RADIATION EMERGENCY MEDICAL PREPAREDNESS AND ASSISTANCE NETWORK

REMPAN e-NEWSLETTER

World Health Organization

Issue 15 July, 2017

Editorial

Dear Reader,

This issue of the e-Newsletter is very special. We just closed the **15th Coordination Meeting of REMPAN** member institutions which was held for the first time in REMPAN's history at the Headquarters of the World Health Organization (WHO). The meeting was also very special because it marked the **30th anniversary** of this global network launched in 1987 to fulfil WHO's mandate under the two Emergency Conventions put in place right after the Chernobyl accident. You will find on page 4 a contribution to this issue from one of the original members of REMPAN – Dr Kazinori Kodama of the Radiation Effects Research Foundation (RERF) in Hiroshima, Japan.

One more important reason to celebrate is the new Director-General (DG) who took the helm of WHO – **Dr Tedros Adhanom Ghebreyesus** from Ethiopia. In **his speech** at the meeting with the WHO staff on July 03, he set his priorities and those of the Organization as follows:

- universal health coverage
- health emergencies
- women's, children's and adolescents' health
- health impacts of climate and environmental change.

We join the global medical community in wishing Dr Tedros a successful and fruitful term as a DG and the best of luck in making a difference for the health of the humankind – this is a great honour and a privilege, which will be happy to support.

The past six months were packed with events and activities, about which you can read in this issue of the Newsletter. From the REMPAN Secretariat side, a record of the implemented tasks is provided for your attention on the next pages. We hope you find this information useful and interesting. Please spread the word – forward this Newsletter to those who may be interested. We are looking for new members, especially in those countries, where we have not established the focal points yet. To see full directory of the REMPAN members **click here**.

With warmest regards,
Dr Zhanat Carr
WHO REMPAN Secretariat

In this issue

News – From REMPAN Secretariat

15th Coordination Meeting of WHO REMPAN, July 03-05, 2017, Geneva, Switzerland

By Zhanat Carr, WHO, Geneva, Switzerland

The 15th Coordination Meeting of WHO REMPAN was co-hosted and co-sponsored by the Swiss **Federal Office of Public Health (FOPH)** – one of the WHO Collaborating Centres and active supporters of the WHO Radiation Programme.

REMPAN-15 gathered about a hundred experts from 15 Collaborating Centres and 30 Liaison Institutions, as well as more than 30 technical experts participating as individual observers or representing WHO partners – International Atomic Energy Agency (IAEA), International Federation of Red Cross (IFRC), International Radiation Protection Association (IRPA), Global Health security Initiative (GHSI), European Bone Marrow Transplant Network (EBMT), NERIS – European Platform on Preparedness for Nuclear and Radiological Emergency Response and Recovery, RENEB – Realizing the European Network of Biodosimetry, and the US Radiation Injuries Treatment Network (RITN).

The meeting agenda was packed with exciting topics across twelve sessions and more than 60 presentations focusing on various health-related aspects of radiation emergency preparedness, response, and recovery, from case reports to international cooperation matters, from clinical management of radiation injuries to managing their long-term consequences. Special topical sessions were dedicated to the health consequences of the Fukushima accident, to the issues of radiation-induced thyroid cancer and paediatric thyroid screening, as well as long-term follow up of persons over-exposed to ionizing radiation. The delegates also discussed the issues of managing non-radiological consequences of radiation emergencies, mental health impact, the role of risk communication and community involvement. All presentations of the speakers are available in the **REMPAN Dropbox**.

The proceedings of the meeting will be published as a special issue of the Radiation Protection Dosimetry Journal (Oxford University Press) and the call for papers submission will be announced in September 2017 - stay tuned! ◆

15th Coordination Meeting of WHO REMPAN – Geneva, Switzerland – July 2017

News – From REMPAN Secretariat
(January-July 2017)

23-26 January: 41st Meeting of WPNEM

The 41st meeting of the Working Party on Nuclear Emergency Matters (WPNEM) of the Nuclear Energency Agency (NEA/OECD) took place in Paris, France and was attended by representatives from 20 countries and three international organizations (IAEA, WHO, EU). The scope of the meeting included an overview of the activities of the WPNEM's Expert Group on lessons learnt from non-nuclear accidents (EGNE) since the 40th WPNEM meeting, with a focus on the collaboration between the OECD Working Group on Chemical Accidents (WGCA) and the Major Accident Bureau (MAHB) of the EC Joint Research Centre of the European Commission, which runs the eMARS database.

The EGNE report consists of a set of expert contributions, each of which was presented by the respective authors. The WPNEM was invited to comment and discuss the proposed conclusions for the finalisations of the report, including the possible organisation of a joint workshop on EP&R in nuclear and non-nuclear activities in conjunction with the next WPNEM meeting.

During countries' presentations (Austria, Belgium, Croatia, Chinese Taipei, Czech Republic, France, Germany, Ireland, Italy, Japan, Netherlands, Norway, Poland, Portugal, Russia, Slovak Republic, Slovenia, Spain, United States), the importance of the iodine thyroid blocking (ITB) issue was emphasized, as it remains in focus and national policies vary to a large degree including the pre-distribution methods. The international recommendations on ITB are very much needed. ◆

19-22 March: Joint External Evaluation Mission to the UAE

A group of ten experts was deployed to the United Arab Emirates (UAE) to support the evaluation of national preparedness and response plans against the set of indicators put in place for the monitoring of the IHR-2005 implementation. Technical lead for evaluation the preparedness and response to radiological and nuclear emergencies was with Dr Zhanat Carr.

