

SCIENTIFIC AND CITIZEN FORUM ON RADIOPROTECTION : FROM TCHERNOBYL TO FUKUSHIMA

Organised by IndependentWHO



Saturday 12 May 2012
at the Ecumenical Centre
150, route de Ferney, 1211 Genève 2 (Suisse)

Abstracts-Résumés

+ presentation and programme

With the support of :



...and numerous other associations and individuals
Web page/secretariat see : www.independentwho.org

IndependentWHO (IW) is a citizen movement set up by individuals and associations including: Brut de Béton Production; Contratom, Geneva; CRIIRAD (Commission for Independent Research and Information on Radiation) France; IPPNW (International Physicians for the Prevention of Nuclear War), Switzerland; Enfants de Tchernobyl Belarus, France; Sortir du Nucléaire Network, France; Sortir du Nucléaire Loire et Vilaine; and the People's Health Movement. IW is supported by a wide coalition of NGOs. The objective of IndependentWHO is the complete independence of the World Health Organization (WHO) from the nuclear lobby and in particular the International Atomic Energy Agency (IAEA) so that it may fulfill its constitutional mandate to “act as directing and coordinating authority” and “assist in developing an informed public opinion among all peoples” in the critically important area of radiation and health. IW calls on all citizens of the world to hold our public institutions to account and to act according to their founding principles.

The Hippocratic Vigil: Since 26 April 2007, every working day, from 8.00 till 18.00, the Hippocratic Vigils of IndependentWHO have held a permanent protest in front of the WHO headquarters in Geneva demanding that WHO fulfill its mission to bring all people to the highest possible standard of health, including in the area of radioprotection.



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12 May 2012 in Geneva

Why organize such a forum?

For more than half a century, **the health consequences** of nuclear disasters, such as Chernobyl and Fukushima, and of nuclear activities in general, have been hidden from the public. A high-level international cover-up, involving governments, the nuclear industry, and international public institutions, has been coordinated by the International Commission on Radiological Protection (ICRP) and the International Atomic Energy Agency (IAEA), one of whose mandates is to promote peaceful use of the atom in the world.

The World Health Organisation (WHO) is an accomplice to this cover-up. In fact, according to the agreement signed on May 28, 1959 between WHO and IAEA, WHO is not allowed to disseminate information, undertake research, or provide assistance to populations affected by nuclear accidents, without the approval of the IAEA which itself reports to the UN Security Council. For the past two years, WHO no longer even has a “Radiation and Health” department. This unacceptable situation was confirmed during a meeting between Independent WHO and Dr Chan, WHO Director-General, on May 4, 2011. It is clear that WHO has abdicated all responsibility in the critically important field of radiation and health.

International radiological protection standards were introduced in 1950 by the International Commission on Radiological Protection (ICRP), and its recommendations are followed by States and international organisations. But the ICRP model that is used to determine doses and risks of ionising radiation to human health fails to distinguish between the effects of **internal contamination** and those of **external irradiation** : with, as a direct consequence, denial of the morbidity and mortality rates observed among the people who live in contaminated areas.

This explains that the official Chernobyl death toll, of 5 September 2005, co-signed by UN agencies, is around 50 directly linked to the catastrophe, and 4000 *potential* deaths in the long term..... At the end of 2009, however, the book “Chernobyl: consequences of the catastrophe for people and the environment” by A.V. Yablokov and V. and A. Nesterenko, so far the most complete review on the subject, was published under the aegis of the New York Academy of Sciences. Based upon thousands of studies from all over the world, the authors estimate that there have been hundreds of thousands of deaths as a result of the Chernobyl catastrophe. They also document a significant increase in morbidity, particularly in children, 80% of whom are ill today compared to 20% prior to the accident.

These huge discrepancies in estimates of the number of victims must be investigated. With the Fukushima catastrophe - which is certainly as serious as the Chernobyl disaster - it is all the more urgent and essential today, to critically examine the information that is provided to populations on radioactive contamination and to consider possible radioprotection measures.

In the face of the inadequate response of international institutions, Japanese researchers and citizens have approached independent experts of other countries to request information and

advice. The aim of the Scientific and Citizen Forum on Radioprotection is to share knowledge and experience concerning the Chernobyl and Fukushima catastrophes. The question of “standards” will be addressed through **a comparison of official data with experience** and with other theoretical models supported by independent scientists. Radioprotection itself will also be addressed and its field of application and limitations, defined. A radioprotection handbook produced by the Belrad Institute, Minsk (Belarus) has recently been translated into Japanese. The French version of the handbook is in preparation and will be launched at the Forum. We know, since Fukushima, that no country or citizen is free from the risk of such an accident.

The Forum is organised by **IndependentWHO (IW)**, a group of individuals and associations (*founding associations: Brut de Béton Production, Contratome Genève, CRIIRAD (Commission d’Informations et de Recherches Indépendantes sur la Radiation), IPPNW (International Physicians for the Prevention of Nuclear War), Enfants de Tchernobyl Belarus, Réseau Sortir du Nucléaire, SDN Loire et Vilaine, People’s Health Movement*), supported by a broad coalition of NGOs. IW’s major concern is that the World Health Organisation, through its alliance with the IAEA, is unable to fulfil its constitutional mandate “to act as the directing and co-ordinating authority on international health work” and “to assist in developing an informed public opinion among all peoples on matters of health”. IW addresses all citizens of the world and urges international organizations to apply the principles on which they are founded.

Since April 26, 2007, every working day, from 8 a.m. to 6 p.m., IndependentWHO Hippocratic Vigils stand in front of the WHO Headquarters in Geneva to demand the independence of WHO so that it may fulfil its duty to ensure “the attainment by all peoples of the highest possible level of health”, including in the area of radiation and health. This Forum will also allow exchanges of experiences between IW Vigils, independent scientists, others partners and concerned citizens.

Website of IndependentWHO: www.independentwho.org



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PROGRAMME Saturday May 12

Morning Session (8:30 a.m. to 12:45 p.m.)

