



Editorial

Dear Colleagues,

One more year comes to an end and, as usual, we are looking back to appreciate the year behind and making plans for the year ahead. The 2015 was rich with important milestones, lessons learned, commitments made, happy and joyful occasions interweaved with moments of frustration and sadness...

In 2015, WHO led the health response to major outbreaks and emergencies from West Africa to Iraq. One of the most important milestones of the 2015 is the [WHO Emergency Reform](#). A single new program for health emergencies is now established, uniting all outbreak and emergency resources across the three levels of WHO, designed for speed, flexibility, and rapid impact. Reports directly to DG, with its' streamlined management, logistics, procurement, and operations with performance benchmarks based on 24, 48, and 72 hrs, this new approach with also strengthen national response capacity, as a major aim of this initiative backed up by US\$100-million contingency fund, financed by flexible voluntary contributions, to ensure WHO has necessary resources available to immediately mount an initial response.

In September, we marked the end of the 15-year era of the Millennium Development Goals and saw the launch of the [Sustainable Development Goals](#) (SDG) for the next 15 years. Health is in the focus of SDG-3 "Ensure healthy lives and promoting well-being of all at all ages" with its 13 Targets which cover the entire scope of the WHO's work, including: target "*Strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks*" – which directly applies to preparedness and response to public health emergencies of any nature.

In implementing the SDG 3 in the area of radiation emergencies preparedness and response, we very much rely on continuing support of WHO global expert networks REMPAN and BioDoseNet.



You were with us all these times, sad or happy – and I want to thank you for being part of this community and for your continuing cooperation and support.

With warmest regards,

Dr Zhanat Carr
WHO REMPAN Secretariat

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News – From REMPAN Secretariat

By Zhanat Carr, WHO, Geneva, Switzerland

WHO continued to support its Member States' implementation of the International Health Regulations (IHR, 2005) and in strengthening national capacities for radiation emergency preparedness and response (EPR). A number of activities have been conducted during the reporting period by the WHO Radiation Program and its two global expert networks: Radiation Emergency Medical Preparedness Assistance Network (REMPAN) and BioDoseNet.

- In conjunction with the international conference [BioDose-2015](#) held in Hanover, NH, USA on October 05-08, 2015, WHO held the 4th Coordination meeting of the WHO BioDoseNet members. The meeting was attended by 37 experts from 20 countries, which shared information about their respective activities, plans, and issues, and discussed opportunities for cooperation. The preliminary results of the global capacity survey were reported at the meeting. ◆



Participants of the 4th WHO BioDoseNet meeting – Hanover, NH, USA – October 2015

- WHO is working in close cooperation with key stakeholders in EPR area, and participated in a number of key meetings, including OPERRA Workshop on psycho-social consequences of emergencies organized jointly by BFS Institute for Radiation Hygiene (Germany) and CREAL (Spain) (Barcelona on October 14-15, 2015). ◆

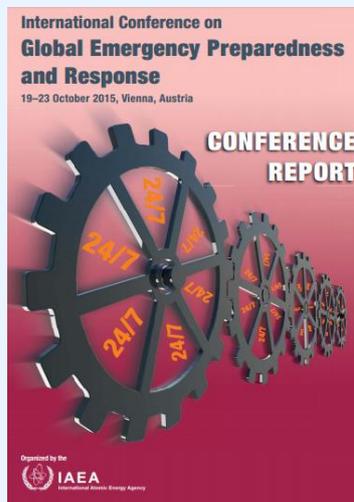
As a member of the International Conference Program Committee, WHO co-organized and contributed to the [IAEA's International Conference on Global Emergency Preparedness and Response \(EPR-2015\)](#) held in Vienna on October 19-23, 2015. WHO delegation participated in the conference and provided technical input to the Opening Session, the Round Table panel discussion on "What is Safe?", and to the Sessions on Medical and Public Health response (Sessions 7A and 7B).



International Conference on Global Emergency Preparedness and Response – Vienna, Austria – October 2015

News – From REMPAN Secretariat

The [Report of the EPR-2015 Conference](#) is available for download from the conference website.



Key points of the report from the Session on Public Health and Medical Response (p. 16 of the report):

- There is a need to strengthen further international networks and cooperation arrangements for building national and regional capacities for medical response.
- It is important to develop and maintain up-to-date international guidance on the medical response based on lessons learned.
- A key component for the medical preparedness is to strengthen training and exercises. Training needs to take into account the importance of the medical community's role in communicating with the public.
- Continuous public education on the biological effects of ionizing radiation is important for reducing exacerbated risk perception during and after an emergency.
- Implementation of protective actions (evacuation, sheltering, administration of potassium iodide, etc.) needs to be justified, i.e. it must do more good than harm, especially for vulnerable groups of population.
- Strengthening preparedness and integration of capabilities supporting medical response is relevant for an effective medical response to nuclear and radiological emergencies. ◆

News – From the Network Members

Survey on Radiation Incident Preparedness of Dutch Hospitals, Utrecht, the Netherlands

By Marianne Leenders, National Poisons Information Center (NVIC), University Medical Center Utrecht, the Netherlands

The International Atomic Energy Agency (IAEA) Safety Standard [“Preparedness and Response for a Nuclear or Radiological Emergency”](#) provides requirements for “Managing the medical response”. To determine compliance with the required arrangements for ‘initial medical treatment of contaminated or highly exposed individuals in local medical facilities’, the [Dutch Poisons Information Center](#) assessed radiation incident preparedness of Dutch hospitals.

