

REMPAN

e-NEWSLETTER



World Health Organization

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Editorial

The 15th WHO REMPAN meeting in Geneva, 2017

Dear Colleagues, dear Friends

The 15th Coordination and Planning meeting of the WHO REMPAN Collaborating Centers will take place **July 03-05, 2017 in Geneva, Switzerland** and it is a great honor for us to be involved in its organization.

The Swiss **Federal Office of Public Health (FOPH)** has been working with the WHO for many years in the field of radiation protection and protection against non-ionizing radiation. However, it is only since 2014 that we have been designated as WHO REMPAN Collaborating Center.

The possibility of exchanges in the field of the care of persons undergoing acute radiation exposure contributes significantly to the improvement of preparedness and response in case of radiation emergencies. The experience gained in Switzerland in this field is fortunately very limited. This indicates that participating in a network capable of providing scientific, technical and logistical support in the event of a radiological accident is an essential opportunity for a small country like Switzerland.

The WHO REMPAN Coordination and Planning meetings provide an opportunity to update the developments in the treatment of people irradiated during an accident, to exchange knowledge in these areas and verify the validity of the devices put in place to deal with these situations. The 15th REMPAN Meeting, to be held at the premises of WHO in Geneva, is in this perspective.

We are looking forward to welcoming many of you to Switzerland on this occasion and to living with you these enriching sharing days under the benevolent leadership of the WHO.



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Geneva, Switzerland

News – From REMPAN Secretariat

(August-December 2016)

By Zhanat Carr, WHO, Geneva, Switzerland

- In the second half of 2016, WHO Radiation Team continued working to support the implementation of the **International Health Regulations** (IHR-2005) and strengthen national capacities for radiation emergency preparedness and response (EPR) in its member states. Under the framework of the IHR-2005 and within the Global Health Security Agenda, WHO works with health authorities of its member states on assessments of national preparedness and response capacities through the mechanism of **Joint Expert Evaluation** (JEE) tool. The **reports of the implemented JEE** evaluations in 2016 are available online.
- In September, WHO participated at a meeting of the **HERCA's Working Group on emergency preparedness and response** held in Helsinki, Finland, where the ongoing work on the development of WHO recommendations on iodine thyroid blocking was reported and discussed. Heads of the European Radiological Protection Competent Authorities (**HERCA**) is an association which works together in order to identify common issues and propose practical solutions for these issues. HERCA is working on topics generally covered by provisions of the EURATOM Treaty, including emergency preparedness and response.



Participants of the HERCA WG – Helsinki, Finland – September 2016

- Also in September, WHO participated in the **5th International Expert Symposium in Fukushima** on Radiation and Health "Chernobyl +30, Fukushima +5: Lessons and Solutions for Fukushima's Thyroid Question" organized by the Nippon Foundation in cooperation with Fukushima Medical University (FMU), Nagasaki University and Sasakawa Memorial Health Foundation was held on September 26-27, 2016, in Fukushima City, Japan. Read further on a report about this event.
- As a part of the development of the WHO guide for public health preparedness and response to radiation emergencies WHO Secretariat conducted a **global survey of national policies on iodine thyroid blocking** in case of nuclear emergencies. The initial survey was carried out in August-October 2016 by using an on-line *dataform* interface. Some 40 countries have responded to the survey and its initial results were presented at the **2nd EPRSC meeting of the IAEA** that took place in Vienna, Austria on November, 29 - December 01, 2016. To allow for a broader participation, the survey will be re-opened in January 2017 to collect more responses and the report on the survey's results will be prepared by mid-2017.
- As a member of Inter-Agency Committee for Radiological and Nuclear Emergencies (IACRNE), WHO took part in the 2nd meeting of the IACRNE **Working Group for planning of the ConvEx-3 (2017)** international nuclear emergency exercise. The meeting took place in Székesfehérvár, Hungary in October 2016.

News – From REMPAN Secretariat

(continued)

The exercise will take place in June 2017 and will be based on the national nuclear emergency exercise. Similar to the past exercises held in Romania in 2005, Mexico in 2008, and Morocco in 2013, WHO is planning to participate together with the REMPAN network and test its operating and communication procedures that apply in case of nuclear emergency.



WG on Planning the ConvEx-3(2017) international nuclear emergency exercise – Székesfehérvár, Hungary – October 2016

- In November, Dr Carr attended and contributed to the Workshop on Delayed and Late Effects of Acute Radiation Exposure held in Rockville, MD in November 14-15, 2016. The workshop was jointly organized by NIAID/NIH and RITN – read on for more information on this event. After the workshop, on Nov 16, a meeting of US collaborators of REMPAN was hosted by the Office of Assistant Secretary for Preparedness and Response (ASPR) of the US Department of Health and Human Services (HHS), with participation of representatives of BARDA, CDC, FDA, NIH, AFRRI, and REAC/TS to review the relevant activities of these agencies and to explore the ways to strengthen their cooperation with WHO.
- **Radiation Emergencies web page** of the WHO Radiation Programme has been updated last summer. Let us know if there are any ways to improve it further. ♦