8:30 a.m.: Registration, distribution of Abstracts

9 a.m.: 1. Presentation of the Forum: Moderator: Marc Molitor (Belgium), journalist, author of *Chernobyl - past denial, future threat?* Published by *Racine-RTBF.be*

Welcome: Rémy Pagani, Administrative Councillor of the City of Geneva

Introduction Forum: Paul Roullaud (France) co-founder and representative of the collective IndependentWHO: *Why organize a scientific and citizen forum?*

Roland Desbordes (France) President of CRIIRAD (Commission for Research and Independent Information on Radioactivity): *Citizen information: taking responsibility*

Dr. Paul Lannoye (Belgium) Honorary MEP (1989-2004), Commissioner Health, Environment and Consumer Protection: *Why have the risks of exposure to radioactivity always been underestimated?*

9:50 a.m.: 2. Panorama of contamination in Japan and the health consequences of Chernobyl. Moderator: André Larivière (Canada) representative of *Sortir du Nucléaire* to IndependentWHO

Alexei Yablokov (Russia) Doctor of Biological Sciences, advisor to the Russian Academy of Sciences, co-author of *Chernobyl - Consequences of the Catastrophe for People and the Environment* ed. New York Academy of Sciences: *The diversity of biomedical consequences of Chernobyl.*

Shinzo Kimura (Japan) Lecturer at Hokkaido University, expert in radiation: *The extent of contamination and the first clinical symptoms after Fukushima.*

Eisuke Matsui (Japan) specialist in respiratory diseases and low dose radiation, Director, Medical Institute of Environment at Gifu: *Action taken by Japanese scientists and citizens concerned about low-dose internal radiation exposure in Japan.*

10:50 a.m.: Discussion -- **11 a.m.:** Coffee break

11:25 a.m.:3. Radioprotection against internal contamination. Moderator: Vladimir Tchertkoff (Italy) journalist and author of *Le crime de Tchernobyl* published by *Actes Sud.*

Dr. Galina Bandajevskaia (Belarus) pediatrician, cardiologist: *Health status of children in Belarus since the accident at the Chernobyl nuclear reactor.*

Dr. Alexei Nesterenko (Belarus) Director BELRAD - care of children affected by ionizing radiation, co-author of “Chernobyl - Consequences of the Catastrophe for People and the Environment” published by the New York Academy of Sciences: *The BELRAD Institute’s protocol for*

radioprotection and its Atlas of Contamination of children in Belarus.

Vladimir Babenko (Belarus) Deputy Director BELRAD: *From Chernobyl to Fukushima...A practical guide to radioprotection.*

12:25: Discussion -- **12:45:** Lunch Break

Afternoon Session (2 p.m. to 6 p.m.)

2 p.m: 4. Management of the catastrophe by the authorities and its effects on society. Moderator: Eric Peytremann (Switzerland) committee member, ContrAtom

Sophie Fauconnier (France) physician author of studies on the health impact of the Chernobyl accident in Corsica. : *Health impact of the Chernobyl accident in Corsica: an independent epidemiological study finally established.*

Dr. Paul Jobin (France) Director CEFC Taipei (French Centre for Research on Contemporary China, Taiwan Branch), Associate Professor, University of Paris-Diderot : *Fukushima: Radioprotection or "radio-management" by the authorities?*

Kolin Kobayashi (Japan), journalist, correspondent in Paris, Days Japan : *Nuclear energy in Japan, from Hiroshima to Fukushima, and the antinuclear movement*

3 p.m.: Discussion

3:20 p.m.: 5. Civil society: After Chernobyl and Fukushima, NGOs, private individuals, politicians, doctors and independent scientists are busy. Moderator: Marc Molitor (Belgium)

Dr. Yuri Bandazhevsky (Belarus) Anatomical, President of the Center for Analysis and Coordination "Ecology and Health": *From the syndrome of chronic incorporation of long half-life radionuclides to the creation of programs and policies for radioprotection of populations: an example of an integrated model.*

Aya Marumori and Wataru Iwata (Japan) representatives of the Japanese independent laboratory CRMS: *Independent initiatives and actions after Fukushima.*

Michele Rivasi (France) MEP Europe Ecology-Greens, founder of the Committee for Research and Independent Information on Radioactivity (CRIIRAD): *What is Europe doing about radioprotection?*

4:15 p.m.: Discussion (ten minutes)

Miwa Chiwaki (Japan) Fukushima Mothers Association: *Our struggle for survival continues*

Dr. Chris Busby (United Kingdom) chemist and physicist specializing in very low doses of ionizing radiation: *Small Area Cancer Epidemiology for the Citizen : some approaches*

Dr. Michel Ferney (Switzerland) Professor Emeritus of the Faculty of Medicine, Basel, former WHO consultant: *What should the WHO and the Japanese authorities do? Precious time has already been lost.*

5:40 p.m. to 6 p.m.: Discussion (20 minutes) and **Conclusion of the day**



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(for Sunday May 13 Programme, see p.26)

Abstracts-Résumés

Opening speech by : Paul Roullaud (France) co-founder and representative of IndependentWHO

Good morning everyone

We have come together today because all over the world, people are suffering the effects of radiation, whether from the fallout from nuclear weapons testing, from the explosion of the nuclear reactors at Chernobyl, at Fukushima and other accidents, from the use of depleted uranium weapons, or from the so called « normal » emissions, in water or air, produced by the nuclear industry. We have chosen to meet here, 200 metres from the World Health Organization headquarters because this international institution, in contemptuous disregard for its own constitution, adds insult to injury by denying the victims' suffering.

There is a large body of research documenting the suffering of radiation victims but the WHO, continuing to disdain scientific rigour, chooses to ignore it. This scandalous attitude has been regularly denounced over the years but in 2006, a group of people from all over Europe decided that not a day should go by in which the criminal consequences of WHO's implacable and intolerable denial of so much suffering, not be denounced as a crime. Many months of preparation went by and then on 26th April 2007, the first Hippocratic Vigil, as it came to be called, was held, 22 years after the start of the Chernobyl health catastrophe.

Since then, more than 300 people have taken their place at the Vigil in front of the WHO's headquarters, ensuring that this CRIME not be met with indifference one single day more. The Collective IndependentWHO makes sure that this silent vigil is maintained, through rain, wind, snow and ice. For five years, we have denounced this crime, without changing WHO's attitude. From the first day, we knew it would be a very long battle because we are challenging a very powerful international lobby. These five years of the Vigil have at least begun to reveal to the public the relationship between the WHO and the IAEA. WHO's lack of independence from the IAEA, dates from the agreement WHA 12-40 between the two agencies, approved by the World Health Assembly on 28 May 1959.

At our twice yearly annual general meetings we unanimously and enthusiastically agree to continue with the Vigil. It would be untrue to say however, that we never get discouraged or exhausted, and this is mainly because we still have not really got any political support. Yet it is our belief in political change that leads us to challenge WHO on its work in

the area of radioprotection. It is quite easy to sum up WHO's policy and action in radioprotection. There is none - which is, in part, the reason we are holding this Forum.