We send an on-line survey on resources and knowledge concerning management of casualties of radiation incidents to all Dutch hospitals with a 24/7 available emergency department. Additionally, nine hospitals were visited for an in-depth interview.

Out of the 87 hospital employees who received a questionnaire 58 responded (67%). The hospitals were divided into three categories: small (< 500 beds), big and academic hospitals. For 23 of the 31 small hospitals (77%), 18 of the 19 big and all 8 academic hospitals it was indicated that they prepare for the care of casualties of radiological incidents: 65 % of the hospitals have facilities for decontamination of casualties contaminated with radioactive material.



The decontamination capacity is 1-5 persons / hour for most hospitals (83%) with increase in capacity with hospital size to a maximum of 30 persons / hour. Around 70% of hospitals describe radiological incidents in an emergency response plan but in most hospitals they do not specifically perform exercises with radiation incidents.

Marianne Leenders (top) and colleagues

It was concluded that in general, there is compliance with the IAEA Safety Standard. For hospitals that are not yet prepared, it was recommended that they either establish decontamination facilities or make arrangements with a hospital with these facilities. In the Netherlands, there is a Calamity Hospital which can act as a referral hospital in case of many exposed persons. Finally, the introduction of special training programs on ionizing radiation for emergency department personnel will enhance preparation and reduce fear of this type of incident. ◆

News – From the Network Members

New Biodosimetry Laboratory opened 2015 in Hanoi, Vietnam

By Tran Que, Pham Ngoc Duy, Bui Thi Kim Luyen, Nuclear Research Institute (NRI), Vietnam Atomic Energy Institute (VINATOM), Vietnam

To strengthen biodosimetry at the Radiation Medical Pharmaceutical Biological Department, Nuclear Research Institute (NRI), Vietnam Atomic Energy Institute (VINATOM) a new biodosimetry laboratory was opened at the Military Institute of Medical Radiology and Oncology in Hanoi, Vietnam, in 2015.



New biodosimetry laboratory – Hanoi, Vietnam – 2015

To develop the ability of the biodosimetry labs in Vietnam to use mature and novel techniques in biological dosimetry for the estimation of radiation doses received by individuals and populations and to strengthening biodosimetry in Vietnam training was given by [IAEA](#) experts. ◆



Biodosimetry Team with IAEA expert Prof. Dr. Firouz Darroudi

News – From the Network Members

Belarus a Partner in IARC's CO-CHER Project

By Alexander Rozhko, Research Center for Radiation Medicine and Human Ecology (RRCRM&HE), Gomel, Belarus

The Cooperation on Chernobyl Health Research (CO-CHER) project is a further step towards the implementation of the **Agenda for Research on Chernobyl Health (ARCH) Strategic Research Agenda (SRA)**, led by the **International Agency for Research on Cancer (IARC)**. The purpose of CO-CHER is to establish an international collaboration to facilitate long-term research on the health effects of the Chernobyl accident and bring together key scientific players to define research priorities and to obtain seed funding.

The CO-CHER initiative emphasizes the need to build partnerships with the three countries mainly affected (Belarus, the Russian Federation, and Ukraine), plus Japan, the USA and European countries in order to take the research agenda forward.



CO-CHER Kick-Off Meeting – IARC, Lyon, France – March 2014

One of the nine project partners is the Belarusian **Republican Research Centre for Radiation Medicine and Human Ecology** (RRCRM & HE). Project duration is from 1 February 2014 to 31 July 2016. The RRCRM & HE contributed to the assessment of methods for individual radiation dose reconstruction in persons exposed to radiation in the Republic of Belarus, including the development of an inventory of data available for dose reconstruction. Further, an inventory of biological samples (cancer tissue paraffin blocks, frozen blood and thyroid cancer tissue) was established, which were collected from exposed populations and stored in Belarus to evaluate the feasibility of tissue banks for Chernobyl-related projects.

Work under this proposal is divided into five closely integrated work packages (WPs):

- WP 1: Coordination and overall management
- WP 2: International collaboration and agreement on research program
- WP 3: Assessment of Chernobyl research infrastructures
- WP 4: International collaboration on proposing funding mechanism
- WP 5: Agreement on coordinating structure and setting-up research framework ♦

News – From the Network Members

New Building of SFOPH Opened

By Christophe Murith, Swiss Federal Office of Public Health (SFOPH), Radiation Protection Division, Berne, Switzerland

Since September 2015, the **Federal Office of Public Health (FOPH)** has moved to a new building, with new facilities and infrastructure. An emergency exercise in 2015 was an opportunity to test the processes, crisis team and infrastructures. The first evaluation showed that the response capabilities are adequate although several issues have to be improved to face a severe emergency situation.