All necessary documentation including national laws, policies, and plans was provided in addition to the interviews conducted with the officials from the Ministry of Health and Prevention, National Radiation Protection Center, Health Authority of Abu Dhabi, Dubai Health Authority, Federal Agency for Nuclear Regulation (FANR), Ministry of Interior, Civil Defense, etc. and a field visit to the National Quality and Conformity Center (QCC) that is home to various laboratory services, including environmental monitoring for radioactive contaminants in food, water, consumer products, and any other environmental samples. The identification of strengths and areas of further improvement and of the priority actions for addressing these areas were identified jointly with the national counterparts.

The head of the National Radiation Protection Center, Dr Ola Mira has joined the WHO REMPAN network as an observer. ◆

Joint External Evaluation Mission – UAE – March 2017

News – From REMPAN Secretariat

15-17 May: EAN Workshops and NERIS Platform

The EAN Workshops (WSs) on application of **ALARA** (as low as reasonably achievable refers to the level of exposure to ionizing radiation) in radiation emergencies and the General Assembly of the NERIS platform took place in Lisbon, Portugal, May 15-16 and May 17, respectively.

The **European ALARA Network (EAN)** has been created by the European Commission to address research on topics dealing with optimization of all types of occupational exposure, as well as to facilitate the dissemination of good ALARA practices within all sectors of the European industry and research. The 17th Workshop was dedicated to the application of ALARA principles in emergency exposure situations.

Z. Carr at EAN Workshops / NERIS Platform – Lisbon, Portugal – May 2017

NERIS is a European Platform on Preparedness for Nuclear and Radiological Emergency Response and Recovery. Its mission is to establish a forum for dialogue and methodological development between all European organisations and associations taking part in decision making of protective actions in nuclear and radiological emergencies and recovery in Europe. **Information** about the Lisbon WS and programme are available online.

WHO was invited to present on-going work on the development of a guideline for the use of stable iodine for thyroid blocking in case of a nuclear emergency. ◆

News – From REMPAN Secretariat

WHO REMPAN – 30 Years of History

By Kazinori Kodama, RERF, Hiroshima, Japan

Thirty years ago, as a consequence of the Chernobyl accident, WHO decided to expand its activities in radiation protection. In particular, it was intended that the programme on radiation emergency medical preparedness and assistance be strengthened. Therefore, in 1987, WHO established the **Radiation Emergency Medical Preparedness and Assistance Network (REMPAN)** as an arm of WHO for providing technical expertise to Member States on health interventions in radiation emergencies and to strengthen national capabilities in this area.

During the 1st coordination meeting of existing and prospective WHO Collaborating Centres (CCs) held in the UK and France in 1987 and the 2nd meeting in USA in 1988, REMPAN's original eight CCs were identified in:

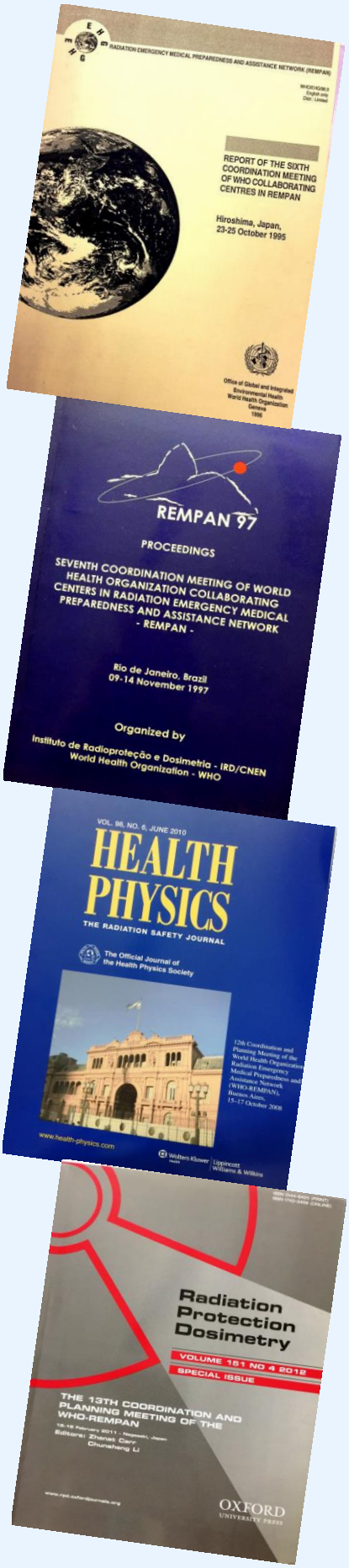
- France: International Centre for Radio-pathology, Paris
- USA: Centre for Radiation Emergency Assistance, Oak Ridge
- Russian Federation: Centre for Medical Radiation Pathology, St. Petersburg
- Australia: Centre for Radiation Protection and Radiation Emergency Medical Assistance, Melbourne
- Argentina: Centre for Response to Ionizing Radiation Emergencies, Buenos Aires
- Brazil: Centre for Radiation Protection and Medical Preparedness for Radiation Accidents, Rio de Janeiro
- Germany: Centre for Radiation Emergency Medical Preparedness and Assistance, Ulm
- Japan: Centre for Radiation Effects on Humans, Hiroshima

Today the **WHO REMPAN network** comprises 15 CCs, 32 Liaison Institutions, and more than 30 individual observers.