On behalf of the Collective IndependentWHO, I would like to thank all our speakers today, and especially those who have travelled very long distances from Japan, from Russia, Ukraine and Belarus. It was very important to us that you participate in the Forum, so that we can hear about your experiences, listen to your views, and retain all this information in writing and in film, so that it can be disseminated as widely as possible. But we also wanted you here at the Forum so that scientists, citizens, journalists and politicians could meet, plan future actions together in the development of radioprotection for citizens and strengthen our campaign for the independence of WHO. Because, lest there be any misunderstanding, we support WHO and share the objectives inscribed in its constitution. We are determined, with the support of elected politicians, to return WHO to its primary mission: the protection of populations, which cannot be achieved unless WHO abandons its current mission: the protection of the nuclear industry, to which it has awarded a clean bill of health, to the detriment of people's health.

Over the next few days, in the time we spend together - sitting on WHO's doorstep - we will provide heartfelt witness to those who are suffering in Japan, to those who are suffering in the areas affected by Chernobyl, and to all victims of radiation.

On behalf of the Collective IndependentWHO, I want to thank you once again for your presence here today.



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Abstract/Résumé :

**Communication by: Roland Desbordes (France), President of CRIIRAD
(Commission for Research and Independent Information on Radioactivity)**

Title: Citizen Information: taking responsibility

CRIIRAD (Commission on Independent Research and Information on Radiation) was set up in 1986 in France in response to the lies told by the French authorities about the Chernobyl “cloud”. Not the first lie about the *presence* of the “cloud” over France. This has attracted much public attention, but in fact the truth was acknowledged by the authorities after 12 days. It is the second lie that is significant. “Yes, the cloud did pass over France but it deposited no radioactive contamination.” This explains the absence of information on contamination of food products, the failure to withdraw products from circulation, and the completely false maps of radioactive fallout. It has taken CRIIRAD 20 years to get the French authorities to acknowledge the true levels of fallout. Alas, for the victims, there will be no court case, as the justice system closed the case in September 2011. 26 years on, as the drama of Fukushima unfolds, we see how history repeats itself with the same actors in charge of disinformation - all this despite the struggles of associations and victims.

Abstract/Résumé :

Communication by: Dr. Paul Lannoye (Belgium), Honorary Member of European Parliament (1989-2004), member of the Commission on Health, Environment and Consumer Protection

Title: Why have the risks from exposure to radioactivity always been underestimated?

- In 1952, when President Eisenhower launched the 'Atoms for Peace' programme, it was intended to convince the world of the benefits of nuclear energy.
- The ICRP, which was set up during this same period, was responsible for working in this area to establish safety standards for radiological protection. This led to the adoption of three basic principles: justification (the usefulness of a practice resulting in exposure, optimisation (ALARA, As Low As Reasonably Achievable) and limitation). Limitation involves adopting safety-limits in line with "acceptable" risk.
- Having remained silent during the era of atmospheric nuclear testing, the ICRP has, over time, lowered the safety limits but continues to use a gross approximation for judging the risks from internal contamination.
- The successive adjustments to the norms, prompted by observed data, have always been adopted reluctantly and long after the scientific validation of the observations.
- The latest publication (2007) by the International Commission on Radiological Protection (ICRP) takes no account of the work that has been carried out in Russia, Ukraine and Belarus since Chernobyl. The discrepancy between the norms that are in force and the risks that can be observed has increased dangerously, as is clearly and thoroughly demonstrated by the European Committee on Radiation Risk (ECRR).



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Abstracts-Résumés:

Communication by: Alexei Yablokov (Russia) Doctor of Biological Sciences, advisor to the Russian Academy of Sciences, co-author of *Chernobyl - Consequences of the Catastrophe for People and the Environment* published by New York Academy of Sciences.

Title: The diversity of biomedical consequences of Chernobyl

It is possible to reveal the consequences of the Chernobyl disaster by comparing changes in health of the population living in territories that have received different additional radioactive loads due to the Catastrophe. This comparison is much more accurate than that based on average levels of radiation (effective dose), calculated with an impermissible lack of precision under the method used by the ICRP and UNSCEAR for a "conventional" subject (which gives reduced estimates of the real irradiation).

While the consequences of the additional release into the atmosphere of many dozens of radionuclides (including long-lived) of a total radioactivity of about 10 ExaBq (having mostly fallen outside the former USSR) will be felt for many generations, more than ten thousand studies have been published in the 25 years since the disaster in different countries (mostly in Russia, Ukraine and Belarus). Taken together all these publications make it possible to brush a broad panorama of changes in health of population groups who received additional radiation from Chernobyl.

Among of the main effects of the Chernobyl disaster is to be found in the increase of illnesses' incidence and prevalence:

- circulatory organs;
- endocrine system;
- immune system;
- urino-genital system;
- mio-skeletal system;
- central nervous system and psyche;
- the eye structure;
- increase in congenital malformations;
- increase in cancers;
- accelerated aging;
- increased frequency of mutations;
- change in the secondary sex ratio.

During the 17 years after the Catastrophe, the total mortality in the territories of Belarus, Ukraine and Russia contaminated by Cs-137 on the level ≥ 40 kBq/m² have arised up to 4 % (273,000 people against 9,000 predicted by the IAEA and WHO through 2056). Cautious extrapolation suggests that mortality worldwide due to Chernobyl is, from 1987 to 2004 (excluding mortality in utero quoted above), nearly a million people.

Abstract/Résumé

Communication by: Matsui Eisuke (Japan) specialist in respiratory diseases and low dose radiation, Director, Medical Institute of Environment at Gifu

Title: Activities of Citizens and Scientists Concerned about Low Dose Internal Radiation Exposures in Japan

The accident of TEPCO's Fukushima Daiichi Nuclear Power Plant caused serious harm. Vast areas have been contaminated with radiation, and the lives of a large number of people are threatened. The major effects of radiation from the accident are caused by internal exposure by inhaling or ingesting food and drink. In measuring the doses of exposure to radiation, the government and its professional advisors have relied mainly on gamma rays which are easy to detect. But, in terms of internal radiation exposure, beta and alpha rays have a far more serious effect than gamma rays. The government and TEPCO hardly measure such isotopes as beta emitting strontium-90 or alpha emitting plutonium-239. They have been deliberately ignoring the characteristics of internal exposure.