The next step, which will be mandatory is to extend NPP Emergency Exercises in including the practices of the Federal Crisis Management Board beyond the first 12 hours of an Emergency.

The next NPP Emergency Exercises is planned 2017 with the NPP Mühleberg, near the capital Berne. It should allow to optimise the response in a sustainable manner in order to improve the protection of the population in affected areas. ♦



New Crisis Room at FOPH – Berne, Switzerland – September 2015

Scientific Events

International Seminar on Emergency Medical Preparedness and Dose Evaluation in Seoul, Korea

By Soyon Kim, Radiation Health Institute, KHNP, Seoul, Korea

The Korea Hydro & Nuclear Power Co. Ltd (KHNP) – Radiation Health Institute (RHI) held an International Seminar on **“Recent Advancement on Radiation Emergency Medical Preparedness & Dose Evaluation”** September 17, 2015, at the RHI, Seoul, Korea. The objective of the KHNP-RHI International Seminar was to share information on radiation emergency medical response of the Fukushima accident in 2011 and on recent radiation dose evaluation system.



International Seminar on Emergency Medical Preparedness and Dose Evaluation – Seoul, Korea - September 2015

Lectures were presented by invited speakers.

- M. Akashi, NIRS Japan: Health consequences of emergency workers in Fukushima accident
- K. Tanigawa, Fukushima Medical University Japan: Emergency medical management of NPP workers in Fukushima accident
- W. Schreiber, Electron Paramagnetic Resonance (EPR) Center, Dartmouth Medical School. In-vivo electron spin resonance (ESR)
- T. Suzuki, Chiyoda Technology: Experience with „Mobile Whole Body Counting (WBC)“.

It is expected that the work of the international seminar will significantly increase the degree of medical preparedness in the case of radiation emergencies in Korea and will contribute to the development of international cooperation in radiation emergency. ◆

Scientific Events

The NIAID Biodosimetry Workshop, Bethesda, USA

By Merriline Satyamitra, Radiation Nuclear Countermeasure Program, National Institute of Allergy and Infectious Diseases, NIH, Bethesda, USA

The Radiation Nuclear Countermeasure Program

(RNCP), National Institute of Allergy and Infectious Diseases (NIAID) held a two day workshop on October 26-27, 2015 at Rockville, Maryland. The goals of this workshop were to provide a snapshot of current research pursuits in predictive biodosimetry and advances in biodosimetry devices for the assessment of radiation exposure, to identify existing gaps in the translation of biodosimetry biomarkers and devices into real life scenarios, and the influence of treatment approaches targeting multi-organ injury following irradiation on biodosimetry methods.

The audience were Principal Investigators and research scientists funded currently and in the recent past by NIAID, subject matter experts dealing with different aspects of radiation biodosimetry, representatives from sister agencies, the Biomedical Advanced Research and Development Authority (BARDA), Food and Drug Administration (FDA), Department of Defence (DoD), Defense Threat Reduction Agency (DTRA) to highlight biodosimetry gaps in their current program, as well as new researchers who are just entering the field of radiation biodosimetry.

The outcome for this workshop is to promote research to strengthen medical triage and treatment response in the event of a large scale radiological emergency. ◆

Exercise and Training

First School of Radiation Emergency Management in Latin America and the Caribbean to Open its Doors in Brazil

By Dejanira da Costa Lauria, Institute of Radiation Protection and Dosimetry, Rio de Janeiro, Brazil

After almost two years of preparatory work, the First School of Emergency Management in Latin America and the Caribbean is ready to be launched in Rio de Janeiro, Brazil.

The Opening Ceremony of the First School of Emergency Management in Latin America and the Caribbean took place on November 09, 2015, in Rio de Janeiro, Brazil at the **Institute of Radioprotection and Dosimetry (IRD)** of the National Nuclear Energy Commission (CNEN) of Brazil. Luis Longoria, Director of the Division of Latin America in the Department of Technical Cooperation (TCLA), stressed the importance of strengthening national capacities for responding to radiological emergencies and emphasized the objective of the course to achieve a comprehensive understanding of the conceptual framework of preparedness and response for a Nuclear or Radiological Emergency.

With the support of the **IAEA technical cooperation programme** 30 participants from 16 Latin American and the Caribbean countries will be the first professionals to attend this school that will take place until November 27, 2015. The goal is to improve their abilities to facilitate the effective implementation and coordination of emergency preparedness and response (EPR) arrangements in their countries.



First School of Radiation Emergency Management – Opening Ceremony – Rio de Janeiro, Brazil – November 2015

The syllabus was developed during consultancy meetings with international experts; one of them, Raul dos Santos, head of the Emergency Division of the IRD, believes in the importance of training of future leaders who have the task of managing nuclear and radiological emergencies.