Scientific Events

5th International Expert Symposium in Fukushima, Japan

By Shunichi Yamashita, Nagasaki University, Japan

The 5th International Expert Symposium in Fukushima on Radiation and Health **"Chernobyl +30, Fukushima +5: Lessons and Solutions for Fukushima's Thyroid Question"** organized by the Nippon Foundation in cooperation with Fukushima Medical University (FMU), Nagasaki University and Sasakawa Memorial Health Foundation was held on September 26-27, 2016, in Fukushima City, Japan. The Symposium was attended by sixteen foreign and nine Japanese speakers and session co-chairs, including specialists affiliated with UNSCEAR, ICRP, IAEA, WHO, IARC, and RERF, and about 100 registered participants and mass media representatives. Live stream video coverage was available from the Internet.



Expert Symposium in Fukushima on Radiation and Health – Fukushima, Japan – September 2016

High rate of thyroid cancer detection reported by the Thyroid Ultrasound Examination team causing concerns among the prefectural residents that it might be due to putative radiation exposure from the Fukushima Dai-ichi Nuclear Power Plant accident, was in the focus of discussions.

Presentations and a round table session overviewed the knowledge about Chernobyl, stating that thyroid doses to the residents in Fukushima are quite low to cause discernible increase in thyroid cancer in the population. High detection rate of thyroid cancer is a mass screening effect not attributable to radiation. Thyroid screening of asymptomatic individuals has the potential to do more harm than good, and should only be carried out when clear benefits to the population can be defined. Participation in screening program should be voluntary and needs to be accompanied by clear communication in regard to why the examination is being conducted and the likely outcomes and risks, including the means and options for treatment if a thyroid disorder is detected.

Respective recommendations to the Fukushima Prefecture authorities will be prepared and submitted based on the consensus opinion of the experts. The presentations will be made available from the [FMU website](#) soon and the contributing articles will be published in a separate volume by Elsevier in 2017. ♦

Scientific Events

Delayed and Late Effects of Acute Radiation Exposure Meeting in Rockville, USA

By Lany Taliaferro, NMCP / NIH / NIAID / DAIT, Rockville, USA

On November 14-15, 2016 in Rockville, Maryland the National Institutes for Allergy and Infectious Disease ([NIAID](#)) and the Radiation Injury Treatment Network ([RITN](#)) brought together over 100 researchers, government and emergency preparedness representatives to discuss late physiological effects of radiation exposure on various organ systems.

This **"Delayed and Late Effects of Acute Radiation Exposure Meeting"** increased all participants' awareness of gaps representing areas of concern, inform clinicians and emergency preparedness stakeholders on the long-term effects that radiation survivors may encounter, and highlight new developments in research and preparedness.

The goal was to better understand how these long-term effects may impact concept of operations (CONOPS) considerations, medical treatment protocols as well as development and use medical countermeasures. ♦



Z. Carr (WHO), M. Vedamony (NIH/NIAID), C. Iddins (REAC/TS), C. Case (RITN) (left to right) – Rockville, USA – November 2016

Scientific Events

70th Anniversary of State Research Center (SRC) – Burnasyan FMBC, Moscow, Russia

By Andrey Bushmanov, SRC – Burnasyan FMBC of FMBA, Moscow, Russia

On November 01-03, 2016 the [Scientific-Practical Forum “Nuclear technologies are the guardians of health”](#) devoted to 70th anniversary of State Research Center (SRC) – Burnasyan Federal Medical Biophysical Center (FMBC) of the Federal Medical Biological Agency (FMBA), which is a WHO REMPAN Collaborating Centre (CC), was held in Moscow. During the past 70 years, the SRC – Burnasyan FMBC has been a leading research center in the field of radiation hygiene, medicine, and safety in Russia and worldwide. About 700 patients with acute radiation syndrome and local radiation injuries were treated in the Center’s Hospital, which also provided medical assistance to the most severe victims of the Chernobyl accident.

During the plenary session of the Scientific-Practical Forum the heads of the Ministry of Healthcare, the FMBA of Russia, the SRC – Burnasyan FMBC of FMBA, the WHO Regional Office of the Russian Federation, the IAEA and other officials delivered reports

International scientists from the US (Department of Energy), Norway (Norwegian Radiation Protection Agency), Germany (Department of Nuclear Medicine Würzburg), Japan (Hiroshima University) and from several Russian medical institutions gave presentations at the four parallel sessions. Topics of the Scientific-Practical Forum addressed issues of radiation safety, radiation emergency preparedness, nuclear medicine and post-graduate education of medical physicists including three sessions for young scientists.