Behind this lie the nuclear strategies and nuclear power policies of the United States. Influenced by these policies, international organizations such as the International Commission on Radiological Protection (ICRP) were established. They have relied on the research by Radiation Effects Research Foundation which has been ignoring the effect of radiation exposures from fallouts of Hiroshima and Nagasaki Atomic bombs. With regard to the Fukushima accident they make such claims as "there is no statistically significant evidence to prove that the radiation doses under 100mSv cause diseases", and continue to cover up the real facts on the effects of exposure to radiation.

What is now needed is the promotion of truly scientific studies about the effects of radiation on the human body that are based on facts and actual radiation exposures including internal exposure, and not on policies that promote nuclear weapons and pro-nuclear power. This is an international issue and a task for all human kind. And it is now required that the effects of the Fukushima accident are to be dealt with scientifically and democratically from the viewpoint of citizens. This includes appropriate measures to protect food and drink from radiation contamination, compensation for the damage, and safeguards so that people can live and work without radiation exposure. The right of every citizen to live safely must be recognized. For this, we must establish the sovereignty of the people who are rightly provided with correct information about radiation exposure.



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Abstracts-Résumés:

Communication by : **Galina Bandazhevskaya (Belarus) paediatrician, cardiologist**

Title: **The state of children's health in Belarus following the accident at the Chernobyl nuclear power station**

The accident in 1986 at the Chernobyl nuclear power station caused many problems for the three countries most affected – Belarus, Ukraine and Russia. 23% of the territory of Belarus, where 250,000 children live today, was contaminated. The largest part of this radiation dose was due to two radionuclides, Iodine 131, which is short-lived, and Caesium 137, which is long-lived. The most important aspect of the radiological situation in this region is that 70% of the radiation dose to the population is caused by internal radiation through the consumption of contaminated food, such as milk, potatoes, mushrooms, berries, game, etc. 26 years have gone by since the accident at the Chernobyl nuclear power station, but the most important question, the health of the people living in the contaminated territories, remains a problem, unresolved and largely unknown.

Since 2000, the number of children under 18 in Belarus as a whole has decreased by 27.4%; at the beginning of 2011, they numbered 1,737,400. There was an increase in the birth rate from 2003, but the mortality rate in the Republic increased from 13.8% in 2008 to 14.4% in 2010

In the first few years after the accident, paediatricians noticed, during routine preventive examinations, an increase in the number of illnesses and a general deterioration in children's health. Today, illness in children is increasing still more. In 2010, we noticed a strong incidence of primary diseases of the endocrine system, of birth defects, of diseases of the blood circulation system and of tumours in children from the Gomel and Moguilev regions (the most contaminated by radionuclides).

In 1993, thyroid cancer was the only disease officially recognised by the World Health Organisation as a consequence of radiation. As for the other groups of illnesses, for a quarter of a century, Belarus has continued to deny any correlation between the accident at the Chernobyl nuclear power station, and the appearance of birth defects, cancers (other than thyroid) and heart disease. The growing numbers of victims among children in the population is explained as the result of increased competence in routine medical examinations.

As far as the cause of illness is concerned, no attention is paid to the radionuclides, in particular Caesium 137, to which our children have been subjected for more than 26 years. In their preventive care programmes, the health authorities see no need to include the measurement of radionuclides in the bodies of children affected by the Chernobyl accident. The clinics and hospitals in urban areas do not have any human radiation spectrometers (HRS), which would allow them to determine levels of Caesium 137 in a child's body.

According to medical statistics from the paediatric polyclinic in Minsk, there has been a significant increase - more than double - between 2004 and 2011, of cases of children with

cardiovascular disease. The main problems are congenital malformations and disorders of heart rhythm.

There is a higher frequency of congenital cardiac malformation. Estimates for its occurrence vary between different authors, but on average, it represents between 0.8 and 1.2% of all new born babies. Congenital cardiac malformation constitutes 30% of all birth defects observed. Every year, out of 90,000 children born in Belarus, 800 will have a congenital heart problem. Among the problems of heart rhythm, the most frequently observed are: migration of the rhythm stimulator, sinus bradycardia, short PQ interval phenomenon, auricular rhythm and extrasystoles

We know that many adult illnesses have their origin in childhood and adolescence. It is therefore very important to take all possible preventative measures, to care for and rehabilitate children who have radioactive elements in their body. One of the most important jobs of a government is to establish good health in its children and adolescents. This cohort of the population will determine the economic potential of the country and is a good indicator of the ability of the population to reproduce.

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Communication by : Alexei Nesterenko (Belarus) Director BELRAD - care of children affected by ionizing radiation, co-author of *Chernobyl - Consequences of the Catastrophe for People and the Environment* published by the New York Academy of Sciences

Title: Implementation of radioprotection for populations at local level. Radioecological atlas: Human beings and radiation.

With more than 20 years experience, we can sum up what we have learnt about protecting local populations from radiation: children living in highly contaminated areas, who are eating food that is highly contaminated by radionuclides, need constant radioprotection. The work that has been done by the Belrad Institute in the Narovlya district of the Gomel region, provides a good example of this.

The children received 4-5 cycles of radioprotection treatment consisting of 4-5 pectin cures and 8-10 WBC measurements (Whole Body Count measured with a radiospectrometer before and after the intake of pectin preparation). After each measurement, staff from the Belrad Institute for Radiation Safety held meetings with parents and teachers to examine the results. The use of milk separators which are able to reduce radioactivity in milk 6-8 fold. The WBC measurements of children in those families demonstrated that levels of accumulation were decreased 3 to 4 fold. Practical education is necessary in order to develop cooking skills and radiological knowledge. The children should be sent for recuperation in uncontaminated regions as often as twice a year, and the entire programme of radiological protection should be made available to them.

The large scope of the work required the collation and evaluation of all the data received, which was then combined to produce a document called "A Radio-ecological Atlas: Man and Radiation". Later on the atlas was extended to include the results of measurements taken between 2008 and 2011. On the basis of these measurements, it was possible to create maps of Cs-137 radionuclide contamination of children in fifteen districts.

The projects "ATLAS-2" and "Prompt Radiological Assistance for the Children of the Chernobyl Zone of Belarus" were a logical continuation of the original ATLAS project. The purpose was to update the Radio-ecological atlas with the new data, and provide comprehensive and prompt assistance in those settlements where an adverse radiological situation was discovered in the course of radiation monitoring. It should also be mentioned that the ATLAS was subsequently extended by including the data received as a result of activities carried out as part of other projects and work carried out by the BELRAD Institute. Today the ATLAS presents a systematic analysis of the results of more than **300,000** measurements.