A first pilot course was conducted at the International Centre for Theoretical Physics (ICTP) in Trieste, Italy from September 14–25, 2015. The pilot course received very positive feedback from the participants.

The First School of Emergency Management in Latin America will be funded by the **European Commission** and implemented within the framework of the IAEA technical cooperation **project RLA/9/076**, which aims to strengthen national capabilities for response to radiation emergencies in Latin America and the Caribbean. ◆

Exercise and Training

Emergency Exercise at Gösgen NPP, Switzerland

By Christophe Murith, Swiss Federal Office of Public Health (SFOPH), Radiation Protection Division, Berne, Switzerland

In September 2015, an **emergency exercise** was conducted at Gösgen Nuclear Power Plant (NPP), which is located in between the cities Aarau and Olten. Every two year such an emergency exercise is organised with one of the NPP's in Switzerland.

In the exercise scenario planned, the release of radioactivity at the NPP potentially affected 30.000 persons within a radius of 5 km around the NPP and about 413.000 persons living within a radius of 20 km.

In case of an emergency, the NPP, the Swiss Federal Nuclear Safety Inspectorate (ENSI), the National Emergency Operations Center (NEOC), the cantons and also the Federal Crisis Management Board work together. During the first few hours, predefined emergency procedures are followed, checklists are used and standardized information are given to the public by the NEOC.

Later, the **Federal Crisis Management Board** is activated to lead the coordination between the different Ministries. Decisions of the Federal Council and strategies for the recovery are prepared based on the results of the organisation of measurements. Various crisis management groups are involved to assist the Federal Council, especially the Federal Office of Public Health (FOPH). ◆

Exercise and Training

Exercises at RITN Hospitals in 2015, Minneapolis, USA

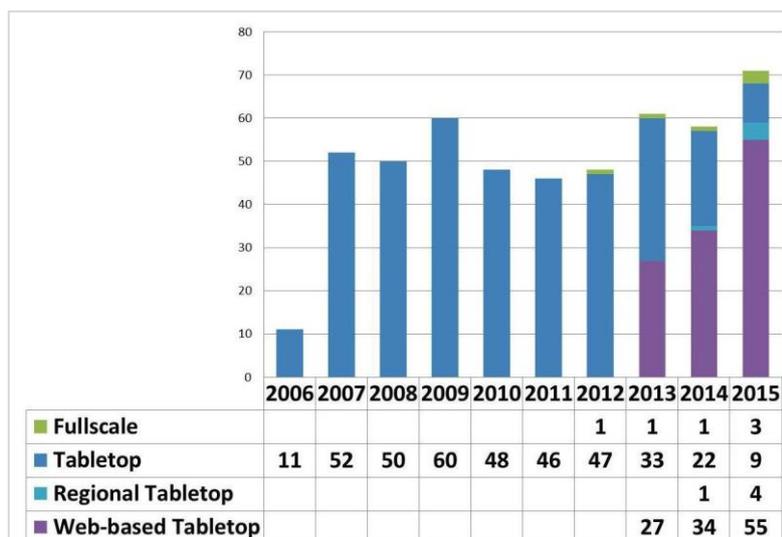
By Cullen Case, National Marrow Donor Program – RITN, Minneapolis, USA

In 2015, the [Radiation Injury Treatment Network](#) (RITN) grew by six hospitals to a total of 65 hospitals, five donor centers and six cord blood banks (total of 76 centers).

Three fullscale exercises and four regional tabletop exercises were funded this year by RITN, in addition to the standard tabletop exercises that are conducted each year. The regional tabletop exercises brought together hospital staff, city, state and regional public health and emergency management staff as well as other organizations that work the each hospital to prepare for mass casualty incidents. During the exercise a scenario was reviewed involving a distant radiological incident with a medical surge of patients being transported outside the disaster area for specialized medical care. This scenario is usually not considered as most planners focus on how their communities will be impacted by a disaster that hits at home versus far away. The resulting discussions were very beneficial in identifying gaps in planning efforts. The [exercise materials](#) (to hold your own exercise) and the after action reviews will be posted on the web in December 2015.

Since 2013 RITN has transitioned its annual tabletop exercise that each of the RITN centers conducts to a web based environment. RITN still develops all of the exercise materials and now provides a facilitator to guide groups of hospitals through the scenario and discussion questions. This has been very effective in simplifying the effort each hospital needed to put forth as well as ensure consistency of the exercises and allow for hospitals to hear how their peers are preparing or what similar issues they are encountering.

From 2006 - 2015, **505 RITN exercises** have been conducted. In 2016, RITN will hold five web based tabletop exercises, two fullscale exercises, three functional and three regional tabletop exercises. [FEMA definitions of exercise](#) types can be found online. ♦



RITN – 505 Exercises, 2006-2015

Exercise and Training

Emergency Response Exercise of WHO REMPAN CC Moscow, Russia

By Andrey Bushmanov, Burnazyan Federal Medical Biophysical Center (FMBC), Moscow, Russia

On October 01, 2015, the **WHO REMPAN Collaborating Centre (CC) Moscow** conducted an emergency response exercise to test and improve the availability of medical personnel at the specialized emergency department, the specialized radiological brigade and the expert group at the WHO REMPAN CC for medical assistance of patients in a radiation emergency.