A. Buck, Germany, A. Samoylov, Russia, M. Lisovskaya, Head International Cooperation Unit, Russia (left to right) – Moscow, Russia – November 2016

Last but not least, during the Scientific-Practical Forum two WHO REMPAN CCs agreed upon cooperation. A. Samoylov (Director General of SRC – Burnasyan FMBC of FMBA of Russia) and A. Buck (Head of the Department of Nuclear Medicine, University Hospital of Würzburg, Germany) signed a cooperation agreement on further education of specialists, exchange of knowledge and experience, and on joint research in the field of radiopharmacology. ♦

Scientific Events

Conference Dedicated to 30 Years of Chernobyl in Yerevan, Armenia

By Nikoghos M. Hovhannisyan, Scientific Centre of Radiation Medicine and Burns, MoH, Yerevan, Armenia

On May 19, 2016, the **National Research Centre of Radiation Medicine and Burns** of the Ministry of Health, Republic of Armenia, held a national “Conference dedicated to 30 years of Chernobyl” in Yerevan, Armenia.



Conference participants – Yerevan, Armenia – May 2016

The conference was attended by 80 medical professionals and reviewed the findings of the long-term follow-up studies of 30 years on 3,000 of Chernobyl clean-up workers residing in Armenia. The studies of late health effects, quality of life and medical follow-up were reported, as well as other research activities of the National Research Centre of Radiation Medicine and Burns focusing on radiation biology and radiation protection. The article “Epidemiology of Medical Consequences of Chernobyl NPP Accident: 30 Years after” was published in the journal “Radiation Medicine and Radiation Protection” (Vol. 61, N3, pp 89-97, in Russian). ♦

Scientific Events

Radiation Protection Week 2016, Oxford, UK

By Simon Bouffler, PHE Centre for Radiation, Chemical and Environmental Hazards, Chilton, UK

The **Radiation Protection Week 2016 (RPW2016)** jointly organised by MELODI and the European associations supporting radiation dosimetry ([EURADOS](#)), radioecology ([ALLIANCE](#)) emergency preparedness ([NERIS](#)), and the very recently launched European Alliance for Medical Radiation Protection Research ([EURAMED](#)) was held September 19-23, 2016, in Oxford, UK. The local organisation was led by Public Health England (PHE).

The core of RPW2016 started with presentations from the radiation protection associations followed by the international organisations UNSCEAR, ICRP, WHO and IAEA and the US NCRP providing overviews of the research needs of their respective organisations.



Radiation Protection Week 2016 – Oxford, UK – September 2016

The RPW2016 format brought ample opportunities for inter- and multi-disciplinary discussion and debate, bringing together the widening range of radiation protection associations. The wide appeal of the meeting was demonstrated by the over 350 delegates from over 30 countries – largely European but extending to China, the USA, Republic of Korea, Japan and Russia Federation amongst others. Most presentations (over 100) and posters (over 50) can be viewed at the [RPW2016 website](#).

The **Radiation Protection Week 2017** will take place October 10-12 in Paris and will bring a further development in format as it is being jointly organised with the ICRP Symposium on the system of radiological. ♦

Scientific Events

Medical Preparedness Workshop, Yogyakarta, Indonesia

By Nastiti Rahajeng and Susilo Widodo, Centre for Radiation Safety Technology and Metrology, Jakarta, Indonesia

On November 08, 2016, the Center for Technology of Radiation Safety and Metrology (PTKMR – BATAN) in collaboration with the Center for Science and Accelerator Technology (PSTA – National Nuclear Energy Agency (BATAN)) organized an annual **Medical Preparedness on Radiation Accidents Workshop** (PMKR) in Yogyakarta, Central Java, Indonesia.

The workshop was attended by 75 participants from the Ministry of Health and hospitals around Yogyakarta. The objective was to enhance competency of medical personnel of health care facilities to manage radiation accident victims. This workshop consisted of theoretical and hands on sessions. ♦



Participants of the Medical Preparedness Workshop – Yogyakarta, Indonesia – November, 2016

Scientific Events

NEA International Workshop on Post-Accident Food Safety Science, Fukushima, Japan

By Edward Lazo, OECD-NEA, France

A key to post-accident recovery is the secure distribution of agricultural, livestock and fisheries food products that meet strict governmental radiological standards. To accomplish this, government, food distributors, and farmers and fishermen must work together to apply state-of-the-art science to address their specific circumstances in order to produce food that can be authorised to be put on the market.

This has been the case in Japan, as demonstrated by an [Nuclear Energy Agency](#) (NEA) International Workshop on Post-Accident Food Safety Science, held in Fukushima, Japan, November 08-10, 2016. Science, standards, and post-Chernobyl and post-Fukushima food



production approaches were discussed, with the objectives of understanding the current situation in Japan, of presenting the state-of-the-art scientific aspects of post-accident food safety, and of discussing approaches for addressing remaining challenges.

International NEA Workshop – Fukushima, Japan – November 2016

Presentations and discussions, along with a pre-workshop visit to several food radiological inspection and certification facilities, illustrated the depth and quality of the food protection work being performed in Japan. These efforts have resulted in significant reduction in Cs-137 concentrations in



fields, and in the availability of Cs-137 for uptake by plants. Extensive food product monitoring certifies the radiological quality of virtually 100% of the food products put on the domestic and international markets. Effective communication of these efforts could help to address lingering domestic and international scepticism regarding the acceptability of food products from affected Japanese areas.

