

## REMPAN

## e-NEWSLETTER



World Health Organization

Issue 4

December, 2011

## Editorial

2011 is coming to an end. Looking back we are thinking about the events for which this year will be most remembered. First thing that comes to mind and the event that affected everyone, in one way or another, is the Great East Japan earthquake and tsunami that took so many lives. The accident that followed at the Fukushima Daiichi Nuclear Power Plant (NPP) has forever changed the way people think of nuclear energy and nuclear safety. Many of you have been closely involved and contributed to your own countries' responses to the Fukushima accident. We had to put our best efforts together in order to be able to respond to the need of informed decision-making and to address the information needs of the general public, mass media, and relevant national authorities. Lessons learned from the response to the Fukushima Daiichi NPP accident provide a unique opportunity to improve existing systems of emergency response at all levels - local, national, regional, global. The United Nations family of international organizations have concluded the UN System-wide study on the implications of the Fukushima accident, to which WHO has contributed. The report of this study can be accessed at:

<http://www.reachingcriticalwill.org/political/energy/hlm/UN-system-wide-study.pdf>

Other key events for which we will remember 2011 are the 13th REMPAN meeting held in Nagasaki, Japan in February and the 5th International REAC/TS Symposium on "The Medical Basis for Radiation Accident Preparedness". Both event have been a great success and we commend our colleagues for the efforts they put into organizing these events.

We thank those experts who retired or moved to other positions during the year. We hope they will remain active and available to provide technical advice and consultation, as their expertise in the field of radiopathology is priceless: Dr Lui Ying (China), Dr Patrick Gourmelon (France), Dr Christoph Reiners (Germany), Dr Volodimir Bebesko (Ukraine), Dr Luiz Conti (Brazil) - to name but a few. We wish them good luck in their new endeavours.

The network continues to grow and in 2011, we were grateful for the enthusiasm of new institutions that joined REMPAN recently, such as: NCRRP/Bulgaria, SPRA/France, Fukushima Medical University/Japan, Kuwait Ministry of Health, Health Board of Estonia. We look forward to a fruitful collaboration with REMPAN's new and old members in 2012.



Dr. Zhanat Carr  
WHO REMPAN Coordinator

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## Network News

### 60<sup>th</sup> Anniversary of the Clinical Department for Acute Radiation Syndrome in Moscow, Russia

By Valery Krasnyuk, Burnazyan Federal Medical Biophysical Center (FMBC), Moscow, Russia

In 1951, the **Clinical Department of Radiating Medicine** at the **Burnazyan Federal Medical Biophysical Center (FMBC)** of the Federal Medical and Biologic Agency (FMBA) was established at the Institute of Biophysics by the Ministry of Health of USSR by Order № 21. Founder and first head of the clinic was Prof. N. Kurshakov (1951-64), followed by professors V. Smolensky (1964-66), A. Vorobev (1966-74), A. Guskova (1974-96), G. Selidovkin (1996-99), A. Bushmanov (1999-2007), I. Galstyan (2007-08) and as of 2008 by V. Krasnyuk. The Clinical Department is an applied sciences division including clinical, scientific and methodical areas of work: studies of clinical symptoms, diagnostics and treatments of radiation injuries, and establishment of a science-based medical surveillance system for people working with ionizing radiation.



*Prof. V. Kraznyuk (second from left), Prof. A. Guskova (front) and colleagues*

During the past 60 years the Clinical Department advised and provided medical assistance in more than 200 radiation emergencies. Over 1.500 accidentally irradiated people were treated; over 1.000 cases of Acute Radiation Syndrome (ARS) or local radiation injury were diagnosed, including 134 cases of ARS due to the Chernobyl accident. Under the direction of A. Guskova within a few days after April 26th, 1986, basic preparatory measures were taken to receive 180 patients at the clinic, in 108 of whom ARS was confirmed. In recent years only individual ARS cases occurred in Russia; local radiation injuries accounts for the majority of radiation injuries nowadays. A radiation accident database was established already in 1950.