The main objective of the training was to test interactions of all departments and units involved and to provide medical support to patients with local radiation injuries of hands and with inhaled radioactive substances.



Emergency response exercise of WHO REMPAN CC – Moscow, Russia – October 2015

Emergency medical response

was practiced at different levels:

- Notification of the WHO REMPAN CC departments and transfer to a higher level of emergency care
- Information exchange and interaction of the training groups providing medical support
- Taking decisions to examine and treat patients
- Surgery for local radiation injuries
- Research to estimate internal intake of radioactive materials by whole body counter
- Collection, labeling, storage and delivery of bioassays to the biophysical laboratory
- Providing scientific, methodical and consultative support for decision making by WHO REMPAN CC experts
- Providing psychological support to patients ♦

Exercise and Training

HHS Launches Redesigned Online Radiation Treatment Resource, USA

By Judith Bader, NIH/NCI, Bethesda, USA

According to a press release by the US Department of Health and Human Services (HHS) the redesigned version of the [Radiation Emergency Medical Management \(REMM\)](#) website was released officially October 8th, 2015. Health care professionals now can easily find reliable guidance to help diagnose and treat patients who have been exposed to radiation.

The first major redesign of the REMM website since it was launched in 2007 is available online. REMM gives health care personnel key information about the diagnosis and treatment of radiation injuries and access to interactive clinical tools and data. The site was developed by two agencies of the U.S. Department of Health and Human Services (HHS): the HHS Office of the Assistant Secretary for Preparedness and Response (ASPR) and the National Library of Medicine (NLM) part of the National Institutes of Health.

The site provides just-in-time, evidence-based, usable information with sufficient background and context to make complex issues understandable to health care providers without formal training or expertise in radiation medicine. The redesigned site now includes behavioral health resources and material for additional stakeholders, including first responders, senior health care leaders, veterinarians and public information officers.



So that health care professionals can find the information they need easily and quickly, the site has a more modern navigation system and includes menus at the top of the page to quickly access clinical tools, diagnosis, treatment information, reference data and a site overview.

Physicians and medical staff also can download a majority of the information from the website to use during an emergency if the internet is not accessible. A smartphone app containing REMM information, called Mobile REMM, also is available for the Apple and Android platforms.

While much of the REMM website has been redesigned, some popular features of the previous site have been enhanced and incorporated into the new site. One of the site's most popular features, the REMM multimedia library, is now in a prominent carousel on the new homepage.

The previous web page addresses have also been retained, allowing users who bookmarked their favorite pages in the original REMM site to access that information in the new site without needing to update their bookmarks. [New content on REMM](#) is described online. ◆

Exercise and Training

General Emergency Exercise at Angra dos Reis NPP, Brazil

By Dejanira da Costa Lauria, Institute of Radiation Protection and Dosimetry, Rio de Janeiro, Brazil

A general exercise of the emergency plan for the Almirante Álvaro Alberto Nuclear Power Plant (CNAA) was held on September 23 - 24, 2015, with the participation of several federal, state and local agencies, including the [Institute of Radiation Protection and Dosimetry \(IRD\)](#). For this exercise a post-accident scenario was considered.



General Emergency Exercise – Angra dos Reis, Brazil – September 2015

To prepare for of this exercise, a two days' workshop was held on June 17 - 18, 2015, at IRD, where 118 participants from Army, civil defense, power plant operator, environmental agencies, and regulatory authorities were represented. The emergency workshop addressed the main topics to be considered after a nuclear emergency, among them:

- Angra dos Reis real time monitoring system
- Radiological Survey
- Environmental modeling
- Remediation of contaminated areas
- Decision making about food consumption after an accident
- People decontamination
- Field detector calibration
- Assessment of external and internal exposure of public
- Cytogenetics
- Code used for cancer risk projection in Brazil.

In addition, more than forty officials of army were trained as multiplied trainee for collecting of environmental samples. ◆

Exercise and Training

Training Course in Biodosimetry, University of Costa Rica

By Omar Garcia, Centro de Protección e Higiene de las Radiaciones ([CPHR](#)), Habana, Cuba

The Research Institute on Health ([Instituto de Investigaciones de Salud – INISA](#)) from the University of Costa Rica organized a training course on biodosimetry from November 16-20, 2015.

Instituto de
Investigaciones en Salud



The course focused on theoretical and practical aspects of biodosimetry based

on the dicentric assay. The staff of the INISA's cytogenetic laboratory, several students for different specialties from the University as well as professionals from the health sector participated in the course, planned in the framework of the IAEA regional project RLA9076 "Strengthening of National Capabilities for Response to Radiation Emergencies". INISA is planning to launch the first biological dosimetry service in the Central American Region.