To date, 15 Coordination Meetings of WHO REMPAN have been held. The last meeting held in Geneva in July of this year was a commemorative meeting to celebrate the **30th anniversary of WHO REMPAN**. ◆

K. Kodama (left) and Z. Carr – 30th Anniversary of WHO REMPAN – Geneva, Switzerland – July 2017

Proceedings of WHO Coordination and Planning Meetings:
Hiroshima 1995, Rio de Janeiro 1997, Buenos Aires 2008, Nagasaki 2011



Scientific Events

Global Conference on Radiation Topics, ConRad 2017, Munich, Germany

By Matthias Port, Bundeswehr Institute of Radiobiology affiliated to the University of Ulm, Munich, Germany

ConRad 2017, the **22nd Nuclear Medical Defense Conference**, took place from May 08-11, 2017 at the Bundeswehr Medical Academy in Munich, Germany. Hosted for 30 years by the Bundeswehr Institute of Radiobiology this international and interdisciplinary conference covers a broad range of radiobiological topics, e.g. radiation accident management, radiation protection or radiation epidemiology.

On behalf of Major General (MC) Dr. G. Krüger, Commander of the Bundeswehr Medical Academy, Brigadier General (MC) Dr. N. Weller, Science Director of the medical corps (MC), welcomed almost 300 civilian and military participants from 34 countries and 40 nationalities. Conference president Colonel Dr. M. Port was very much pleased about the big resonance.

A special session addressing radionuclear terrorism presented lessons learnt after terroristic events in France or deployment of nuclear weapons up to specific decision support models.

Two fundamental diagnostic strategies, "biomarker of exposure" and "bioindicator of effect", were still being discussed controversially. The first focusing on early health damage prediction was supported by research groups presenting latest data on clinical decision support, e.g. H-module or gene signatures. Physical based techniques or most of the biodosimetry research advances the second concept aiming at retrospective dose estimations.

M. Port, M. Abend (front: left to right) – Munich, Germany – May 2017 (Photo: J. Langer, SanAkBw Ausb/Lehre GesVersBw)

A further highlight addressed biologic effects of electromagnetic fields. New insights into technical details of electromagnetic exposure, genotoxicity and studies evaluating health effects in humans were of great interest to the audience. Among many, the new findings regarding chronic lymphatic leukemia (CLL) were stimulating and represent a paradigm shift. For decades, based on the Life Span Study (LSS) from Hiroshima and Nagasaki all types of leukemia were known to be associated with ionizing radiation EXCEPT CLL. Now it is being realized that CLL incidence is also increased in the Chernobyl cohort.

Abstracts and selected presentations are accessible via the **homepage** of the conference. A special issue of the "Health Physics" journal is being prepared. ◆

Scientific Events

Radiation Protection Strategic Research Needs Workshop, Oak Ridge, USA

By Becky Aloisi, REAC/TS, Oak Ridge, USA

On June 05-06, 2017, staff members from **REAC/TS** and the National Nuclear Security Administration attended the **Radiation Protection Research Needs Workshop** in Oak Ridge, TN, along with radiation experts from around the world. The purpose of the workshop was to convene health physics academic programs and federal agencies to discuss radiation protection research needs during the next 3-5 years.

J. Boice, NCRP, N. Dainiak, REAC/TS, W. Rühm, ICRP (left to right) – Oak Ridge, USA – June 2017

Research discussion areas included the following topics:

- low dose health effects
- dosimetry
- radiation protection needs in emergency response
- radiation protection needs in national security
- radiation protection issues for new fuel cycles, advanced reactors, and SMRs
- environmental modeling
- radiation protection needs in space/shielding
- radiation protection in medical physics
- decontamination and decommissioning
- instrumentation/radiation detection and operations

"CONCERT – European Joint Programme for the Integration of Radiation Protection Research" was presented by Dr Werner Rühm, German Research Center for Environmental Health, Institute of Radiation Protection. ◆

Education, Training, Exercise

2017 REM Education and Training Course, Ulsan, Republic of Korea

By Youngwoo Jin, KIRAMS, Republic of Korea

The **Korea Institute of Radiological and Medical Sciences (KIRAMS)** held the "2017 REM Education and Training Course" on June 21-22, 2017 at Ulsan, Republic of Korea. It involved 6 out of 24 Korean designated hospitals for radiation emergency response, the local government, fire department, public health care center, as well as Hirosaki University and Aomori Prefectural Hospital, Japan. The objective was not only to evaluate medical radiation accident preparedness, but also to improve emergency response on the international level.

Course Exercise – Ulsan, Republic of Korea – June 2017

The first day of the course included a visit to the Kori NPP site, followed by lectures and hands-on practices of decontamination procedures, etc. On the second day, about 70 medical staffs from 6 designated hospitals and 8 Japanese members participated in the training of a postulated NPP accident resulting in radioactive release to the environment.