We are well aware that our work is just a small part of what needs to be done, and that positive results can only be achieved by using a whole series of protective measures. These include: monitoring of radiation in the environment, food, and population; medical examinations; administrative measures; rehabilitation of contaminated areas; the application of modern methods in agriculture and forestry;

education; the use of radioprotectors (adsorbants) for the quick elimination of radionuclides from the bodies of people, dairy and beef cattle and so on.



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Abstract/Résumé :

Communication by: Vladimir Babenko (Belarus), Deputy Director BELRAD (author of a manual on radioprotection)

Title: From Chernobyl to Fukushima...A practical guide to radioprotection.

In the last few years we have often heard the opinion that the interest in Chernobyl is diminishing. In 2011 this interest like the interest in the problems of nuclear energy increased unusually. To my mind there are several reasons for this. Twenty five years after the Chernobyl accident, the accident at the Fukushima nuclear power plant in Japan and rethinking about the problems of nuclear energy. Now it is time to solve the problem of the future prospects of nuclear power plants.

Twenty five years is a period allowing the following conclusions: what have we learned during this time, what moral have people drawn from the Chernobyl accident? To my mind the first conclusion is disappointing. The Chernobyl accident demonstrated nothing to mankind. Chernobyl and Fukushima – the same problems, the same mistakes. Once it seemed that the main reason for such difficult consequences was the political regime existing in the USSR. Japan: another political regime, another natural environment, another culture and traditions. But the mistakes are the same. The main mistake is an attempt to hide the information about the real scale of the radiation accident, to minimize its consequences and to distort the real state of things.

After the accident at the Fukushima power plant it was clear that the population of Japan had not enough knowledge about radiation, no documents, no instructions regulating people's behavior in case of a radiation accident, no literature and reference materials that could help to clarify the situation and to take simple steps for radioprotection. That is why the Japanese show interest in the Belarusian experience in minimization of the consequences of the Chernobyl accident. From here there appeared the interest in the book "How to Protect Yourself and Your Child from Radiation" that was translated into Japanese and published in Japan.

There exist problems resulting from the Chernobyl accident in our country and they will exist in our country for a long time. The people living in the districts contaminated by Chernobyl radionuclides should constantly learn how to protect themselves from the radiation impact, should learn to live under conditions of radioactive contamination of the territory and to help themselves and their relatives to minimize the Chernobyl impact.

The necessity to set in place permanent radiation monitoring of people and the annual dose of 0.1 mSv serve as a starting point for undertaking radiation protection measures. Clause 12 of the Executive conclusion of the Recommendation of the European Committee for radiation risks declares: "...Total maximal permitted dose from all human-caused sources should not exceed 0.1 mSv for population and 5 mSv for personnel". This publication is declared by the European Committee for radiation risks as "regulating". It is only common sense that we should follow the recommendations given in this publication by the scientists from Canada, Norway, Great Britain, Denmark, Switzerland, the USA, Ireland, Sweden, Germany, France, India, Belarus, Finland and Russia.

In the framework of the "ATLAS" 2008 project the Institute of Radiation Safety BELRAD performed a systemized analysis of the results of whole body counter measurements of Cesium¹³⁷ radionuclide

concentrations in children implemented in the settlements of the Chernobyl regions of Belarus. The ATLAS is constantly extended by the data of measurements performed in the next years.

Abstract/Résumé :

Communication by: Dr. Sophie Fauconnier (France), physician author of studies on the health impact of the Chernobyl accident in Corsica

Title: Health impact of the Chernobyl accident in Corsica: an independent epidemiological study finally set up

Corsica has recorded deposits of caesium 137 in 1986 of 4000 to 40 000 Bq/m², 20 000 to 400 000 Bq of iodine 131/m², three times more iodine 132.

The sheep milk beginning May 1986 contained rates of iodine often exceeding 10 000 Bq 131 I / liter, up to 100,000 Bq / liter for the CEA-IPSN.

In Corsica, effects on health:

Peak for neonatal hypothyroidism

Excess of malignancies in children born in the second half of 1986

Excess of childhood leukemia after 1986

Excess thyroid cancers of children in the Provence-Côte d'Azur-Corsica region

The highest incidence of thyroid cancer

Increase in various thyroid diseases after 1986.

Considering these findings and the inertia of state services, the Territorial Collectivity of Corsica established a general register of cancers and an epidemiological study.

"Experts" present arguments to dismiss the impact of Chernobyl on thyroid diseases.

"This is not Chernobyl: the increase began before 1986"

Small increase observed in the late 70s: the thyroid ultrasound is implemented at that time, it is normal that a new screening technology is associated with an increase in reported cases, but transiently.

"Radioactive iodine does not cause increase in thyroid cancers in adults":

False: Professor Demitchik of Belarus showed an increase in thyroid cancers in adults of 500% during the period 1986-2000.

"The evolution of medical practice explains the increase in the effects":

False I studied 201 cases of thyroid cancer in Corsica between 1985 and 2006, characteristics and circumstances of diagnosis.

The chance discovery of asymptomatic, uncomplicated micro-cancers only represents 8% of cases.

The increase in thyroid cancer is very real.



**SCIENTIFIC AND CITIZEN FORUM ON RADIOPROTECTION:
FROM CHERNOBYL TO FUKUSHIMA**

**Organized by IndependentWHO - for the independence of WHO
12 May 2012 in Geneva**

Abstract/Résumé :

Communication by: Paul Jobin (France) Director CEFC Taipei (French Centre for Research on Contemporary China, Taiwan Branch), Associate Professor, University of Paris-Diderot

Title: Fukushima: “Radiation Management” and Epidemiological Dissidence in the Nuclear Establishment

On 14 March 2011, in the days following the nuclear disaster, the Japanese Ministry of Health and Labor, announced that the maximum exposure limit for workers was to be increased to 250 millisieverts per year instead of the normal 20-50 mSv. At the end of April, the Ministry of Science and Education, buttressed by the International Commission on Radiation Protection (ICRP) recommendations, declared 20 mSv as the maximum annual limit for school children in the Fukushima prefecture, provoking the anger of teachers and inhabitants and the tearful resignation of Kosako Toshiso, member of a consultative committee for the government. This decision was all the more surprising because just one month earlier, Kosako had considered that exposure limits for workers should be raised up to 500 mSv or even 1 Sv in line with a 2007 ICRP recommendation for emergency work in the event of a disaster.