Based on international food trade confusion that followed the accident, the NEA Committee on Radiological Protection and Public Health (CRPPH) proposed a consistent post-accident food management framework to holistically address food consumption in affected and non-affected areas of the accident country(ies), food export from the accident country(ies), and food importation by non-affected countries. The CRPPH framework was seen by workshop participants, including the Food and Agriculture Organisation Food Code (FAO Codex Alimentarius), as being consistent with and complimentary to existing standards, and very usefully providing a framework for protection choices, from local consumption to international trade.

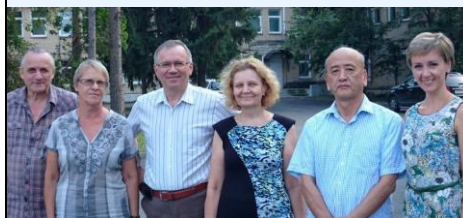
The workshop was webcast, and video and presentation materials can be found on the [NEA web site](#). The NEA plans to publish a short summary report during the first half of 2017. ♦

Scientific Events

Russian-Japanese Meeting at URCRM, Chelyabinsk, Russia

By Aleksander Akleyev, URCRM, Chelyabinsk, Russia

In August 2016, in the framework of the cooperation between the Federal Medical Biological Agency (FMB) of Russia, the Urals Research Center for Radiation Medicine (URCRM) and UNSCEAR on the project “**Cancer epidemiology at low dose-rates due to environmental radiation**” URCRM held a meeting in Chelyabinsk, Russia, with Professor Suminori Akiba, Chair, Epidemiology and Preventive Medicine, Kagoshima University Graduate School of Medical and Dental Sciences, Kagoshima University, Japan. ♦



Meeting participants – Chelyabinsk, Russia – August 2016

Education, Training, Exercise

International Training in Biodosimetry, Chilton, UK

By Volodymyr Vinnikov, Grigoriev Institute for Medical Radiology, Kharkiv, Ukraine, Elisabeth Ainsbury, PHE, Chilton, UK, Joan Barquinero, Autonomous University of Barcelona, Barcelona, Spain

The **Public Health England (PHE)** Centre for Radiation, Chemical and Environmental Hazards (CRCE) organized a training course in biological dosimetry through the IAEA's [Technical Cooperation Programmes \(TCPs\)](#) in October / November 2016, in Chilton, UK. The training took place under the framework of the Ukraine national TCP UKR 9/034 "Establishing the National Centre of Competence in Biodosimetry" (2016-2017).



Training course participants – Chilton, UK – October, November 2016

The aim was to provide the Ukrainian main counterpart, the Grigoriev Institute for Medical Radiology as the National Centre of Competence in Biodosimetry (NCCB) at Kharkiv, with a whole set of methods for triage of victims in scenarios of exposure to rather high, health damaging or life threatening doses and, later, for retrospective dosimetry for external and internal exposures.

PHE provided training in the following methods: γ -H2AX foci, micronuclei, harlequin fluorescence in situ hybridization and G-banding techniques. The Autonomous University of Barcelona, Barcelona, Spain organized training in chemically induced prematurely condensed chromosomes, caffeine-dicentric, and fluorescence *in situ* hybridization methods using whole chromosome probes (painting) or pancentromeric and pantelomeric probes. Taken together, these methods represent a multi-layer biodosimetry system for various phases of biomedical response to radiation emergencies.

The most important outcome is acquaintance of the trainees with Good Laboratory Practice standards in host labs. Apart from immediate capacity building, it is anticipated that the scientific visitors will support further development including "teaching of teachers", as they can further distribute their knowledge and provide technical assistance for other labs and institutes at home. In addition, the scientific visitors lead to strengthening of international scientific partnerships, networking and exchange of ideas which it is hoped result in future international scientific collaborations.

More information and [application instructions](#) are available online.



Education, Training, Exercise

Agents of Opportunity Course in New Delhi, India

By Carol Iddins, REAC/TS, Oak Ridge, USA

Dr. Bardan Rana, Regional Advisor for International Health Regulation (IHR) at WHO South East Asia Regional Office (SEARO) in New Delhi, India and Ms. Lesley Onyon, Regional Adviser for Occupational and Environmental Health, Department of Noncommunicable Diseases and Environmental Health, New Delhi were among the faculty for the Course on Building Global Capacity to Recognize and Mitigate Agents of Opportunity for Chemical and Radiological Emergencies. The course was delivered by American College of Medical Toxicology (ACMT), the **Radiation Emergency Assistance Center / Training Site (REAC/TS)**, and the U.S. Centers for Disease Control and Prevention (CDC). The course was organized by the Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India in collaboration with National Disaster Management Authority (NDMA), Bhabha Atomic Research Center (BARC), CDC India.



