THE INTERNATIONAL EMF PROJECT

Progress Report

June 2013-2014

World Health Organization

CONTENTS

1. OVERVIEW

In May 1996, in response to growing public concern in several Member States over possible health effects from exposure to an ever-increasing number and diversity of EMF sources, the World Health Organization (WHO) launched an international project to assess the health and environmental effects of exposure to electric and magnetic fields, which became known as **the International EMF Project**.

The International EMF Project brings together current knowledge and available resources of key international and national agencies and scientific institutions in order to develop scientifically-sound health risk assessments of exposure to static and time varying electric and magnetic fields in the frequency range 0-300 GHz**.**

This Project has been devised to provide authoritative and independent peer-review of the scientific literature. Since its inception, the objectives of the EMF Project have been to:

- review the scientific literature on biological effects of EMF exposure;
- identify gaps in knowledge requiring research that will improve health risk assessments;
- encourage a focused agenda of high quality EMF research;
- formally assess health risks of EMF exposure,
- encourage internationally acceptable harmonized standards;
- provide information on risk perception, risk communication, risk management; and,
- advise national programs and non-governmental institutions on policies for dealing with the EMF issues.

1. 1. MEMBERSHIP

The EMF Project is open to any WHO Member State government, i.e. department of health, or representatives of national institutions concerned with radiation protection. Since the commencement of the EMF Project, over 50 national authorities have been involved. In the past year, several countries have been in contact to join the Project, including Colombia, Ecuador and Uruguay.

New representatives have been delegated by their governments to the 19th IAC meeting, including Austria, Finland, France, Malaysia and Norway.

While further outreach is planned, the challenge remains to locate the appropriate governmental contact at country level, with interest and responsibility regarding EMF protection. In some Member States, Ministries other than the Ministries of Health may show interest, such as the Ministry of Industry or of Energy (dealing with electricity applications), the Ministries of Telecommunications (e.g. mobile phones), or Transport (radar equipment for air navigation) or Environment.

Oversight of the Project is provided by the International Advisory Committee (IAC). The IAC is composed of members of international organizations, WHO collaborating centres, and national authorities from all regions of the world. The IAC meets once a

year to discuss national activities, current research programmes, legislation and public concern, and advises the International EMF Project on its activities.

The objectives of the IAC are

- to provide oversight on the conduct of the Project: review outputs of the Project, including scientific information related to public and occupational health, and management of the EMF issue
- to provide a forum for peer discussion on dealing with the health concerns raised by exposure to EMF fields.

Over the last 18 years, activities have closely followed the original work plan, and most activities have or are being implemented. The WHO Department of Public Health, Environmental and Social Determinants of Health is committed to ensuring that the work of the International EMF project continues subject to funding.

1. 2. COLLABORATION

The EMF Project has formal collaboration with different entities, i.e. non-governmental organizations (NGOs), international organizations and WHO collaborating centres (see details below). It also cooperates in an *ad hoc* manner with other institutions (e.g. co-sponsoring of meetings) and with individual experts.

International organizations

A number of international agencies are involved in the Project (http://www.who.int/peh-emf/project/intorg/en/index.html). Over the reporting period, there has been active collaboration with several of them.

The **Agency for Research on Cancer (IARC)**, a specialized agency of WHO, based in Lyon, France, has strong links with the International EMF Project. Its mission is to coordinate and conduct research on the causes of human cancer, the mechanisms of carcinogenesis, and to develop scientific strategies for cancer control. The Agency is involved in both epidemiological and laboratory research and disseminates scientific information through publications, meetings, courses, and fellowships. In 2014, IARC published the 3rd edition of the World Cancer Report (prior editions in 2003 and 2008). It provides a unique global view of cancer, including cancer patterns, causes, and prevention. Section 2.8 is dedicated to cancer etiology and radiation (ionizing, ultraviolet and electromagnetic) http://www.iarc.fr/en/publications/pdfs-online/wcr/.

Two Sections within IARC have been active in EMF-related issues, i.e. the Section of Environment and Radiation (ENV) and the Section on Monographs. Over the last year, the ENV Section has published several papers on electromagnetic fields. Dr Schüz, head of the ENV section, is participating in the Steering Group for the development of the Environmental Health Criteria monograph on radiofrequency fields. Under the auspices of the Section on Monographs, Volume 102 of the IARC Monographs on “Non-Ionizing Radiation, Part 2: Radiofrequency electromagnetic fields and radar (including mobile telephones)” was published in 2013.