The International Agency for Research on Cancer (IARC), which is part of the World Health Organization, has conducted epidemiological surveys on nuclear plant workers in 15 countries (including Japan). They showed a relationship between low dose radiation and mortality for all types of cancer (except leukemia) with rates two to three times higher than would be expected from the “linear no-threshold” model derived from the Hiroshima and Nagasaki survivor cohort. However, the authors of these studies, which were undertaken with funding from the nuclear industry and with their cooperation on data collection, were careful to specify that the excess deaths remained statistically compatible with the ICRP model.

These contradictions are inherent to the ALARA principle (“*As Low As Reasonably Achievable*”), the leitmotiv of radiation protection. The origin of this principle is the compromise that was found to deal with a major problem of the nuclear industry. It is also a central issue for the public health consequences of nuclear disasters like Three Mile, Chernobyl and Fukushima. Who is really protected by “radiation protection” and to what extent? This question is all the more sensitive in the Japanese context where radiation protection, as an empirical science, has been based on studies of victims of the Hiroshima and Nagasaki atomic bombs. In addition, the term “radiation management” (*hōshasen kanri*), most commonly used in Japan to designate radiation protection, is a telling reminder of the centrality of economic and management aspects of the problem, not only in crisis situations, but also in normal day to day operations of the industry.



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Abstract/Exposé

Communication by: **Kolin Kobayashi (Japan) journalist, correspondent in Paris, Days Japan**

Title: Nuclear energy in Japan, from Hiroshima to Fukushima, and the antinuclear movement

If one retraces the history of the introduction of nuclear power in Japan after Hiroshima and Nagasaki, the inescapable conclusion is that the cover-up of the consequences of low-level doses of radiation from the atomic bombs was a political maneuver by the American CIA, with the agreement of the Japanese authorities. The Japanese anti-nuclear movement, born as a result of irradiation of fishermen of the Daigo-Fukuryu-maru by the U.S. nuclear test at Bikini in the Pacific Ocean in 1954 was directed only against nuclear weapons and never succeeded in counteracting the American "atoms for peace" propaganda on behalf of civilian use of nuclear energy. The civilian antinuclear movement regained some importance at the time of the struggle against the construction of the Rokkasho reprocessing plant in 1980. After Fukushima, this movement has been revitalized by strengthening the links between social networks and the environmentalists opposed to nuclear power stations which began 15 years ago under the name of "Global Hibakusha (irradiated)," a new concept including nuclear testing, nuclear accidents and recent wars in which bombs containing depleted uranium were used. The Japanese authorities, who pretended to believe in the myth of nuclear safety, are now converted to that of the non-toxicity of radioactivity. TEPCO and the government deny their responsibilities. The latter even dare say that the radionuclides that have been spreading everywhere over the past year do not belong to them. The Japanese government and the international nuclear lobby organise more and more conferences in an effort to "normalize" the situation.

Abstract/Résumé :

Communication by: Youri Bandazhevsky (Belarus), anatomical pathologist, President of the Center for Analysis and Coordination “Ecology and Health”

Title: From the syndrome of chronic incorporation of long lived radionuclides (SLIR) to the creation of programmes and radioprotection policies for populations: Example of an integrated model

We are concerned specifically with the syndrome of long-lived incorporated radionuclides (SLIR) because when caesium 137 enters the human body, it is incorporated into several vital organs and systems simultaneously. The consequence of this process is the inhibition of the cellular energy cycle, which causes metabolic disorders in the human body. Lowering the level of energy carriers leads to destructive changes and insufficient, restorative processes at the cellular and intracellular level. Research conducted at the Gomel State Medical Institute (1990-1999) showed that symptoms of the syndrome of long-lived radionuclides appeared in children when the concentration of Cs-137 in the body reached a level of 50 Bq / kg and above.

The most easily demonstrable problems, in terms of ability to function, arise in the cardiovascular, urinary, endocrine, reproductive, digestive, immune systems, and in the sight organs. Since pathological changes in these organs and systems occur at the same time, the condition is difficult to diagnose. For a correct diagnosis, a radiometric examination to determine the concentration of Cs-137 in the body, and a clinical examination in the laboratory of vital organs, need to be undertaken. In assessing the impact of radioactive caesium in the human body, we must take into consideration its ability to induce phenotypic alterations in the genetic apparatus, which, in our opinion, is at the root of these serious diseases.

Official medicine does not recognise the syndrome of long-lived incorporated radionuclides as a manifestation of the impact of radioactive caesium affecting the entire organism, and consequently the medical assistance given to people, living in the areas contaminated by radioactive elements, is less effective.

The concept of the syndrome of incorporated radioactive elements forms the basis of the project submitted to the international community by the centre for coordination and analysis "Ecology and Health" under the title: "An integrated model of life in a radiocontaminated zone". The project aims to create a system of effective measures to protect the population that continues to live in areas contaminated by radioactive substances. Even relatively small amounts of radioactive caesium incorporated into the body are recognized as harmful to human health. Bearing this in mind, the project provides a set of measures to prevent the entry of radioactive elements into the body. The project is being implemented in the Ivankov district of Kiev in Ukraine, located in the immediate vicinity of the Chernobyl nuclear power plant. It includes:



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1. Regular radiometric control of the population and of food products. The identification of risk groups - groups of people who have radioactive substances in the body;
2. The evaluation of key factors in the metabolism and in the state of the vital organs of the children and adults in the risk group;
3. Provision of the necessary medical and preventive care for the population. To do this, a specialist clinic with modern diagnostic technology needs to be set up in the Ivankov district;
4. Individual correction of metabolic imbalance, caused by the prolonged presence of Cs-137 in the body, through a planned diet;
5. Organization of uncontaminated food production (not containing radioactive substances) for people with serious metabolic alterations resulting from prolonged exposure to incorporated radioactive substances.
6. An important part of the project consists of informing the public about collective and individual health protection measures that are necessary when you live in an area contaminated by radioactive elements.

Abstract/Résumé

Communication by: Aya Marumori and Wataru Iwata (Japan) of the Japanese independent laboratory CRMS

Title: Independent initiatives and actions after Fukushima.

Our government had not informed the risk, and the exact situation of Fukushima Nuclear Power Plant catastrophe. A lot of residents have been exposed without any warning since the beginning. Furthermore, it has been announcing “No effect on health from such a low dose, and no need to evacuate.” Our children have been and are forced to live in the contamination without any protection from exposure. They say “The problem is the stress to be afraid because of the illiteracy on the radioactivity,” which means the radiation doesn’t harm, but the **Radiophobia** will harm to the health is more dangerous. We couldn’t have been expressing out loudly our concerns and anxiety...