The Clinical Department published more than 300 publications, among these 30 monographs and 100 doctor's and master's theses. In advanced training, internship and postgraduate courses scientific and medical specialists are educated for the country's medical organizations. In addition, over the last 10 years the Clinical Department trained 64 foreign experts and cooperated with international organizations e.g. IAEA, and institutions from Germany, Japan, the USA, the Netherlands and France.

In 2008, the Institute of Biophysics and the Clinical Hospital No. 6 were reorganized and combined, and the FMBC of A. I. Burnazyana of FMBA was established. The new structure includes 8 scientific laboratories with over 50 scientists; it links the scientific laboratories with the clinical branches of the Burnazyan FMBC. ♦

*Burnazyan Clinical Hospital No. 6*



## Network News

### New Clinic No. 2 Opened 2011 in St. Petersburg, Russia

By Sergey Alexanin, Nikiforov Russian Center of Emergency and Radiation Medicine (NRCERM), St. Petersburg, Russia

The **multidisciplinary Hospital No. 2** started operation in October 2011 in St. Petersburg, Russia. The total number of up to 2000 employees is projected to work at different clinical departments, e. g. Department of Cardiovascular Disease, Thoracic-abdominal Surgery, Orthopaedics, Ophthalmology, Oral Surgery, Neurology, Neurosurgery, Urology, Gynaecology, Otolaryngology, and a Burn Unit.

The clinic provides a total number of 380 beds and 38 intensive care beds; the polyclinic registers 460 patient visits per shift.



*Clinic No. 2, NRCERM, EMERCOM of Russia – St. Petersburg, Russia, October 2011*

In addition, the Clinic No. 2 also has a **Department of Radiation Medicine** (including hematology and toxicology with 30 hospital beds) and a rehabilitation complex to provide highly specialized technological medical assistance for victims of radiation accidents, natural and technical disasters and catastrophes. ♦



## Network News

### Service provided by the French Defense Radiation Protection (SPRA), Clamart Cedex, France

By Jean-Christophe Amabile and Pierre Laroche, SPRA, Clamart Cedex, France

The **French Defense Radiation Protection Service (SPRA)** was established in 1973 by the Research Center of the French Armed Forces Health Service (SSA). By the Ministry of Defense it is considered as technical support of military units in the framework of radiation protection; its service is directly subordinated to the director of the SSA.

The SPRA has a medical and a technical division with 75 military and civilian employees. Major missions described in a specific decree of 2005 are:

- Occupational Medicine, especially the medical and radiobiological supervision of people exposed to ionizing radiation in the French Ministry of Defense
- Hygiene and safety (technical controls of installations)
- Regulation
- Intervention in case of a radiological event
- Education (more than 1.000 hours/year of training courses).

The SPRA is directly involved in the management of contaminated and injured patients with its 5 specialists in radiation protection, specialized units (whole body counting, radio-toxicology and dosimetry) and mobile laboratories. It is located inside the **Percy Military Hospital** area at Clamart and works with an academic hospital (heliport, emergency unit, plastic surgery, haematology, physical medicine and rehabilitation, psychiatry), a burn care unit, a blood transfusion centre and a centre for treating contaminated injuries.

In order to supply the best medical care for ionizing radiation victims the SPRA initiated for the SSA conventions with other institutions, e.g. the French Atomic Energy Commission (CEA), EDF (Electricité De France) Group, AREVA or the French Radiation Protection and Nuclear Safety Institute (IRSN). During the last two years, the Percy Military Hospital has treated more than 20 contaminated and injured and 12 irradiated victims with the technical help and expertise of the SPRA. After the Fukushima accident In March 2011, two specialized teams were deployed to Tokyo and Sendai, Japan.

The SPRA is on call 24 hours/day, 7 days/week. It can deploy instantly an analysis team – mobile laboratories with a pharmacist specialized in radiation protection and 3 technicians. The mobile laboratories – one truck for radiochemical and two trucks for spectrometric analysis – can be deployed by road or aircraft in France or overseas, if requested by military or civilian authorities. ◆



*Truck with mobile laboratories of SPRA – AIRNUC 2009 (Exercice national de sécurité nucléaire) – Mont-de-Marsan, April 2009*

## Network News

### Master of CBRN – Teaching Module by SPRA, Clamart, France

By Jean-Christophe Amabile and Pierre Laroche, SPRA, Clamart Cedex, France

The mission of education of the SPRA is best illustrated by the new Master of CBRN organized since 2009 by the Military School of Valde-Grâce, the University of Medicine of Paris 6 and the CEA.