The **International Labour Office (ILO)**, a UN agency in Geneva, works closely with

WHO in the area of occupational exposure to radiation, both ionizing and non-ionizing. Dr Shengli Niu from the Programme on Safety and Health at Work and the Environment (SafeWork) assured ILO's continued interest in co-publishing the upcoming Environmental Health Criteria on radiofrequency (RF) fields. Over the past year, ILO has contributed to the discussions regarding the development of the Environmental Health Criteria monograph on radiofrequency fields and attended the face-to-face meeting with the Core Group of experts (March 2014 in Geneva). Dr Niu has been actively involved in discussions regarding the development of non-ionizing radiation standards.

The **International Telecommunications Union** (**ITU**) is the leading United Nations agency for information and communication technology issues, and the global focal point for governments and the private sector in developing networks and services. All three of its sectors have been involved with the WHO EMF Project through the Telecommunication Standardization Sector (ITU-T) Study Group 5 - Protection from Electromagnetic Environment Effects, the Radiocommunication sector (ITU-R), and the Telecommunication Development Sector (ITU-D).

WHO was invited to give a keynote address at several ITU-T Workshops organized in Quito, Ecuador (August 2013); Lima, Peru (December 2013) and Montevideo, Uruguay (March 2014).

Active collaboration is ongoing with the **International Commission on Non-Ionizing Radiation Protection** (**ICNIRP**) - an NGO in *official relations* with WHO (for more information, see http://www.who.int/civilsociety/). Within the reporting period, ICNIRP and WHO have been in discussions regarding aligning timelines on the development of the EHC RF monograph and the ICNIRP RF guidelines. A meeting was organized in March 2014 in Geneva to discuss the process of development of the ICNIRP health-based guidelines on EMF exposure, and explore whether the methods and approaches used by ICNIRP meet WHO guideline standards.

The meeting report of the ICNIRP/WHO workshop on "Non-Ionizing Radiation Protection in Medicine" (held in Bonn in December 2012) was published during the reporting period in Medical Physics (October 2013).

A workshop on "Radiation Protection Principles: Similarities and Differences in Ionizing and Non-Ionizing Radiation", jointly organized by ICNIRP, ICRP, ILO, IRPA, and WHO, will be held on 27th June in Geneva, Switzerland. The workshop will follow the 4th European IRPA Congress to be held from 23 to 27 June, also co-sponsored by WHO among others. The main objectives of the workshop are to discuss similarities and differences between ionizing and non-ionizing radiation approaches towards safety/uncertainty factors for different populations. The discussion will include the principles of justification, optimization and limitation that govern ionizing radiation protection and whether they can or should be applied for non-ionizing radiation (http://www.icnirp.de/upcoming.htm).

Over the last year, contact was made with several Directorate Generals of the European Commission. WHO was invited to attend the Meeting of the Working Party on Electromagnetic Fields (March 2014) at the **European Commission Directorate-**

General for Employment, Social Affairs and Equal Opportunities (DG Employment) based in Luxembourg, regarding activities related to occupational exposure to EMF, and in particular the EC Directive 2004/40/EC. WHO is keen to follow the development of the related guidance document as it has put on hold a long-planned global brochure on occupational exposure to EMF following the postponement of the EC Directive.

The European Commission and the Scientific Committee on Emerging Newly Identified Health Risks (SCENIHR) launched a public consultation on the preliminary opinion on 'Potential health effects of exposure to electromagnetic fields (EMF)' from the 4th of February until the 16th of Avril, 2014. The **European Commission Directorate-General for Health and Consumers (DG SANCO)** together with the Greek Atomic Energy Commission (GAEC) and the Greek Presidency held a public hearing on 27 March 2014 in Athens, Greece to receive contributions on the topic of the preliminary opinion. In conjunction with the hearing, a workshop on "Electromagnetic fields (EMF) and health effects: From science to policy and public awareness" was held the following day. WHO was invited to give a presentation at this workshop.

Continued dialogue is ongoing with the **Directorate General for Research and Innovation (DG Research)** based in Brussels, regarding activities related to EMF.

WHO collaborating centres

A WHO collaborating centre (CC) is an institution designated by the Director-General to form part of an international collaborative network carrying out activities in support of the Organization's programme at all levels. Such designation follows a formal procedure within WHO, with specified terms of reference for a period of 4 years and annual reporting of joint activities.