It is necessary for everyone to protect oneself from radioactivity and the one of the best way is to evacuate, but not everyone choose to do so. For the residents who chose or will choose to stay, need to make an effort on minimizing their exposure. Our action, measuring radioactivity by citizen, have begun from May last year. We have been measuring air dose, food and body. Also we have been holding "Child Health Consultation Meeting" with the cooperation of the Pediatricians from the outside of the prefecture, and distributing the notebooks called "Life Record Book" for parents to be able to estimate the personal exposure dose. We have developed the system of measurements, understand the results, and then to make a decision by ourselves.

We cannot wait our children and babies to have a cancer and diseases from its risk. To those who promote nuclear power will not be able to protect the health of our children. In order to protect the children from low dose exposure, we are preparing the network of physicians, pediatricians and citizens who are independent from the benefit of nuclear power. The risk and benefit can never be optimized for all of our children and the future.



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Abstract/Résumé :

Communication by: Michèle Rivasi (France), Member European Parliament Europe Ecology-Greens, founder of the Committee for Research and Independent Information on Radioactivity (CRIIRAD)

Title: What is Europe doing about radioprotection

The European Union has always favored the emergence of common standards for radioprotection, based primarily on data provided by the International Commission on Radiological Protection (ICRP).

At its inception, the Euratom Treaty provided for the establishment of uniform basic standards to protect the health of the population and European workers against the dangers of ionizing radiation.

The Euratom Treaty, which was signed in 1957 and entered into force in 1958, is intended to allow the development of nuclear energy. It is this same Treaty that is supposed to protect the public and workers against the harmful effects of ionizing radiation. Here we find the conflicts of interest with which we are all familiar with the IAEA, the promoter is the one that is supposed to protect us.

It is in this context that the Commission develops guidelines for radioprotection that Member States have the obligation to translate into national law. Nevertheless, Member States may also adopt more stringent regulations than those provided for by the Euratom directives.

These basic standards were first developed in 1959 and have been amended several times since to reflect the evolution of scientific knowledge on radioprotection. The guidelines cover ionizing radiation both from artificial and natural sources.

Abstract/Résumé :

Communication by: Miwa Chiwaki (Japan), representative of the association of mothers of Fukushima

Title: Our struggle for survival continues

Much false information, disseminated in a concerted effort by government authorities, TEPCO and the media, has had the effect of exposing human lives to radiation. These exposures on organisms could have been mitigated by adequate warnings based on the system SPEEDI etc.

Spokespersons repeated, and still repeat today, that these irradiations are not "immediate" consequences. They would be free from risks when the dosimeter indicates less than 100 mSv / year.

Ignoring the danger, residents have continued to have their children play outside. People fled from relatively safe areas to inhabit heavily contaminated areas. Mothers share an irreparable feeling of regret and guilt. Anxiety and lack of means to evacuate undermine community life, and sometimes destroy family ties. Unable to count on aid from public authorities, citizens have begun to band together, seek to inform themselves and make their own measurements of radioactive contamination. The "Network Fukushima for child protection against radioactivity" was created in May 2011.

The Ministry of Education, Science and Technology has allowed outdoor activities for children if the levels are less than 20 mSv / year. The Network contested this. This is a battle whose stake is the future of our children.

While the authorities continue in denial of risk, we, as citizens, organize independent activities: making dosimeter measurements of foodstuffs, stays outside the area for children during school holidays, evenings of information sharing and dialogue.



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Abstract/Résumé :

Communication by: Dr. Christopher Busby (United Kingdom), British scientist, chemist and physicist specializing in adverse health effects of very low doses of ionizing radiation

Title: Epidemiological studies undertaken in the UK in collaboration with citizens

In the 1990s in Britain and Europe there began to be increasing difficulty in obtaining official cancer incidence and mortality data for small areas. This followed and was probably related to the discovery by a TV company of a child leukaemia cluster near the Sellafield nuclear reprocessing plant, a discovery which began the investigation of the link between nuclear power and childhood cancer. In parallel, in the UK, and following an enquiry into the Sellafield child leukemias in 1983 epidemiology began to focus on small area cancer statistics. In the UK a new agency was funded, the Small Area Health Statistics Unit, and Bayesian smoothing methods were developed to mathematically dismiss small area cancer clusters as being due to chance alone. By the late 1990s all cancer registries in Europe had agreed to refuse to release small area data on the grounds of confidentiality, and so no independent epidemiological investigation of cancer rates near industrial or nuclear sites was possible. In order to get round this problem a method was developed employing data obtained directly from the public through interview and questionnaire, a similar approach to that historically used in third world countries or post-conflict situations where official registers are missing. Households in the study area are interviewed and fill out a questionnaire giving details of the sex and age of all residents in the house. The number of cancers (or other illnesses) in the previous 10 years are also reported. This enables a Relative Risk and other statistics to be generated based on control populations. The method was piloted in Carlingford, Ireland in 2000, where it confirmed discoveries made in Wales of a sea coast effect on cancer. It was next employed in Burnham on Sea downwind of the Hinkley Point nuclear power station where it confirmed results obtained in a separate mortality study of a doubling of breast cancer risk in the town and later employed in Wales by the HTV Company to look at cancer in Llan Ffestiniog downwind from the Trawsfynydd nuclear plant. Again high rates of breast cancer were found and a TV documentary was made. Most recently it was used in Fallujah, Iraq and reported in a scientific paper which has received considerable media attention.

Abstract/Résumé :

Communication by: Dr. Michel Fernex (Switzerland), Professor Emeritus of the Faculty of Medicine, Basel, former WHO consultant

Title: Fukushima: precious time has been lost

“What should WHO have done after Chernobyl?” asked Dr Nabarro, Acting Director-General of the World Health Organization in 2002. He received an immediate reply: Convene a “*Scientific Working Group on “Ionizing Radiation and Genetics”* similar to the one in 1956 but add the words “*and Genomic Instability*”.

It was in response to this question, that the World Health Organization convened a study group in Geneva in 1956, composed of Nobel prize winner in genetics, Professor Muller, and other luminaries of international repute in the field... Together, these scientists reminded us that *«the genome is the most valuable treasure of human kind. It determines the life of our descendants and the harmonious development of the future generations. As experts we confirm that the health of future generations is threatened by the expansion of the nuclear industry and the growth of the quantity of radioactive sources. We also consider the fact of appearance of new mutations observed in people to be fatal for them and for their descendants»*. Since then, a new area of research in genetics has opened up: genomic instability brought about, in particular, by radiation.