During the exercise, each designated hospital set up a respective 'off-site radiation emergency clinic' and drilled communicating the status of patients with the command center. It also included practicing transfer of patients to a suitable referral hospital.

This was the 5th course KIRAMS conducted since 2013 when it signed a bilateral memorandum of understanding (MOU) with Hirosaki University in Japan. ◆

Education, Training, Exercise

Online WHO Health Emergencies Programme Training Course

To enhance WHO's Emergency Programme (WHE) response capability, WHE proposed the development of a series of training packages to build staff competencies, skills and knowledge, to enhance deployment and response capability.

The new **WHE training course** is designed as an interactive learning experience, built around individual learning modules. Students will be expected to actively engage in all online sessions. All sessions are geared towards enabling the staff to work with and within the new WHE programme and to build their understanding and confidence in the basic concepts and theory.

The training content is limited to an overview and introductory level of knowledge, required as part of the role within the WHE programme. The course content is split into four learning modules, with each module covering a key aspect of the WHE approach to emergency management:

- Module 1 – WHO Health Emergencies Programme and WHO roles in emergencies
- Module 2 – Introduction to Emergency Management
- Module 3 – The WHO Emergency Response Framework (ERF 2.0)
- Module 4 – Incident Management System (IMS) applied in WHO

A post-course knowledge check is mandatory, to ensure that all participants have a minimum level of knowledge on completion of the course. Confirmation of participation is issued to those who have completed at least 80% of the course material.

There are no formal prerequisites or limitations to enroll for this course. The course is free and open for everyone. **Registration** for an account on OpenWHO is required. ◆

Education, Training, Exercise

Biodosimetry Workshop in La Paz, Bolivia

By Omar Garcia, Cuban Center of Radiation Protection and Hygiene (CPHR), Cuba

From November 15–25, 2016, representatives from Bolivia, Paraguay, Ecuador and Venezuela took part in a regional workshop **"Elaboration of new calibration curves for biodosimetry in Latin America"** in La Paz, Bolivia at the Institute of Genetic, University Major de San Andres (UMSA). The proposal is the use of the BioDoseNet image repository for the generation of dose response curve. The countries identified laboratories experienced in clinical cytogenetic interested in joining the **Latin American Biological Dosimety Network (LBDNet)**, but at the moment have not calibration curves due to limitations for blood irradiation.

At the workshop, an intensive training program to standardize the scoring criteria between scorers using the two exercises of the WHO BioDoseNet repository was performed. After these training exercises the image analysis for dose response curve elaboration was started. The galleries used for dose response curve elaboration was obtained by the MULTIBIODOSE project and include 14.280 images of a complete Co-60 gamma ray dose effect curve with nine dose points. The teams were able to score 900 cells (300 at 0 Gy, 300 at 0.25 Gy and 300 at 0.75 Gy) and will finalize the analysis of the full set of images by July 2017.

Workshop participants – La Paz, Bolivia – November 2016

This workshop was implemented through the framework of the IAEA technical cooperation project RLA/9/076 and was coordinated by experts from the Cuban Center of Radiation Protection and Hygiene (CPHR) with the support of colleagues from the Federal Office for Radiation Protection (BfS) in Germany. ◆

Education, Training, Exercise

Simulation of Severe Nuclear Accident, Novovoronezh, Russia

By Andrey Bushmanov, SRC – Burnasyan FMBC of FMBA, Moscow, Russian Federation

On April 18, 2017, the **Emergency Medical Radiation-Dosimetry Center (EMRDC)** as the center of scientific and technical support of the Rosenergoatom Concern OJSC (Open Joint Stock Company) took part in the emergency training session on the topic **"Radiation accident at Novovoronezh Nuclear Power Plant (NPP)"** simulating a severe beyond design nuclear accident on a full-scale simulator".

During the training, procedures were developed for the management of a severe nuclear accident beyond basic design and ensure radiation protection of personnel and the public. EMRDC prepared the procedures of interaction and response regarding assessment and prognosis of the radiological situation at the Novovoronezh NPP, and protective measures for personnel and the public.

The territorial medical institutions of FMBA of Russia in Novovoronezh implemented measures to provide first and subsequent medical assistance to the victims during evacuation. The expert and functional groups of EMRDC provided advisory support to the territorial agencies of FMBA of Russia participating in the training. ◆

Nuclear emergency training course – Novovoronezh, Russia – April 2017

Education, Training, Exercise

Biodosimetry Workshop Organized by LBDNet in Montevideo, Uruguay

By Omar Garcia, Cuban Center of Radiation Protection and Hygiene (CPHR), Cuba

On October 10-14, 2016, the Latin American Biological Dosimetry Network (LBDNet) organized the regional workshop **"The cytokinesis-block micronucleus (CBMN) assay as biodosimetry tool in mass casualty events"** in Montevideo, Uruguay. Participants were members of the LBDNet (Argentina, Brazil, Chile, Cuba, Mexico, Peru and Uruguay) and professionals from states planning to join this network (Bolivia, Costa Rica, Ecuador, Paraguay and Venezuela).