The EMF Project works with the following scientific institutions which have been formally recognized as collaborating centers of WHO in the area of radiation:

- Swiss Federal Office of Public Health (Switzerland) – this is a new CC that was designated in March 2014
- Australian Radiation and Nuclear Safety Agency, ARPANSA (Australia)
- Institut für Strahlenhygiene, Bundesamt für Strahlenschutz, BfS (Germany): this CC has been redesignated in December 2014
- Public Health England (PHE) – in process

1. 3. SECRETARIAT

The Project is managed through the Radiation Programme which has the responsibility for activities related to ionizing and non-ionizing radiation. This Programme is located within the Department of Public Health, Environmental and Social Determinants of Health (PHE) at WHO Headquarters in Geneva. As of 1 November 2013, the Department has moved to the "Family, Women's and Children's Health" (FWC) Cluster which addresses the health needs of vulnerable populations at all stages of life - from pregnancy, birth, childhood, adolescence, through adulthood to older age. PHE now also encompasses the cross-cutting topic of social determinants of health.

The priorities, strategic objectives and expected results of the Organization are delineated in the Twelfth General Programme of Work (2014-2019). In addition, more specific short-term programmatic outputs are described in two-year work plans. The current reporting biennium spans 2014-2015. The broad lines of work for PHE within the current biennium are described below.

PROPOSED PROGRAMME BUDGET 2014–2015 SIXTY-SIXTH WORLD HEALTH ASSEMBLY A66/7 19 April 2013 http://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_7-en.pdf?ua=1
Work in 2014–2015 will aim to further increase the recognition of how public health is affected by policies in sectors outside health such as transport, energy, urban planning and employment (through occupational health) and to work through those sectors to achieve improved health. The Secretariat will also continue to work with countries and partners on tackling a broad range of environmental risks to health, including the longer-term threats posed by climate change, loss of biodiversity, scarcity of water and other natural resources, and pollution.

The Secretariat of the WHO International EMF Project facilitates all activities of the Project and provides regular reports to the International Advisory Committee and contributors to the Project. It organizes and conducts review group meetings, prepares and publishes reports and brochures, organizes the preparation and publication of monographs and scientific reports, and liaises with consultants, collaborating agencies and key institutions to prepare material as required. The focal points in WHO Regional Offices participate where possible and facilitate communications with countries in their respective regions.

A key challenge has been and remains to ensure alignment between activities planned and the resources mobilized, both human and financial.

Personnel

Dr van Deventer is the Team Leader of the Radiation (RAD) programme, with managerial responsibility for both the Ionizing and Non-Ionizing Radiation programmes. Further she has technical responsibility for the International Radon Project, the WHO EMF Project and the INTERSUN UV Programme.

The EMF Project continues to encourage Member States to promote direct involvement of their staff in the work of the International EMF Project through different means, including secondment. Other mechanisms are available through Junior Professional Officer (JPO) programs[1] or through WHO's Internship Programme which provides a wide range of opportunities for students to gain insight into the work of WHO. Every year a limited number of places for internships are available http://www.who.int/employment/internship/en/.

[1] The Junior Professional Officer (JPO) Programme provides young professionals who wish to pursue a career in development with hands-on experience in multi-lateral technical co-operation. JPOs are sponsored by their respective governments. Currently the following 11 donor governments sponsor JPOs for WHO: Austria, Belgium, Denmark, Finland, France, Germany, Italy, Japan, Luxembourg, Republic of Korea and Sweden

Funding

WHO receives its funding principally through assessed contributions from Member States and voluntary contributions. With the economic crisis over the past few years, assessed contributions have become a smaller proportion of the total resources received, and reliance is increasing significantly on specified voluntary contributions provided by partners and donors.

All contributions and accounting are audited by WHO. For any contribution, 13% of expenditure is usually deducted by WHO to cover administrative costs related to administering the funds, in accordance with World Health Assembly Resolution WHA 34.17.

The technical Unit may follow up on any funding interest from the part of Ministries of Health, or other governmental bodies. The EMF Project is currently solely funded through voluntary contributions from participating countries. These contributions cover both the activities of the Project and salaries of the personnel. For amounts under US$ 50 000, a standard Letter of Agreement of Contribution (LAC) is sufficient if the donor is simply making a contribution to support existing unspecified activities, provided however that no conditions are attached to the contribution. Unspecified contributions provide WHO with greater management flexibility and do not need to issue a certified financial statement.