Biodosimetry Training Course – Costa Rica – November 2015

The [WHO BioDoseNet \(BDN\)](#) Image Repository is a new project under development based on the vast collection of images accumulated at the WHO Collaborating Center in Munich, Germany – BfS Institute for Radiation Hygiene - a databank of various galleries of digital images of dicentric assay metaphases, previously scored and analyzed. Images from the repository were used for a pilot on-line training by five teams of students, during this training course. The teams analyzed the same metaphases images on computers and tablets. The results obtained by the trainee teams were compared against the results of the experts. This exercise demonstrated the possibility of using the image repository as a valuable tool for training purposes in biological dosimetry. ♦



Teams of students connected to the WHO BioDoseNet Image Repository

Exercise and Training

Train the Trainers Course on Medical Physics

By Rita Schneider, Department of Nuclear Medicine, Würzburg, Germany (Article based on [IAEA](#))

Medical physicists and especially clinical medical physicists usually are not involved in nuclear or radiological emergencies. In a few instances where medical physicists were involved, it appeared that many lacked some specific knowledge and skills required in such events.

As a response to this finding, IAEA in consultation with WHO, the International Organization for Medical Physics (IOMP) and the International Radiation Protection Association (IRPA) developed a **specific training package** to prepare medical physicists to manage nuclear or radiological emergencies. The training course was developed with support of the Government of Japan and in collaboration with Fukushima Medical University (FMU) and the National Institute of Radiological Sciences (NIRS) and endorsed by the Japan Society of Medical Physics (JSMP).

In June 2015, the first training course was held at Fukushima, Japan, organized jointly by the IAEA, FMU and NIRS. The training material initially created for use during the course is now hosted on a publicly available [e-learning platform](#). ♦

Exercise and Training

Training Course on Radiation Emergency Medicine at NIRS, Japan

By Hideo Tatsuzaki, Hiroko Inou, Misao Hachiya, and Makoto Akashi, NIRS, Japan

The National Institute of Radiological Sciences (NIRS) (WHO-REMPAN CC), Japan, organized the “The NIRS Training Course on Radiation Emergency Medicine in Asia 2015” December 07-09, 2015 at NIRS Training Center, Chiba, Japan. This training course aims to equip radiation emergency medical (REM) professionals with the knowledge and skills required to become trainers in their own countries.

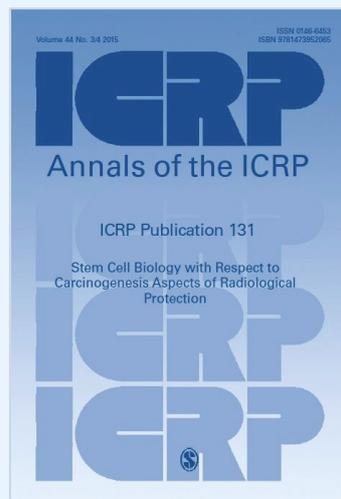


Training Course on Radiation Emergency Medicine at NIRS, Japan – December 2015

Thirteen medical professionals nominated from 13 countries in Western Pacific Region, South East Asia Region, and Eastern Mediterranean Region, and one observer participated in the workshop. In addition to lectures including TEPCO Fukushima NPP accident case, a table top drill and a practical drill were conducted. The participants are expected to lead REM in their respective countries after the workshop. ◆

New Publications

The new publication 131 **[“Stem Cell Biology with Respect to Carcinogenesis Aspects of Radiological Protection”](#)** by the International Commission on Radiological Protection (ICRP) provides a review of stem cells/progenitor cells and their responses to ionizing radiation in relation to issues relevant to stochastic effects of radiation that form a major part of the ICRP’s system of radiological protection.

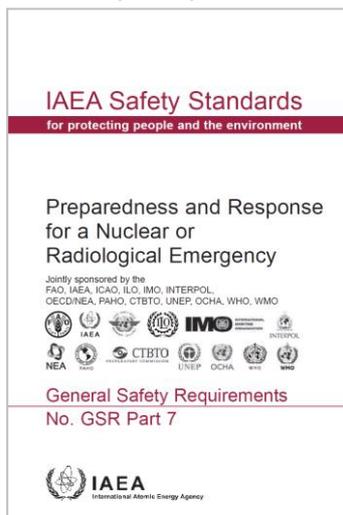


Current information on stem cell characteristics, maintenance and renewal, evolution with age, location in stem cell ‘niches’, and radiosensitivity to acute and protracted exposures is presented in a series of substantial reviews as annexes concerning hematopoietic tissue, mammary gland, thyroid, digestive tract, lung, skin, and bone. ◆

