Events

6th NERIS Workshop

20-22 October 2021
Barcelona, Spain

We hope to gather in-person in Barcelona (Spain) at Palau Macau, but we also maintain the possibility to organize the Workshop via web-meeting, partially or fully. The decision will be communicated later.

For more information: https://eu-neris.net/home/newsletters/235-6th-neris-workshop-new-date-20-22-october-2021.html ◆

◆ 5th European Radiation Protection Week

22-24 November 2021 - Vienna, Austria

URL: https://www.euramed.eu/erpw/

◆ The ICRP virtual Workshop: The future of RP

More information at: The Future of Radiological Protection (icrp.org)

Disclaimer

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Contacts / Feedback

Dr. Zhanat Carr, REMPAN Secretariat
Radiation Emergency Medical Preparedness and Assistance
Department of Environment, Climate Change and Health
World Health Organization HQ
Geneva, Switzerland
Email: carrz@who.int

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Editors

Dr. Zhanat Carr, WHO, Geneva
Dr. Alessandro Lambertini, University of Wuerzburg, Germany

Contributors to this issue:

- A. Akleyev (Russia)
- D. Bazyka (Ukraine)
- T. Barr (Canada)
- Z. Carr (WHO)
- C. Clement (Canada)
- A. Dicarlo-Cohen (USA)
- P. Fattibene (Italy)
- N. Hirohashi (Japan)
- V. Ivanov (Russia)
- C. Iddins (USA)
- A. Lambertini (Germany)
- M. Naeem (USA)
- C. Nuccetelli (Italy)
- M. Port (Germany)
- N. Takamura (Japan)
- H. Tatsuzaki (Japan)