Dr. Bardan, Ms. Onyon, Dr. Iddins, Mr. Sugarman, Dr. Bedria, Mrs. Kapil (left to right) – New Delhi, India – September 2016

The **All India Institute of Medical Science (AIIMS)** in New Delhi hosted the three day course in Delhi in September 2016. The course reviewed the health security, public health, emergency management, medical assessment and management of chemical, radiological, and blast injuries. There were 130 registrants from 10 states in India attending the course. ◆

Education, Training, Exercise

Drills, Exercises and Trainings in Indonesia in 2016

By Nastiti Rahajeng and Susilo Widodo, Centre for Radiation Safety Technology and Metrology, Jakarta, Indonesia

In the second half of 2016, several drills, exercises and trainings related to the Radiation Emergency Preparedness were held in four nuclear facilities in Indonesia.

In Yogyakarta, Central Java, Indonesia, the Center for Science and Accelerator Technology (PSTA – National Nuclear Energy Agency (BATAN)) held a full **Scale Nuclear Emergency Preparedness Drill** on September 10, 2016, in cooperation with the Regional Disaster Management Agency of Yogyakarta Province (BPBD), which is the responsible institution for disaster management in the area. 500 representatives of emergency response organizations, hospitals, universities, non-government organizations, social workers, decision-maker, professionals and other disaster planning or response personnel participated in the drill near Kartini Nuclear Research Reactor Facility owned by PSTA – BATAN.



Scale Nuclear Emergency Preparedness Drill – Yogyakarta, Indonesia – September, 2016

The main purpose of the drill was to strengthen the tactical competence, preparedness, and cooperation of all disaster management components in Yogyakarta. The drill was preceded by a series of preparation and smaller scale exercises e. g. a series of coordination and planning meetings, demonstration of medical response for a nuclear accident by PSTA – BATAN staffs, a table top exercise with 100 participants on August 31, 2016, and a command post rehearsal with 200 personnel on September 6, 2016. ♦

In addition to some regional level routine drills, a **National Scale Nuclear Emergency Drill** was held by the Nuclear Energy Regulatory Agency (BAPETEN) in collaboration with National Nuclear Energy Agency (BATAN), Indonesian Armed Forces (TNI), Police Department, and the National Disaster Management Agency (BNPB) in Serpong, Banten Province, Indonesia on November 09, 2016.

This drill is scheduled to be held every four years and aims to build up reliable nuclear emergency preparedness with high competence and skills of personnel. In addition, these drills evaluate operating capabilities of national nuclear emergency response organizations and the disaster management authority in response to a nuclear emergency and test the standard operating procedures. ♦

Education, Training, Exercise

Drills, Exercises and Trainings in Indonesia in 2016 (continued)

On October 13, 2016, a **Radiological Emergency Preparedness Exercise** was held at Pasar Jumat Nuclear Facility, in Jakarta, Indonesia. This regional level exercise at the facility takes place routinely every two years. The aim is to test the ability and responsibility in a radiological emergency situation. The exercise involved the local police department, the Armed Forces, South Jakarta firefighters and community leaders around the facility. ♦

On October 17-21, 2016, the Center for Applied Nuclear Science and Technology (PSTNT – BATAN) and the Centre for Education and Training – BATAN organized a **Radiological Emergency Response Training for First Responder (TDRFR)** in Bandung, West Java, Indonesia.



Training for first responders – Bandung, Indonesia – October, 2016

The training was conducted to improve the knowledge and skills of first responders to radiological emergencies based on the national emergency guidelines issued by the Nuclear Energy Regulatory Agency (BAPETEN) and international guideline by IAEA. The 5 days training was attended by 25 participants from PSTNT – BATAN and other institutions responsible to the nuclear emergency preparedness in the area. ♦

Education, Training, Exercise

2nd Asian REMPAN Workshop hosted by KIRAMS in Seoul, Korea

By Z. Carr, WHO, Geneva, Switzerland and Young Woo Jin, NREMC-KIRAMS, Seoul, Korea

On December 06-08, 2016, the **2nd Asian REMPAN Workshop** was hosted by the National Radiation Emergency Medicine Centre (NREMC) of the Korean Institute for Radiological Medical Sciences (KIRAMS) and co-sponsored by WHO.

Some thirty participants from sixteen countries came together to learn about international and regional programs, frameworks and tools to support preparedness and response to radiation emergencies and to share national experiences. The participants came from Cambodia, India, Indonesia, Japan, Malaysia, Maldives, Mongolia, Nepal, Qatar, Republic of Korea, Singapore, Sri Lanka, Switzerland, Thailand, United Arab Emirates, Viet Nam, and some joined remotely via video-conferencing.



Participants of the 2nd Asian REMPAN Workshop – Seoul, Korea – 06 December 2016.

The workshop scope included topics pertaining to the basics of radiation biology and health physics as needed for public health professionals to understand the required urgent protective actions and emergency interventions, and further focused on public health aspects of emergency response, including among other topics crisis communication.