In 1986, the Minister of Health in the USSR, asked WHO for assistance for the victims of Chernobyl but WHO did not have the authority to respond to this request. It was therefore the IAEA, whose mandate is the promotion of civil nuclear energy that set up the International Research Project, in which no mention was made of genetics. Instead, the IAEA gave higher priority to the problem of dental caries and this became an area of investigation and research.

What genetic damage to the population has resulted from the accident at Fukushima? Is it already recorded in the cells of those workers who have exhausted themselves over the last year in the effort to limit radioactive contamination of the environment? And what about people who inhaled the radioactive clouds and who ate contaminated food? Have the events of spring 2011 induced genomic instability? And the children that have been born since, and those who are yet to be born, to mothers or fathers who were exposed to radiation. Have they been affected by the genomic instability of their parents? Will the effects on them be worse?

What surprises researchers is that the genetic and especially perigenetic damage, responsible for genomic instability, to descendants is much more severe than the damage to parents, and it may get worse from generation to generation. What action should the authorities be taking? With the aid of geneticists, they should try to reduce the genetic damage that renewed contamination could exacerbate. They should reduce internal radiation from incorporated radionuclides that are 10 to 100 times more damaging than the equivalent external dose. They should provide uncontaminated food. In case of contamination, they should accelerate the elimination of the radionuclides with chelators such as pectin from algae, fruits and vegetables. They should help the body to fight the damage done by free radicals or peroxides induced by ionizing radiation by reinforcing the antioxidants in the body with vitamin A and E and by providing natural carotenoids contained in carrots, beetroot, and numerous coloured vegetables and fruit. Children should drink the milk of Jersey cows which is rich in carotenoids and vitamin A.



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Concluding remarks by: **Maryvonne David-Jougneau, member of IndependentWHO**

Allow me first of all, in the name of IndependentWHO, to thank all the participants and other actors in this first day of our Forum and in particular the speakers to whom we have listened with great interest. You have not only impressed us with the high quality of your presentations, you have together borne witness to two things:

First of all, the disinformation disseminated by governments and by the directors of nuclear industry at both Fukushima and at Chernobyl. This manifests itself in particular in the problem of widely varying standards, when a disaster happens, in order to minimise awareness of the risks from radioactive contamination to the health of the population.

But at the same time, you have recounted your own **resistance to this disinformation** developing, each one of you a range of authentic scientific knowledge, information that truly reflects observed reality. You are trying to understand ALL the effects of external radiation and internal contamination on the environment and on health and you are looking for ways to improve the situation: unlike the scientific establishment and the international organisations who want to ignore it. Among the latter is the World Health Organisation, which SHOULD BE leading this research and to whom we appealed, in vain, to organise this Forum jointly with us.

The disinformation and the resistance to it, dates right back to the early days of the atom, after Hiroshima and Nagasaki. In 1965, 20 years later, the writer Kenzaburô Ôé reported in his *Notes on Hiroshima*, on the Japanese citizens who tried to establish the evidence on the effects of the A and H bomb...**effects which were denied** although the *hibakushas* remained as both victims and witnesses.

The scientists that we have heard from today are all resisters, even dissidents. Finding themselves up against the International Community and the power of the nuclear lobby, they encounter great difficulty in making themselves heard, their research projects under threat through lack of finance. When they have not been thrown into prison as Yuri Bandajevsky was in 2001...

From their side, **citizens**, aware of the disinformation they are being fed about the risks of radioactive contamination, **have not given in**. In the search for truth and for radioprotection, they are organising themselves and forming self-help groups, in those places where they are the direct victims of nuclear accidents at Chernobyl or at Fukushima. They are listened to more and more by people all over the world who realise that they too could become victims of the atom...

This is how the idea of a bridge, between scientists and citizens, came about, to bring together all those resisting the disinformation. Politicians too are beginning to become aware of their responsibility should an accident occur in their country, in their area. In some cases, in the absence of any action on the part of the state, people are taking the initiative, as in Corsica,

where an epidemiological study has been set up to evaluate the impact on health of the passage of the radioactive cloud from Chernobyl on their own people.

In the days that follow our Forum, we need to ask ourselves this question:

.../...

What can we do together ?

What can we do together so that the truth about the health consequences of external radiation and of internal radioactive contamination, caused by both the civil and military nuclear industry, can be established and recognised?

Scientists, elected politicians, citizens organisations from all areas of the world, what should our shared objectives be, and how can we translate them into shared actions? What bridges do we need to build, what networks need to be established, in order to bring together our efforts towards uncovering the truth?



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Sunday, May 13, from 8:30 a.m. to 3:00 p.m.

Gandhi Hall, Maison des Associations
15 rue des Savoises, Geneva *

Round-table discussions

Scientists, elected officials, representatives of associations will discuss with 'Hippocratic vigils' and citizens :

What can we do together to ensure that the truth about the health consequences of radioactive contamination, caused by the nuclear industry, civil and military, is established and recognized? With what common goals? Through what joint actions?

Objective I) WHO must fulfill its mission of informing the population in cases of radioactive contamination, through scientific and medical research, developing standards and guidelines as well as dissemination of information for the prevention of risks and radioprotection of those affected. Among the joint actions proposed: request the creation of an "Ionizing Radiation" department in WHO; develop and reinforce the "Hippocratic Vigils".

Objective II) The truth as a basis for radioprotection of the population. How to establish reliable scientific knowledge as a source of information and relay it to the people? First and foremost comes the issue of **standards**. Those established by the ICRP or those proposed by CERI are not the same and in a disaster the least stringent are revised upwards by governments ... **How to resist all the misinformation** on radioactivity measurements and risks of internal contamination, too often denied?

These and other questions will be discussed by scientists, elected officials, representatives of associations and other citizens present, initially separated into three groups. In a second step, in plenary session, the rapporteurs of each group will exchange outcomes and proposals for action to be discussed and adopted by the Forum.

The main language is French. Consecutive interpreters will be provided for Japanese-, Russian- and English-speaking participants.

* Getting there by public transport:

La Maison des Associations, 15 rue des Savoises, near the **Place du Cirque** (Plainpalais), can be reached by bus and tram, get off at (Place du) **Cirque**:

Bus No. 1, notably from the main train station Cornavin;

Tram 15, from Nations via train station (direction **Palettes**).

(For travelers from Ferney by the F bus, change at the UN and take tram 15)

By car: Parking **Plainpalais**