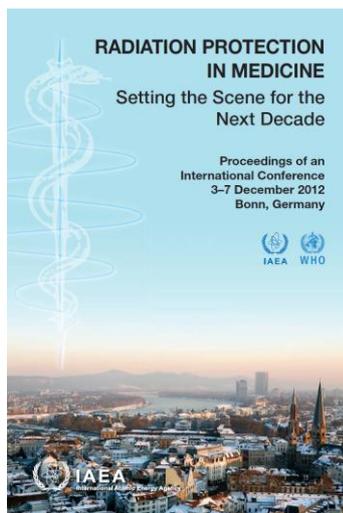
The publication by Steffen Dreger et al. “The effects of iodine blocking following nuclear accidents on thyroid cancer, hypothyroidism, and benign thyroid nodules: design of a systematic review” summarizes new **[evidence on the efficacy of KI administration](#)**. The review is part of the update of the existing WHO guideline for KI administration from 1999, as present **[WHO regulations for guidelines development](#)** require a systematic review of the scientific evidence. ◆

New Publications

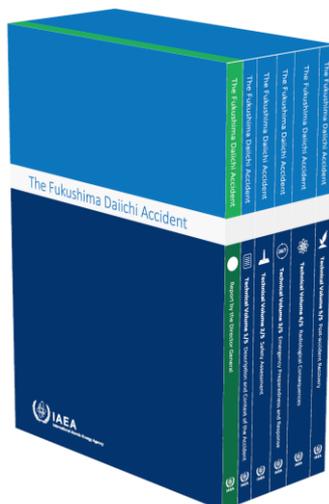
The publication [“Preparedness and response for a nuclear or radiological emergency”](#) jointly sponsored by many international organizations including WHO, is the new edition establishing the requirements for preparedness and response for a nuclear or radiological emergency, which takes into account the latest experience and developments in the area. It supersedes the previous edition of the safety requirements for emergency preparedness and response, Safety Standards Series No. GS-R-2, published in 2002. This publication establishes the requirements for ensuring an adequate level of preparedness and response for a nuclear or radiological emergency, irrespective of its cause. ♦



This publication of 2015 represents the proceedings of the International Conference on [“Radiation Protection in Medicine: Setting the Scene for the Next Decade”](#) held in Bonn, Germany, on December 03–07, 2012. The aims were to indicate gaps in current approaches, identify tools for improving radiation protection in medicine, to review advances, opportunities and challenges and to assess the impact of the international action plan for radiation protection of patients in order to prepare new international recommendations. The conference drew up the 10-point Bonn Call for Action, which identifies responsibilities and proposes priorities for stakeholders regarding protection in medicine for the next decade. ♦



The [Fukushima Daiichi Accident](#) consists of a Report by the IAEA Director General and five technical volumes. It is the result of an extensive international collaborative effort involving five working groups with about 180 experts from 42 Member States with and without nuclear power programmes and several international bodies. It provides a description of the accident and its causes, evolution and consequences, based on the evaluation of data and information from a large number of sources available at the time of writing. ♦



New Publications

Risk from Evacuation versus Radiation Risk?

By Michio Murakami, Department of Health Risk Communication, Fukushima Medical University, Fukushima, Japan

The new [publication by M. Murakami](#) “Was the Risk from Nursing-Home Evacuation after the Fukushima Accident Higher than the Radiation Risk?” et al. is the first quantitative assessment of the risk trade-off between [radiation exposure and evacuation](#) after a nuclear power plant accident. ♦

Health Effects of Chernobyl: 30 Years after the Accident

By Victor Ivanov, WHO CC on Research and Training on Radiation Epidemiology, Obninsk, Russia

The book „Health effects of Chernobyl: Prediction and actual data 30 years after the accident” with results of follow-up studies, analysis and prediction of possible late effects was published in October 2015.



Editors are Prof. V. Ivanov, Director of the WHO CC on Radiation Epidemiology and Deputy Director of the [A. Tsyb Medical Radiological Research Centre](#) (MRRC) and Prof. A. Kaprin, Director General of the National MRRC. ♦

News

Dr. Satyamitra Newly Appointed as Program Officer at NIAID

By Merriline Satyamitra, Radiation Nuclear Countermeasure Program, National Institute of Allergy and Infectious Diseases, NIH, Maryland, USA

Program Officer for Radiation Biodosimetry at RNCP, DAIT, NIAID, **Dr. Merriline Satyamitra** was recently appointed as a Program Officer, contracting officer representative (COR) and countermeasure



product development manager for radiation biodosimetry and medical countermeasures research, and translational programs at **NIAID**. She is heading the group's radiation biodosimetry associated research activities

Dr. Merriline Satyamitra

Dr. Satyamitra got her PhD degree in Radiation Biology and a Master's degree in Biochemistry from Manipal University, India. She worked at the National Cancer Institute studying the phenotypic alterations of radiation-induced brain lesions. Later, she served as staff scientist at the Armed Forces Radiobiology Research Institute (AFRRI) for seven years. ♦

Bavarian Order of Merit awarded to Prof. Christoph Reiners in Munich, Germany

By Rita Schneider, Department of Nuclear Medicine, Würzburg, Germany (Article based on [Klinikum&wir](#), Issue 4, 2015)

For his outstanding contributions to the field of medical radiation protection **Prof. Christoph Reiners**, head of the WHO REMPAN CC and Managing Director of the University Hospital Würzburg, Germany, was awarded the Bavarian Order of Merit by Horst Seehofer, Minister President of Bavaria in October 2015.