The participants had a chance to test and apply their knowledge in an emergency table-top exercise based on the scenario of a malevolent radiological incident that was developed by REAC/TS (USA). ♦

Education, Training, Exercise

Academic Programme on “Radiation Biology” in Germany

The Technical University Munich (TUM), Germany provides a Master of Science Programme in “**Radiation Biology**”, which is Bologna-process compliant and comprises 4 semesters (4 years).

The Master degree courses in radiation biology is an interdisciplinary study covering all the relevant aspects of radiation and includes molecular biology, genetics, cancer biology, radiation-induced early and late morbidities epidemiology, radiation physics, dosimetry and radiation protection. The medical uses of radiation, as well as the broad societal and political implications of radiation, will be at the forefront of our teaching. In the last decade radiation biology has undergone a shift away from biophysical models of radiation interaction with DNA, and is now more closely allied with molecular studies of cellular regulation and cell-cell interaction. These exciting new areas will be highlighted in teaching and research work.

The course starts in the winter semester Application period is from January 1 to May 31. Application is via [TUMonline](#). More [information](#) and [qualification](#) requirements can be found online. ♦

News – From Network Members

Radiation Emergency Preparedness: Findings from the U.S. Government Joint External Evaluation

By Cody Thornton, Maria Julia Marinissen and Christopher Perdue, HHS/ASPR, Norman Coleman, NIH/NCI, Robert Whitcomb, CDC/National Center for Environmental Health, Michael Noska, FDA/Office of Operations

In 2016, the Office of the Assistant Secretary for Preparedness and Response (ASPR) in the U.S. Department of Health and Human Services (HHS) led 23 U.S. Government (USG) agencies and more than 120 subject matter experts in conducting an in-depth review of the U.S. core public health capacities and evaluation of the country's compliance with the International Health Regulations (IHR) using the Joint External Evaluation (JEE) methodology.



The USG JEE involved a detailed “self-assessment” followed by a comprehensive independent, external evaluation conducted by 15 foreign assessors from May 23-27, 2016. On a scale from 1-lowest to 5-highest, the assessors gave the USG a score of 3 in both of the indicators relevant to preparedness for radiation emergencies.

[World Health Organization. Joint External Evaluation of United States of America: Mission Report June 2016](#)

While the report identified a number of best practices, there were 5 priority actions recommended to improve the United States' capacity to handle large-scale radiation emergencies. Those include:

- Establish mechanism for systematic information exchange between radiological competent authorities and HHS surveillance unit
- Develop long term waste management repository following the cleanup of a radiological spill
- Research, development and implementing systems needed to create novel, high-throughput systems that are capable of performing bio-dosimetry and bioassay in both mass casualty and large scale radionuclide dispersion situation,
- Implementation of recommendations in the report "Where are the radiation professionals?" (Statement No. 12) issued by the National Council on Radiation Protection and Measurements in 2015 and
- Integrate triage systems and population monitoring guidance with the existing national public health and clinical systems in order to provide a national capacity for continuity of assessment, care and treatment.

ASPR is working to implement a post-JEE roadmap in 2017 to address these priority actions in partnership with national and international partners. ♦

News – From Network Members

Studies of Exposed Southern Urals Populations

By Aleksander Akleyev, URCRM, Chelyabinsk, Russia

In 2015, the European integrated multi-disciplinary project “Epidemiological studies of Exposed Southern Urals populations”, performed by Urals Research Center for Radiation Medicine (URCRM), South-Urals Biophysics Institute (SUBI), International Agency on the Research of Cancer (IARC), WHO, and supported by EC was completed. Major results of the analysis of solid cancer incidence and mortality in the pooled cohort were published in the article “Incidence and Mortality of Solid Cancers in People Exposed in Utero to Ionizing Radiation: Pooled Analyses of Two Cohorts from the Southern Urals, Russia” in [PLOS One in August 2016](#). ♦

New Organizational Structure in NIRS, Japan

By Masashi Sagara and Hideo Tatsuzaki, Radiation Emergency Medicine Center, NIRS-QST, Japan

An organizational structure in **NIRS-QST** (National Institute of Radiological Sciences – National Institutes for Quantum and Radiological Science and Technology) was restructured. Radiation Emergency Medicine Center plays a main role in radiation emergency medicine and a main counterpart for REMPAN. **Dr Hideo Tatsuzaki** serves as the Director of the center. Dr Makoto Akashi continuously supervises the activities as the Deputy Director General of NIRS. ♦

REMM Website Updated

By Judith Bader, National Cancer Institute, NIH, USA

The [Radiation Emergency Medical Management](#) (REMM) website has been updated in August 2016. REMM is produced amongst others by the Department of Health and Human Services (HHS), Office of the Assistant Secretary for Preparedness and Response (ASPR). ♦

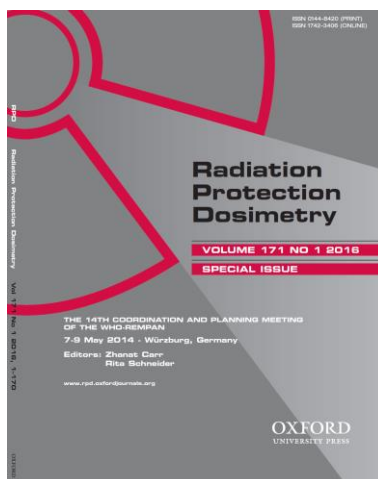
New Publications

Proceedings of the 14th Coordination and Planning Meeting of the WHO-REMPAN published

By Rita Schneider, Department of Nuclear Medicine, Würzburg, Germany

The Proceedings of the 14th Coordination and Planning Meeting of the WHO-REMPAN, which was held in Würzburg, Germany on 07–09 May, 2014 were recently published in the [Journal of Radiation Protection Dosimetry](#).