The Master is open to military and civilian medical practitioners, pharmacists, veterinarians or nurses. After 300 hours of theoretical lectures and a 3 – month practical training course students have to pass an exam and must present a report, respectively.

The SPRA is involved directly in this Master with a **Nuclear and Radiological Module**. This 60 hours theoretical module includes basic knowledge of radioactivity and its detection, biological effects of ionizing radiation, physical, biological and clinical dosimetry, medical management and treatment of radio-contaminated and irradiated and injured patients as well as national emergency plans. ◆



Dr Z. Carr visited SPRA and Percy Hospital on 06 December 2011. On the photo Drs: A. Cazoulat, J.-C. Amabile, H. de Carbonnières, Z. Carr, P. Laroche, S. Bohand. .

## Network News

### Response to Fukushima by NIRS, Chiba, Japan

By Hideo Tatsuzaki, NIRS, Chiba, Japan

The Research Center for Radiation Emergency Medicine, **National Institute of Radiological Sciences (NIRS)**, in Chiba, Japan, has been contributing to the mitigation of the Tokyo Technical Power Company (TEPCO) Fukushima nuclear power plant (NPP) accident. Activities and **services provided by NIRS** included:

- sending experts and equipment to local areas
- contributing to the dose assessment and health checks of residents
- public communication via web site, lectures or press releases
- telephone consultations for the public and specialists
- screening of surface contamination and internal exposure
- accepting patients
- assisting other medical facilities for calibrating whole body counters
- contributing to international organizations such as WHO
- supporting the national and local government

Further, the Research Center for Radiation Emergency Medicine, National Institute of Radiological Sciences (NIRS), Chiba, Japan, held 4 **training courses for medical staff or first responders**: one of the courses was held in cooperation with the Radiation Emergency Assistance Center/ Training Course (REAC/TS) and WHO. On August 26, 2011, the symposium “Accident of TEPCO Fukushima Daiichi Nuclear Power Station” was held at NIRS; the course “What was seen and not seen by others?” was organized by NIRS and REAC/TS in cooperation with the International Atomic Energy Agency (IAEA), and U.S. Department of Energy (DOE) National Nuclear Security Administration (NNSA), Office of International Emergency Management and Cooperation. In the near future, two more courses are planned. ◆

### Japanese Newspaper “Asahi Shimbun” to Visit Research Centre, Gomel, Belarus

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

On October 14, 2011, representatives of the Japanese newspaper **The Asahi Shimbun** visited the **Republican Research Center for Radiation Medicine and Human Ecology (RRCRM&HE)** in Gomel, Belarus. The Asahi Shimbun, literally Morning Sun Newspaper, is the second most circulated out of the five national newspapers in Japan. The purpose of the visit was to inform the Japanese delegation about on-going activities in the field of post-Chernobyl rehabilitation and to present equipment to register radiation sources at borders, which is part of a Belarusian-Japanese project.

For more information about the RRCRM&HE in Gomel and its research journal "Medical and Biological Problems of Vital Activity" see: [www.rcrm.by](http://www.rcrm.by) ◆



## Coming, going...

### Two New Heads Appointed at NIRS, Chiba, Japan

The National Institute of Radiological Sciences (NIRS) has two new appointments:



**Dr. Nobuyuki Sugiura** (photo, left) appointed as a new director of NIRS as of August 1<sup>st</sup>, 2011. Dr. N. Sugiura, a health physicist with main interest in dose assessment and biokinetics of radionuclides.