The objective of the workshop was to update the regional biodosimetry strategy during mass casualty events, including five specific objectives:

- Discussion of intercomparison exercise on CBMN
- Discussion of results obtained in two previous intercomparison exercises
- Practical exercises on CBMN assay scoring on images
- Triage and dose estimation using CBMN assay
- Methodological basis for CBMN assay in mass casualty

The workshop included 10 technical aspects and 43 experimental tasks to be completed by the end of 2017 by the members of the LBDNet.

Activities of the LBDNet were presented during the X Congress of the Latin American Associations on Mutagenesis, Teratogenesis and Carcinogenesis (ALAMCTA) and the II Congress of the Uruguayan Society of Radioprotection. ◆

Workshop participants – Montevideo, Uruguay – October 2016

Education, Training, Exercise

Mass Casualty Incident Exercises in Cooperation with RITN

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

In 2016, two exercises partially funded by the **Radiation Injury Treatment Network (RITN)** were conducted in collaboration with the Veteran's Administration which coordinates the local airfield response during a mass casualty incident.

Mass casualty incident exercise at Winship Cancer Center (Emory University) – Atlanta, USA – 2016

The Winship Cancer Center (Emory University) in Atlanta, GA and the City of Hope Cancer Center in Duarte outside Los Angeles, CA held full-scale exercises in 2016 that involved moulaged patients, dozens of ambulances and US Air National Guard aircraft.

An **"After Action Report"** has been published by RITN and the City of Hope National Medical Center (COP).◆

Education, Training, Exercise

Large-Scale International Emergency Exercise Evaluating Response to a Nuclear Emergency – ConvEx-3(2017), Hungary

By Zhanat Carr, WHO, Geneva, Switzerland

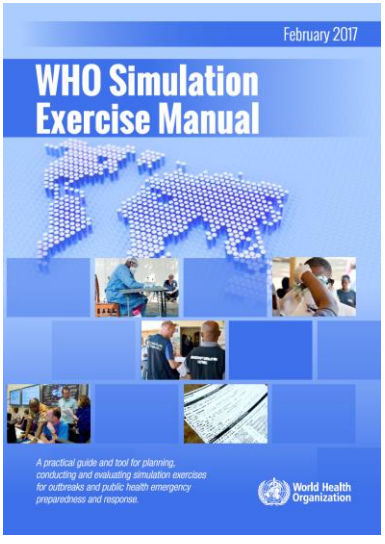
The International Atomic Energy Agency (IAEA) along with 82 Member States and 10 international organizations held a two-day international emergency exercise that tested responses to a simulated accident at a **nuclear power plant in Hungary**.

As part of its new Health Emergencies Programme, WHO is enhancing its emergency preparedness and response capacity. Simulation exercises are a vital element in this process as it is through testing that we can strengthen our systems and procedures. Large-scale exercises of this kind are conducted every three to five years to test arrangements in place for fulfilling obligations under the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency.

Based on a national exercise in a Member State, the **Level 3 Convention Exercise (ConvEx-3**) is IAEA's highest level and most complex emergency exercise. It is designed to identify emergency preparedness and response best practices as well as areas for improvement. The exercise took place from June 21-23, 2017. For more information, click **here**. ◆

New WHO Simulation Exercise Manual Available

Simulation exercises have been identified as a key component in the validation of core capacities under the IHR monitoring and evaluation framework (2016). In the context of the new IHR monitoring and evaluation framework and requests to develop guidance and practical tools on all its four components (annual reporting, JEE, after-action review, simulation exercise) the 2017 **WHO Simulation Exercise Manual** gives an overview of the different simulation exercise tools and guidelines developed and used by WHO. An **Exercise Planning Tool** and an **Exercise Tool Box** are available.



The manual adopts a project management approach and is intended for use as reference toolkit, with adaptable templates for developing, implementing and evaluating exercise projects. It sets out a generic modular approach that allows users to follow standard methodology, while at the same time ensuring flexibility to adapt and implement different simulation exercises as part of an exercise programme. ◆

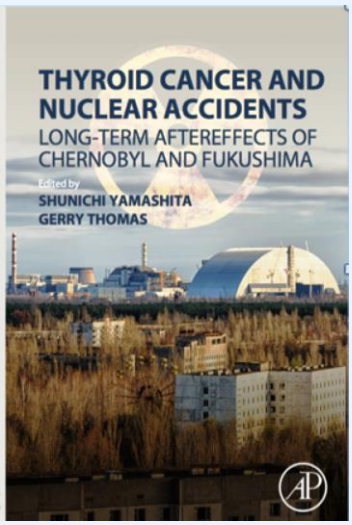
New Publications

"Thyroid Cancer and Nuclear Accidents" Published

By Shunichi Yamashita, FMU and Nagasaki University, Japan

The new book **"Thyroid Cancer and Nuclear Accidents: Long-Term Aftereffects of Chernobyl and Fukushima"** was co-edited by Prof Gerry Thomas, Imperial College London, and Prof Shunichi Yamashita, Vice President of Fukushima Medical University (FMU) and Nagasaki University.

The book is one outcome of the **5th International Expert Symposium** in Fukushima held in the momentous year 2016, marking 30 years since the Chernobyl nuclear power plant accident, and 5 years after Japan's earthquake, tsunami, and nuclear crisis. The symposium was organized by the Nippon Foundation and jointly hosted by FMU, Nagasaki University, and the Sasakawa Memorial Health Foundation.