As this meeting was the first one since the Fukushima Daiichi Nuclear Plant accident, the public health and medical response to this event represented a major focus of the conference. Further, the meeting covered a wide range of topics from response planning strategies, regional and global capabilities and capacity, different aspects of research and development in radiation biology and biodosimetry, and collaborative projects in the field of emergency preparedness to issues pertaining to specific topics, such as thyroid and radiation, risk communication matters, medical management and follow-up of health consequences of radiation emergencies. ♦



Review of Cases Investigated by the Biodosimetry Service of PHE

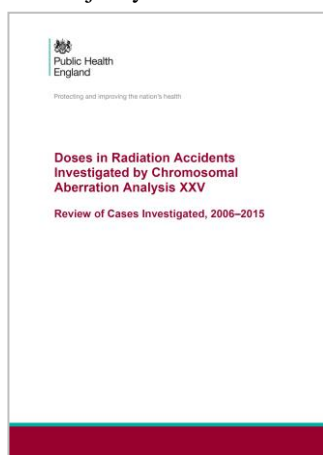
By Elisabeth Ainsbury, PHE-CRCE, Chilton, Didcot, UK

The report “Doses in radiation accidents investigated by chromosomal aberration analysis XXV: Review of cases investigated, 2006–2015” was recently published by [PHE-CRCE](#) (Public Health England – Centre for Radiation, Chemical and Environmental Hazards).

From 2006-2015, 73 people suspected of being overexposed to ionizing radiation were referred to PHE for biological dosimetry. Although the vast majority of cases were suspected occupational overexposures, the

most serious case concerned a 2-year-old boy who sustained radiation burns during CT scans performed outside the EU, which were incorrectly repeated numerous times.

A number of new biological dosimetry techniques have been developed within the last 10 years. These represent a large improvement in the laboratory’s ability both to perform accurate routine biological dose estimations and to provide rapid response triage dose estimates following a mass casualty event. ♦



New Publications

Russian translation of “Radiation: Effects and Sources” of UNEP

By Aleksander Akleyev, URCRM, Chelyabinsk, Russia

In October 2016, specialists from URCRM translated the Booklet entitled “**Radiation: Effects and Sources**” by the United Nations Environment Programme (UNEP) into the Russian language. The publication is largely based on findings of the UNSCEAR and the UNEP publication “Radiation: doses, effects, risks”, initially edited in 1985 and. The present booklet details the most up-to-date scientific information from UNSCEAR on the types of radiation, their sources and effects on humans and the environment. ♦

In 2015, the WHO published the “[Handbook for the management of public health events in air transport](#)”. The target audience includes the national focal points for the International Health Regulations and public health authorities at point of entry (PoE), national aviation regulatory authorities, airport operators and personnel, aircraft operators, air crew and other stakeholders involved in air transport and emergency preparedness and response to public health events. This document is complementary to other WHO publications addressing risk assessment at a national level, contingency planning at PoE, establishment of capacities and application of emergency plans at the airport level. ♦



Mark your Calendars!

Short Course: EURADOS-CONCERT in France

The poster is titled "Uncertainty analysis for retrospective dosimetry and associated research" in a yellow box. Below the title, it states the dates "June 19-23, 2017" and the location "IRSN, Paris, France". It lists the organizers as "Organized by IRSN" (Institut de Radioprotection et de Santé Nucléaire) and "EURADOS". The sponsor is "CONCERT" (Cooperation in Nuclear Emergency Response Training). The bottom of the poster features a collage of images: a laboratory setting, a person in a lab coat, a DNA double helix, and a graph. A small credit "Photo credit: IRSN" is at the bottom right.

The **Short Course: EURADOS-CONCERT "Uncertainty analysis processes for retrospective dosimetry and associated research"** jointly organized by IRSN, PHE, HMGU and EURADOS WG10 is part of training courses sponsored by CONCERT and will take place on June 19-23, 2017 at Fontenay-Aux-Roses, France.