The new director of the Dept. of Emergency Radiation Medicine is **Dr. Katsushi Tajima** (photo, right). He is a haematologist with main interest in developing new therapies for combined radiation injury using mesenchymal stem cells. ◆



We thank for many years of his service and contribution to the studies of Chernobyl affected populations in Ukraine and wish all the best to **Prof. Volodimir Bebesko** who has recently retired. The newly appointed the Director-General of the Radiation Medicine Research Center of the National Academy of Medical Sciences and the Head of the WHO CC is **Prof. Dmitri Bazyka (on the photo)**. ◆



Photo credit: <http://www.rcrm.net.ua>

We wish good luck to **Dr Patrick Gourmelon** who retired from IRSN (France). The new REMPAN focal point at the IRSN is **Dr Marc Benderitter**. He is in charge of the Radiopathology Laboratory and Experimental Therapy at the IRSN. Dr Benderitter is also a Chair of the International Association of Radiopathology.





## Scientific Events

### 5<sup>th</sup> International REAC/TS Symposium on the Medical Basis for Radiation Accident Preparedness, Miami, USA

By Steve Sugarman, REAC/TS, Oak Ridge, USA



In September 2011, REAC/TS - a WHO REMPAN CC based in Oak Ridge TN, USA, hosted the 5<sup>th</sup> International Symposium on the Medical Basis for Radiation Accident Preparedness in Miami, Florida, USA. The event provided an opportunity for experts from around the world to discuss advances in the diagnosis and medical management of radiation injuries and illnesses. With over 30 speakers and 150 attendees representing over 15 countries, the symposium was a successful vehicle for sharing both tried-and-true and newly evolving methodologies. Key note speaker, J. Krol, Rear Admiral, US Navy (Ret), Associate Administrator for the Office of Emergency Operations for the US Department of Energy's National Nuclear Security Administration emphasized the importance of preparation and the ability to rapidly and appropriately respond to radiological/nuclear accidents. Dr. Z. Carr (WHO/REMPAN) and Dr. R. Martincic (IAEA/RANET) closed out the opening session discussing the importance of integrated international response capabilities.

The symposium addressed the major issues associated with medically managing radiological events. The topics addressed included treatment of local and whole body radiation injuries/illness, treatment for internal contamination, rapid radiation dose assessment, advances in drug development, population monitoring, and public communication. In addition, a **biodosimetry workshop** was held on the Friday following the symposium to allow experts in the field to discuss recent advances in the application / evaluation of using biological responses to ionizing radiation as a dosimetric tool.



*5<sup>th</sup> International Symposium – Miami, USA, September 2011*

The technical lectures provided by the world's leading experts, the professional interactions amongst the varying disciplines represented at the symposium, and the opportunity to develop not only professional relationships, but personal relationships, all will serve to strengthen the world's capability to respond to an incident involving radioactive materials should the need arise.

Comments made by the attendees of the symposium and workshop were overwhelmingly positive. Dr. M. Benderitter, Head of the Laboratory of Radiopathology at the Institut de Radioprotection et de Sureté Nucléaire (IRSN) in France, said "It was an honour for me and my French colleagues to have the opportunity to share our experience concerning the medical management of radiological accidents." The REAC/TS staff, both organizers and speakers, were extremely impressed with the expertise gathered in one place to discuss the finer points of medically managing patients involved in radiological/nuclear incidents and would like to express their profound gratitude to all of those who attended and spoke at the symposium. ♦

## Scientific Events

### International Conference, St. Petersburg, Russia

By Sergey Alexanin, Nikiforov Russian Center of Emergency and Radiation Medicine (NRCERM), St. Petersburg, Russia

From 14 to 16 September, 2011 the international scientific and practical conference "**XXI multidisciplinary hospital: advanced medical technologies**" was held in St. Petersburg, Russia. The conference was dedicated to the 20<sup>th</sup> anniversary of the Federal State Institute Nikiforov Russian Center of Emergency and Radiation Medicine (NRCERM), EMERCOM of Russia.



*Conference participants (from left): Prof. V. Rybnikov, Academician L. Ylyin, Prof. O. Kozlov, Prof. S. Aleksanin, Dr. V. Zholobov – St. Petersburg, Russia, September 2011*

Leading specialists in emergency medicine, disaster medicine and the Russian health system took part in the conference which was also attended by representatives from Germany, Italy, China, Japan, Ukraine, Belarus and Israel. ♦

## Training Courses and Drills

### Two Radiation Emergency Training Courses, Beijing, China

By Cuiping Lei, Chinese Center for Medical Response to Radiation Emergency (CCMRRE), Beijing, China

From 18 to 24 September, 2011, the **Chinese Center for Medical Response to Radiation Emergency (CCMRRE)**, Ministry of Health, held a training course on medical preparedness and response to radiological and nuclear emergency in Shanghai. Almost 120 participants from 31 Chinese provinces attended this training course.