With 72 contributors authoring 20 chapters, this book applies academic rigor to the relationship between nuclear accidents and thyroid cancer, drawing on data and expertise from respected international authorities. It also describes the current status of Fukushima and future challenges related to thyroid screening after a nuclear accident.

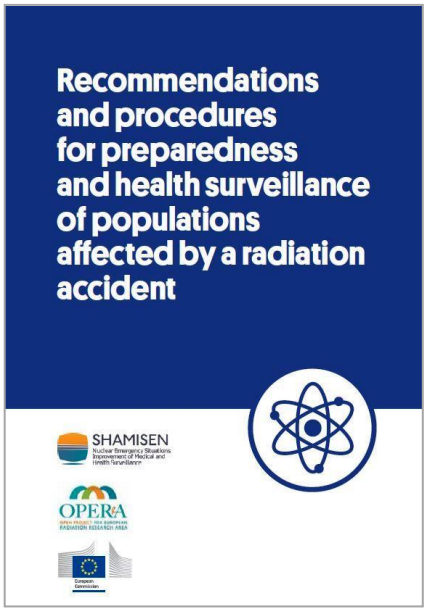
The publication is expected to be used globally as a definitive textbook in radiation medical science. For details, including editors' credentials and a table of contents, please visit the **publisher's web page**. ◆

New Publications

SHAMISEN Project Presents Published Recommendations

By Elisabeth Cardis and Adelaida Sarukhan, Instituto de Salud Global de Barcelona, Spain

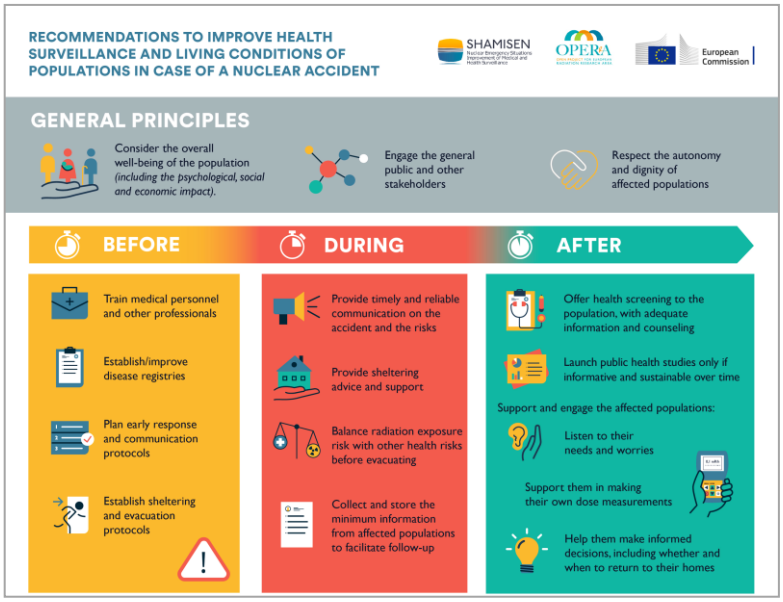
The EC-funded **SHAMISEN project** (OPERRA) presents its **Recommendations for preparedness and health surveillance of populations affected by a radiation accident**.



These Recommendations, made by a Consortium of 19 partners from the EU, Japan, Belarus, Norway, Russia, Ukraine, US and the UK, are based on a critical review of lessons learnt from previous nuclear accidents and of case studies.

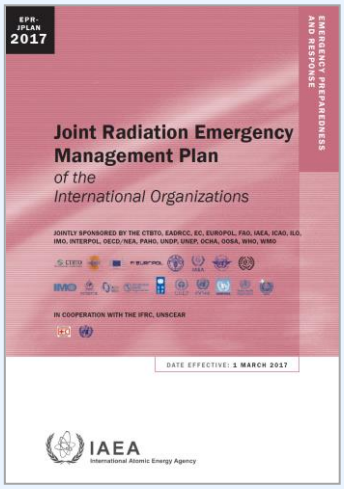
They aim at improving health and living conditions of potentially affected populations, covering health surveillance, epidemiological studies, dose reconstruction, evacuation and training of health personnel and other actors involved in liaising with affected populations.

More **information**, **infographics** and **further reading** are available online. ◆

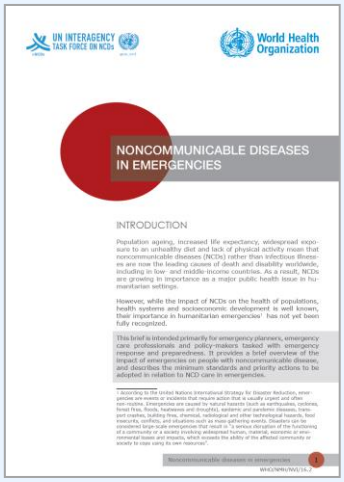


New Publications

The **Joint Radiation Emergency Management Plan (Joint Plan)** cosponsored by WHO and published in 2017 describes the interagency framework of preparedness for and response to an actual, potential or perceived nuclear or radiological emergency independent of whether it arises form an accident, negligence, nuclear security event or any other cause. The Joint Plan is intended to support and underpin the efforts of national governments and seeks to ensure a coordinated and harmonized international response to nuclear or radiological emergencies. ◆