The eligibility criteria for the 20 participants are: MSc/PhD students registered at an EU university or young scientists (e.g., post-doctoral fellow) working in an EU country. In case of free places, other applications (e.g., later career professionals) will be considered. The **deadline for applications is March 20, 2017**. There is no course fee but only a limited financial support. For more details contact [Sophie Ancelet](#) ♦

RITN Workshop 2017 in USA

Provided by Cullen Case, National Marrow Donor Program – RITN, Minneapolis, USA

The **RITN workshop** "Medical and Operational Challenges Resulting from a Radiological Emergency" to be held **in July 25-26, 2017** in Rockville, USA will engage attendees through discussions about recent developments in the mitigation and treatment of radiation damage including patient assessment, biomarkers and biodosimetry, suitability of animal models, small molecules, growth factors, cells as mitigators, and their mechanisms of action in radiation-damaged tissues, late effects of acute and prolonged exposure, survivorship issues, and future developments. ♦

The **15th Coordination Meeting of the WHO REMPAN** will take place on July 03-05, 2017 at the WHO Headquarters in Geneva, Switzerland – **by invitation only** for the network members. ♦

Obituary

By Shunichi Yamashita, Nagasaki University, Japan

Professor Shigenobu Nagataki (1932- 2016) – Japan



To our great sadness, our great mentor and world-class scientist in the field of radiation health, **Professor Shigenobu Nagataki**, MD, PhD, passed away on November 12, 2016 at his home in Tokyo.

After graduating from the School of Medicine of Tokyo University, in 1956, Dr. Nagataki spent a two-year research fellow term in medicine at Harvard Medical School, where he studied and assessed physiological and pathological iodine metabolism, focusing on the application of radioisotopes.

Becoming a full Professor of Nagasaki University School of Medicine in 1980, Dr. Nagataki worked in the field of autoimmune thyroid diseases. From 1994-1997, he was Director of the WHO CC for Research on Thyroid Disease in Nagasaki; in 1998, this center was re-designated as WHO-REMPAN Center. Dr. Nagataki contributed tremendously to the fields of thyroidology, radiation medicine and radiation disaster medicine. He worked more than 25 years for the Chernobyl medical aid and in various research programs.

He was chief member of the Nuclear Disaster Expert Group of the Cabinet Secretariat of Japan, President of the Radiation Effects Association of Japan and president, chairman and steering committee member of many academic and governmental societies internationally and nationally, e.g. of the Radiation Effects Research Foundation (RERF) in Hiroshima.

Innumerable friends and colleagues in Japan and worldwide mourn for Dr. Nagataki passing. We will always remember him as an outstanding professional and person. ♦

Upcoming Events and Training Courses

- **06-07 March, 2017, Bethesda, USA**
[2017 NCRP Annual Meeting: Emergency Preparedness for Nuclear Terrorism](#)
- **20-24 March, 2017, Vienna, Austria**
IAEA Workshop on the Development of a Protection Strategy for Emergency Exposure Situations (email: S.Nestoroska-Madjunarova@iaea.org)
- **20-24 March, 2017, Mol, Belgium**
[Preparedness and response for nuclear and radiological emergencies](#)
- **26-29 March, 2017, Marseille, France**
[43rd Annual Meeting of the European Society for Blood and Marrow Transplantation](#)
- **27 March-07 April, 2017, Oberschleißheim, Germany**
[EURADOS-RENEB training course "ADORE - Application of cytogenetic and EPR/OSL techniques for biological dosimetry and physical retrospective dosimetry"](#)
- **10-13 April, 2017, Grand Rapids, USA**
[27th Annual Conference – National Radiological Emergency Preparedness](#)
- **25-28 April, 2017, Toronto, Canada**
[WADDEM Congress on Disaster and Emergency Medicine 2017](#)
- **08-11 May, 2017, Chilton, UK**
[Principles of Protection Against Internal Radiation](#)
- **08-11 May, 2017, Munich, Germany**
[22nd Nuclear Medical Defence Conference 2017](#)
- **15-17 May, 2017, Lisbon, Portugal**
[17th EAN Workshop \(in collaboration with NERIS\)](#)
- **30 May-02 June, 2017, Valencia, Spain**
[ETRAP 2017 – 6th International Conference on Education and Training in Radiological Protection](#)
- **12-16 June, 2016, Budva, Montenegro**
[5th International Conference on Radiation and Applications in Various Fields of research](#)
- **19-23 June, 2017, Chilton, UK**
[Foundation in Radiological Protection](#)
- **19-23 June, 2017, Gomel, Belarus**
[Training course: Late Phase Nuclear Accident Preparedness and Management](#)
- **09-13 July, Raleigh, USA**
[62th Annual Meeting of the Health Physics Society](#)

Upcoming REAC/TS Training Courses

- **07-10 February, 2017, Oak Ridge, USA**
- **07 February- 3 March, 2017, Oak Ridge, USA**
- **18-21 April, 2017, Oak Ridge, USA**
- **13-16 June, 2017, Oak Ridge, USA**
[Radiation Emergency Medicine \(REM\)](#)
- **24-28 April, 2017, Oak Ridge, USA**
- **14-18 August, 2017, Oak Ridge, USA**
[Advanced Radiation Medicine](#)
- **13-17 March, 2017, Oak Ridge, USA**
- **19-23 June, 2017, Oak Ridge, USA**
[Health Physics in Radiation 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.

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