*Training course – Shanghai, China, September 2011*

The program covered **lessons learned from the Fukushima accident** such as iodine thyroid blocking with stable iodine, monitoring of foodstuff and drinking water, shielding and relocation, decontamination, and other basic knowledge such as management of radiation induced disease and dose assessment.



*Training course for rescuers and responders – Beijing, China, November 2011*

A second practical emergency training was organized in Beijing by the CCMRRE from 24 to 27 November, 2011, for 20 national medical responders for radiological and nuclear emergency. The objectives were to increase their ability to survive and carry out rescue work under harsh conditions like in Fukushima nuclear accident in Japan or the Wenchuan earthquake in China. Training topics included on-site monitoring, decontamination and treatment of injured people. ◆

## Training Courses and Drills

### Biannual Drill at Nuclear Power Plant, Angra dos Reis, Brazil

By Teresa Leite, Eletronuclear Medical Assistance Foundation (FEAM), Angra dos Reis, Brazil

#### The **Eletronuclear Medical Assistance Foundation (FEAM)**

participated in the biannual general drill at the Almirante Alvaro Alberto nuclear power plant in Angra dos Reis, Brazil. More than 2,000 civilian and military personnel participated in the **two-day drill** from August 31<sup>st</sup> to September 1<sup>st</sup>, 2011. The objective was to improve availability of all institutions involved in the response to a nuclear accident, being at the municipal, State and Federal levels.



*Drill – pre-hospital and hospital response (above and below) – Almirante Alvaro Alberto Nuclear Power Plant, Angra dos Reis, Brazil, August/September 2011*



FEAM is responsible for all medical, pre-hospital and local hospital, response; if necessary, the patient may be even sent to a tertiary hospital.

During the drill FEAM received a delegation from the International Atomic Energy Agency (IAEA). ◆



## New Publications

### “Population Mortality around NPP” – Study by FEAM, Angra dos Reis, Brazil

By Teresa Leite, Eletronuclear Medical Assistance Foundation (FEAM), Angra dos Reis, Brazil

The Eletronuclear Medical Assistance Foundation (FEAM) through its Radioepidemiological Information Center conducted a study on population mortality around the Almirante Alvaro Alberto nuclear power plant (NPP) in Brazil. The study **“Mortality Pattern Surrounding Almirante Alvaro Alberto Nuclear Power Plant from 1986 to 2007”** published by FEAM in May 2011 makes available official data from the Ministry of Health related to 48 cities at a distance of 30 km, 50 km and 100 km from the NPP.



The results showed that there is no significant risk of cancer or congenital abnormalities in the population living near the nuclear power plant if compared with all other cities studied. ♦

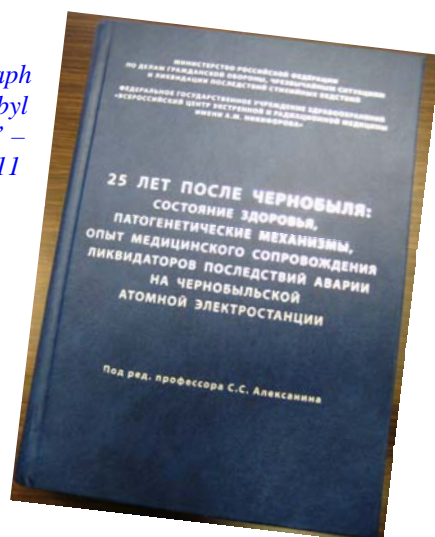
*Brazilian Mortality Study – May 2011*

### “25 years after Chernobyl” – Monograph by NRCERM, St. Petersburg, Russia

By Sergey Alexanin, Nikiforov Russian Center of Emergency and Radiation Medicine (NRCERM), St. Petersburg, Russia