The brief **"Non-Communicable Diseases in Emergencies"** published in 2016 led by WHO and UNHCR is intended primarily for emergency planners, emergency care professionals and policy-makers tasked with emergency response and preparedness. It highlights the impact of emergencies on people with non-communicable diseases (NCDs) and gives suggestions to address them. ◆



News – From WHO

WHO Classifies Emergency Medical Teams (EMT)

By Ian Norton, Emergency Medical Teams Emergency Operations, WHO, Geneva, Switzerland

WHO has developed a global classification system where Emergency Medical Teams (EMTs) can be classified and ready to be deployed to health emergencies. The term "EMT" refers to groups of health professionals (doctors, nurses, paramedics etc.) that treat patients affected by an emergency or disaster. They come from governments, charities (NGOs), militaries and international organizations such as the International Red Cross/Red Crescent movement and work to comply with the classification and minimum standards set by WHO and its partners, and come trained and self-sufficient so as not to burden the national system.

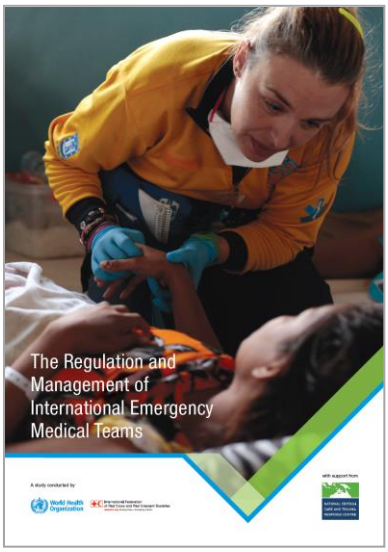
The **WHO EMT initiative** helps to improve the timeliness and quality of health services provided by national and international EMTs and enhances the capacity of national health systems in leading the activation and coordination of this response in the immediate aftermath of a sudden-onset emergency or outbreak.

The WHO EMT Secretariat manages a global directory of all EMTs and allows a country affected by a disaster or other emergency to call on teams that have been classified and quality assured.

Former WHO DG M. Chan (fourth left), Executive Director Health Emergency Programmes P. Salama (third right) – Geneva, Switzerland – May 2017

WHO DG Margaret Chan congratulated three new teams from China, Costa Rica and the UK for their successful completion of the WHO EMT certification process. Organizations interested to be classified should apply by filling the form at the following **link**. ◆

New Publications



In June 2017, the WHO and the **International Federation of Red Cross and Red Crescent Societies (IFRC)** have launched a comprehensive report entitled **"The Regulation and Management of International Emergency Medical Teams" (EMTs)**.

The report provides an overview of the issues in regulating and managing international EMTs in a range of large and small-scale sudden onset disasters. ◆

News – From UN

UN Conference Adopts Treaty Banning Nuclear Weapons

Adopted from **UN News Centre**

On July 07, 2017, countries meeting at a United Nations (UN) conference in New York adopted the **Treaty on the Prohibition of Nuclear Weapons**, the first multilateral legally-binding instrument for nuclear disarmament to have been negotiated in 20 years.

The treaty – adopted by a vote of 122 in favour to one against (Netherlands), with one abstention (Singapore) – prohibits a full range of nuclear-weapon-related activities, such as undertaking to develop, test, produce, manufacture, acquire, possess or stockpile nuclear weapons or other nuclear explosive devices, as well as the use or threat of use of these weapons.

Remains of the Prefectural Industry Promotion Building later preserved as a monument – known as the Genbaku Dome – Hiroshima Peace Memorial, Japan (UN Photo)

The treaty will be open for signature to all States at UN Headquarters in New York on September 20, 2017, and enter into force 90 days after it has been ratified by at least 50 countries. ◆

News – From Network Members

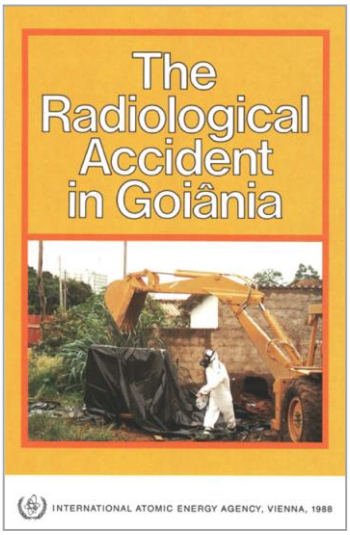
Goiânia – An Accident Not to be Forgotten

By Alexandre Mesquita Maurmo, Davi Christ Fassano Cesar, Eletronuclear Medical Assistance Foundation, Angra dos Reis, Brazil

30 years ago, September 29, 1987 started the emergency response to one of the most severe radiological accidents to have occurred, when on September 28, 1987, a woman, convinced that a glowing powder was making her family sick, went to the Goiânia Sanitary Surveillance Agency carrying a bag with remnants of something, later discovered to be part of a Cs-137 radiotherapy source. "It is killing my family", she said.