Minister President Horst Seehofer (right) presents Christoph Reiners (left) with the Bavarian Order of Merit – Munich, Germany – October 2015 (Photo Credit: Bayerische Staatskanzlei)

The order recognizes Prof. Reiners' exceptional professional achievements and scientific engagement especially in the field of radiation induced thyroid cancer. Christoph Reiners treated successfully several hundreds of Belarussian children with radiation induced thyroid cancer and established the [Society "Medical Assistance for Chernobyl Children"](#) to foster long-term follow-up of these patients. ♦

Obituary

Professor William Morgan (1952 -2015) – New Zealand



Professor Dr. William Morgan passed away suddenly on Friday November 13, 2015, at the age of 62.

Dr. William Morgan was an eminent scientist and the Director of Radiation Biology and Biophysics in the Biological Sciences Division of the Pacific Northwest National Laboratory. He was a leading figure in the study of the biological effects of ionizing radiation and had a distinguished career that spanned over 35 years

Born and raised in Christchurch, New Zealand, he received his bachelor degree in botany and his master and doctoral degree in cytogenetics from the University of Canterbury. After completing a postdoctoral fellowship at the University of California, San Francisco (UCSF), he joined the faculty there and later obtained a joint appointment at the Lawrence Berkeley National Laboratory (LBNL).

In 1999, he became Director of the Radiation Oncology Research Laboratory at the University of Maryland Medical School in Baltimore. In 2008, he moved to Pacific Northwest National Laboratory and took on his leadership role until his untimely death.

His research focused on the long-term biological effects of ionizing radiation and, more specifically, on the study of low dose effects on human health. Dr. Morgan was conferred with an honorary D.Sc. degree from his Alma mater in 2003 and was elected Fellow of the American Association for the Advancement of the American Association for the Advancement of Science in 2010.

Dr. Morgan was part of the ICR family for the last decade of his life.

As a great scientist and as a great friend to many, he will be sorely missed. ♦

Upcoming Events

- **20-22 January, 2016, Bratislava, Slovak Republic**
[PREPARE Dissemination workshop: Innovative integrative tools and platforms](#)
- **21-25 February, 2016, Riyadh, Saudi Arabia**
[International Conference on Radiation Medicine \(ICRM 2016\)](#)
- **18-19 April, 2016, Kiev, Ukraine**
[International Conference “Health Effects of the Chernobyl Accident – A Thirty Years Aftermath”](#)
- **09-13 May, 2016, Cape Town, South Africa**
[14th International Congress of the International Radiation Protection Association \(IRPA\): Practicing Radiation Protection - Sharing the Experience and New Challenges](#)
- **17-19 May, 2016, Obninsk, Russia**
[International conference “Health effects of Chernobyl: Prediction and actual data 30 years after the accident”](#)
- **08-10 June, 2016, Lyon, France**
[Conference on Global Cancer: Occurrence, Causes, and Avenues to Prevention](#)
- **11 June, 2016, Lyon, France**
[Scientific Symposium Chernobyl: 30 years after](#)
- **16-17 June, 2016, Würzburg, Germany**
[4th International Seminar Radiation Medicine in Research and Practice: Health effects 30 years after Chernobyl, 5 years after Fukushima](#)
- **17-21 July, 2016, Spokane, USA**
[61st Annual Health Protection Society Meeting](#)

Upcoming REAC/TS Training Courses

- **09-12 February, 2016, Oak Ridge, USA**
- **08-11 March, 2016, Oak Ridge, USA**
- **05-08 April, 2016, Oak Ridge, USA**
- **14-17 June, 2016, Oak Ridge, USA**
[Radiation Emergency Medicine \(REM\)](#)
- **15-19 August, 2015, Oak Ridge, USA**
[Advanced Radiation Medicine](#)
- **14-18 March, 2016, Oak Ridge, USA**
- **20-24 June, 2016, Oak Ridge, USA**
[Health Physics in Radiation Emergencies](#)
- For full details on REAC/TS Courses see [REAC/TS 2015-16 Course Brochure](#)

Other Upcoming Training Courses

- **25-29 April, 2016, Mol, Belgium**
[Preparedness and response for nuclear and radiological emergencies](#)

Disclosure

The REMPAN e-NEWSLETTER is produced 2 times a year and circulated by WHO Secretariat to the network members to provide information about latest news on the network's activities, developments in radiation emergency preparedness and management.

The REMPAN e-NEWSLETTER was prepared by the WHO Collaborating Centre for Radiation Emergency Medical Preparedness and Assistance, Würzburg, Germany and the REMPAN Secretariat, WHO, Geneva, Switzerland.

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