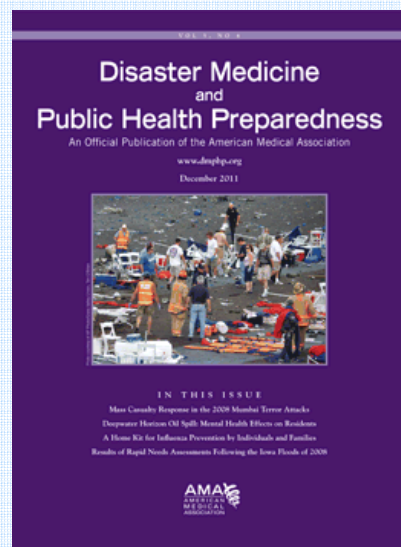
In September 2011, the Federal State Budget Institute “Nikiforov Russian Center of Emergency and Radiation Medicine”, EMERCOM of Russia published a comprehensive, 736 pages monograph “25 years after the Chernobyl catastrophe: health state, pathogenetic mechanisms, medical support for liquidators of the **consequences of the Chernobyl Nuclear Power Plant Accident**”. The publication edited by Prof. S. Aleksanin is available in Russian language.

*Russian monograph  
“25 years after the Chernobyl  
catastrophe” –  
September 2011*



## New Publications

In 2009, the WHO convened a panel of experts in Geneva, Switzerland, to develop a harmonized approach to the **medical management of Acute Radiation Syndrome** affecting the hematopoietic and non-hematopoietic organ systems.



Using the Grading of Recommendations Assessment Development and Evaluation **(GRADE) system** for evaluating evidence supporting clinical guidelines, the consultation group ranked the available evidence published in the literature.

Both articles are available at:

<http://www.dmphp.org/cgi/content/abstract/5/3/183> and  
<http://www.dmphp.org/cgi/content/abstract/dmp.2011.68v1> ♦

## News – Tools

**Mobile REMM** (Radiation Emergency Medical Management (US Department of Health and Human Services)), an **iPhone application** (Version 1.4.0 April, 2011) contains selected, key files from the online, full version of REMM.



*REMM logo*

Mobile REMM provides updated content for 3 existing platforms and the new Android version and is available for free download from: <http://www.remm.nlm.gov/downloadmremm.htm>.

“What’s new on REMM?” <http://www.remm.nlm.gov/whatsnew.htm> ♦



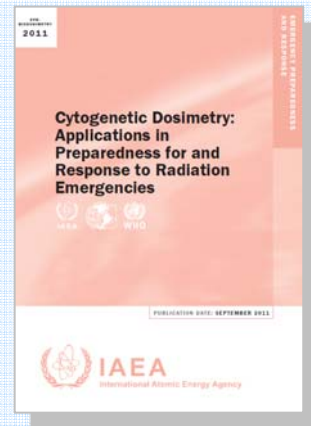
*Mobile REMM application on iPhone screen*

## News – Upcoming Training Courses

- **31 January - 31 February, 2012, Oak Ridge, TN, USA**
- **28 February - 2 March, 2012, Oak Ridge, TN, USA**
- **24-27 April, 2012, Oak Ridge, TN, USA**
- **05-08 June, 2012, Oak Ridge, TN, USA**  
Radiation Emergency Medicine (REM)  
<http://orise.orau.gov/reacts/capabilities/continuing-medical-education/radiation-emergency-medicine.aspx>
- **27 February - 2 March, 2012, Chilton, UK**  
Foundation in Radiological Protection  
<https://www.hpa-radiationservices.org.uk/cms/article.php?article=340&course=24&details=true&site=RPTS>
- **12-15 March, 2012, Fontenay-aux-Roses, France**  
4<sup>th</sup> Training Course “Late Phase Nuclear Accident Preparedness and Management”  
<http://www.eu-neris.net/index.php/activities/courses/218-training-course-on-qlate-phase-nuclear-accident-preparedness-and-managementq.html>
- **17-18 April, 2012, Oak Ridge, TN, USA**  
Pre-Hospital Radiation Emergency Preparedness (PREP)  
<http://orise.orau.gov/reacts/capabilities/continuing-medical-education/pre-hospital-radiation-emergency-preparedness.aspx>