The physician on duty suspected it to be parts from a X-Ray equipment, which was confirmed the next day by a physicist by radiological survey. After initial reconstruction of the accident, contamination was detected in several sites in the city, including three junkyards. The Secretary for Health of Goiás State and the Brazilian National Nuclear Energy Commission (CNEN) were notified, starting the general and medical emergency response for the **radiological accident in Goiânia**.

Later investigation discovered that on September 13, 1987, two people entered the premises and removed the source assembly from a Cs-137 teletherapy unit left behind in an abandoned radiotherapy clinic. They took it home and in an attempt to dismantle it, the source capsule was ruptured, resulting in huge environmental contamination, and external and internal contamination of several persons.



The city's Olympic Stadium was the designated reception center to triage and survey people 112.000 people with suspected contamination. 249 people were detected with some contamination, and 129 with internal contamination. There were 4 deaths due to acute radiation syndrome, and 2 cases of amputation because of local radiation injuries. Prussian Blue was administered with remarkable efficacy in eliminating internal Cs-137 contamination. Cytokines (GM-CSF) for hematopoietic syndrome were used in 8 patients, unfortunately, in this specific accident, with no conclusive results.

IAEA. The Radiological Accident in Goiânia, 1988

For the long-term follow up three different groups were created. Groups I and II included persons who were either exposed and/or contaminated, and their sons and grandsons. Group III included neither exposed nor contaminated patents, but patients suffering from social and psychological sequelae. Today, a total of 1.300 persons are being followed up. Studies showed no increase in cancer incidence neither in the patients nor in their offspring. In women pregnant at the time of the accident, there were no abortions or congenital malformations, and no cases of leukemia or other cancers in their children. In exposed children, growth was considered normal as well as their fertility. No differences in the incidence of cardiovascular diseases between the groups and the general population were found.

In 2011, a study showed 42.5% of persons in groups I and II with depressive symptoms compared to a much lower incidence in the general population (3%-11%). In conclusion, psychosocial problems were and still are the main consequences of Goiânia accident. ◆

News – From Network Members

New Website of PHE's Chromosome Dosimetry Services

Provided by Elisabeth Ainsbury, PHE, Chilton, UK

The new website of the Public Health England's (PHE's) **Chromosome Dosimetry Services** has been set up by March 2017. The website informs about services provides by the Chromosome Dosimetry Group, e.g. individual dose assessment and a wide range of additional consultancy, research and development, training and software products.

Specialist staff can provide laboratory training in implementation of biological dosimetry techniques to individuals of all levels (beginners through to skilled academic partners), training in statistical analysis methods and use of appropriate software tools, use of the methods for emergency response (through the RENEB network), and use of cytogenetic biomarkers for research. ◆

Russian-American Research Cooperation in Urals Region

By Dennis Boyko, URCRM, Chelyabinsk, Russia

In March 2017, a joint cooperation project hosted by the **Urals Research Center for Radiation Medicine (URCRM)** in Chelyabinsk, Russia was carried out within the framework of the Russian-American Program to investigate radiation impacts addressing two topics:

- Improvement of the Techa River Dosimetry System
- Stochastic Effects of technogenic radiation impact on the population living near the "Mayak" factory.

B. Fountos, head of the medical programs from the US Department of Energy and A.V. Akleyev, director of URCRM scientific leader, and scientists from the US and Russia took part in the project meeting. ◆

Obituary

Adopted from **Knoxville News Sentinel**

Dr Robert C. Ricks (1941- 2017) – USA

Dr Robert (Bob) C. Ricks passed away on June 22, 2017, at the age of 76 years.

Dr Ricks graduated from Texas Agricultural & Mechanical (A&M) University both with a Masters and Doctorate Degree and started working in the Medical Division of Oak Ridge Associated Universities (ORAU) in 1969.

In 1975, he participated in the establishment of the **Radiation Emergency Center / Training Site (REAC/TS)**. He was appointed Director of REAC/TS in 1981 and served as Director until retirement in 2004.

In 1985, he was appointed United States Director of the World Health Organization Collaborating Center on Radiation Emergency Medical Preparedness and Assistance (REMPAN). He was responsible for the development and coordination of numerous training courses on medical management of radiation accidents and also led the REAC/TS team on assistance on missions to 46 different countries.

In addition, he provided considerable assistance to the International Atomic Energy Agency (IAEA) and the United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) in Vienna, Austria.

Dr Robert C. Ricks will always be remembered as an outstanding professional and person. ◆

Upcoming Events and Training Courses

- **08-11 August, 2017, Oak Ridge, USA**
  Radiation Emergency Medicine (REM)
- **14-18 August, 2017, Oak Ridge, USA**
  Advanced Radiation Medicine
- **03-08 September, 2017, Berlin, Germany**
  4th International Conference on Radioecology & Environmental Radioactivity (ICRER)
- **17-21 September, 2017, Essen, Germany**
  Joint 43rd Annual Meeting of the European Radiation Research Society and 20th GBS Conference
- **10-12 October, 2017, Paris, France**
  ICRP 2017 - 4th International Symposium on the System of Radiological Protection
- **15-18 October, 2017, Cancun, Mexico**
  63rd Meeting of the Radiation Research Society
- **16-19 October, 2017, Chilton, UK**
  Principles of Protection Against External Radiation
- **20-24 November, 2017, Mol, Belgium**
  Radiation Protection Course

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.

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REMPAN FB

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