## New Publications

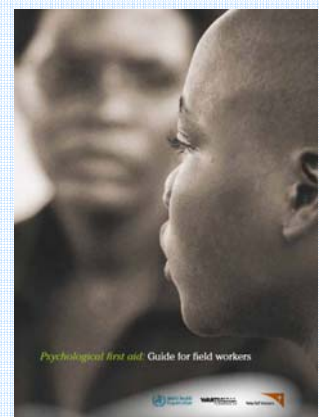
The new IAEA publication “**Cytogenetic dosimetry: Applications in preparedness for and response to radiation emergencies**” constitutes a third edition superseding the second edition, (Technical Reports Series No. 405) revised in 2001.



The 2011 publication is an extensive update to reflect the considerable advances that have been made in cytogenetic biological dosimetry during the past decade:

[http://www-pub.iaea.org/MTCD/Publications/PDF/EPR-Biodosimetry%202011\\_web.pdf](http://www-pub.iaea.org/MTCD/Publications/PDF/EPR-Biodosimetry%202011_web.pdf)

On World Humanitarian Day, celebrated on 19 August, WHO, the War Trauma Foundation (WTF) and World Vision International (WVI) announces the release of a **Psychological first aid: Guide for fieldworkers**.



Psychological first aid covers both social and psychological support and involves the provision of humane, supportive and practical help to people suffering from serious crisis events. Available at:

[http://whqlibdoc.who.int/publications/2011/9789241548205\\_eng.pdf](http://whqlibdoc.who.int/publications/2011/9789241548205_eng.pdf) ♦



## News – Upcoming Scientific Events

- **06-08 February, 2012, Bratislava, Slovak Republic**  
NERIS-ICRP Workshop  
[http://www.eu-neris.net/index.php?option=com\\_content&view=category&layout=blog&id=182&Itemid=290](http://www.eu-neris.net/index.php?option=com_content&view=category&layout=blog&id=182&Itemid=290)
- **12-15 February, 2012, Warsaw, Poland**  
PIME - Conference on Public Information Materials Exchange  
<http://www.euronuclear.org/events/pime/pime2012/index.htm>
- **20-21 February, 2012, Hiroshima, Japan**  
International Symposium for 50<sup>th</sup> Anniversary of RIRBM (Research Institute for Radiation Biology and Medicine), Hiroshima University  
[http://www.hiroshima-u.ac.jp/en/rbm/p\\_877775.html](http://www.hiroshima-u.ac.jp/en/rbm/p_877775.html)
- **29 February - 3 March, 2012, Hirosaki, Japan**  
International Symposium on the Natural Radiation Exposures and Low Dose Radiation Epidemiological Studies  
<http://133.63.22.22/resnet/nare2012/index.php>
- **12-13 March, 2012, Bethesda, MD, USA**  
The 48<sup>th</sup> Annual Meeting of NCRP “Emerging Issues in Radiation Protection”  
<http://ncrp.eventbee.com>
- **01-04 April, 2012, Geneva, Switzerland**  
38<sup>th</sup> Annual Meeting of the European Group for Blood and Marrow Transplantation and EBMT's Nuclear Accident Committee  
<http://www.congrex.ch/ebmt2012>
- **23-26 April, 2012, St. Paul, MN, USA**  
22<sup>nd</sup> Annual National Radiological Emergency Preparedness Conference  
<http://www.nationalrep.org/index.html>
- **13-18 May, 2012, Glasgow, Scotland, UK**  
13<sup>th</sup> International Congress of the International Radiation Protection Association  
<http://www.irpa13glasgow.com/>

## 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.

The designations employed and the presentation of the information in this Newsletter do not imply the expression of any opinion whatsoever on the part of the Secretariat of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. The World Health Organization does not warrant that the information contained in the Newsletter is complete and correct and shall not be liable whatsoever for any damages incurred as a result of its use.

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[http://www.who.int/ionizing\\_radiation/a/rempan/en/index.html](http://www.who.int/ionizing_radiation/a/rempan/en/index.html)

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