Over the years, several governments have given direct contributions to the WHO EMF Project, either on a periodic or ad-hoc basis. For the period June 2013 to May 2014, the following governmental entities have provided funding to the WHO International EMF Project:

- Australian Radiation Protection and Nuclear Safety Agency (ARPANSA), Australia
- Ministry of Environment, Israel
- Ministry of Health, New Zealand
- Swedish Radiation Protection Authority, Sweden
- Swedish Post- och telestyrelsen, Sweden
- Federal Office of Public Health, Switzerland

Some countries provide financial support for specific earmarked activities within the Project. For example, in June 2013, the French Agency for Food, Environmental and Occupational Health and Safety (ANSES) generously hosted an International Stakeholder Seminar on Radiofrequency Policies with over 110 participants and the 18th International Advisory Committee meeting of the Project.

Other countries provide in-kind contributions in the form of staff time. This is the case of the Health Council of the Netherlands, and the UK Public Health England for the Environmental Health Criteria on RF, and ARPANSA and the New Zealand Ministry of Health for the brochure on RF for Local Authorities.

2. RISK ASSESSMENT AND SCIENTIFIC ACTIVITIES

The primary goal of the International EMF Project is to assess the health risks from EMF within the frequency range 0 to 300 GHz and to develop policy options for protection of people from EMF exposure. The key **scientific objectives** of the Project are to:

- Assess the scientific literature and make a status report on health effects,
- Incorporate research results into WHO's Environmental Health Criteria (EHC) monographs where formal health risk assessments are conducted on EMF,
- Identify gaps in knowledge needing further research,
- Encourage a focused research program in conjunction with funding agencies and the global scientific community.

2. 1. RESEARCH EVALUATION

Environmental Health Criteria (EHC)
The health risk assessments related to chemical, biological and physical agents developed by WHO are published in the Environmental Health Criteria (EHC) series (http://www.who.int/ipcs/publications/ehc/en/). For over 20 years, WHO has addressed possible health effects from exposure to EMF through three monographs on extremely low frequency (ELF) fields (1984), static and ELF magnetic fields (1987), and radiofrequency (RF) fields (1993).

The EHC monographs are usually revised if new data are available that would substantially change the evaluation, if there is public concern for health or environmental effects of the agent because of greater exposure, or if an appreciable time period has elapsed since the last evaluation. Three monographs spanning the 0-300 GHz EMF frequency range have been planned: static fields (0Hz), ELF fields (up to 100 kHz) and RF fields (100 kHz – 300 GHz). So far, the EMF Project has developed the first two volumes on Static Fields and ELF fields. These documents were developed following the publication of the IARC monograph on Non-Ionizing Radiation, Part 1: Static and ELF fields (2002). The IARC monographs provide a hazard identification regarding cancer, while the EHCs represent a health risk assessment of all studied (published) health endpoints, including the four classical steps of (i) hazard identification, (ii) exposure assessment, (iii) dose-response assessment and (iv) risk characterization.

EHC on Radiofrequency fields
Following on the publication of the INTERPHONE study (May 2010) and the IARC classification of RF fields (May 2011), the health risk assessment of radiofrequency fields by WHO was started with a kick-off meeting in January 2012. A core group of 6 experts has been gathered to help with the development of the monograph. They, in turn, have enlisted the help of close to 30 experts to develop different sections of the first draft.

The WHO Environmental Health Criteria monograph on RF fields will be based on published peer-reviewed data. Search strategies, inclusion/exclusion criteria and quality criteria have been developed for the different types of studies. Over the past year, a great amount of work has been done to perform systematic reviews of the published literature for all studied endpoints. The draft currently contains 14 chapters and over 1000 references so far.

Monthly conference calls have been held over the past year and a half. A face-to-face meeting was convened in Geneva in March 2014, with attendance of both co-publishers, ICNIRP and ILO.

The timeline was revised as follows:

- September 2014: Upload first draft on WHO website for public consultation
- Mid November 2014: Deadline for comments
- Mid-February 2015:Second draft ready for circulation to the Task Group
- Second half of April: Convene Task Group

In June 2013, an International Stakeholder Seminar was held in Paris ahead of the 18th IAC meeting. This event was attended by a number of IAC members. Feedback was very positive regarding the design and facilitation as it provided opportunity for all to actively participate in discussions. The discussions at the seminar and their conclusions will be considered carefully in the development of the WHO monograph. A website has been set up that contains information and presentations delivered that day.

2. 2. RESEARCH COORDINATION

To avoid unnecessary duplication of research effort and to make sure that all important questions are being studied, research coordination on a global level is important. To that end, the WHO International EMF Project has been providing such an umbrella for worldwide coordination and exchange of information about planned and ongoing projects.

Research agenda

From its inception, the WHO International EMF Project has strived to identify gaps in knowledge needing further research to make better health risk assessments, and to encourage a focused research programme in conjunction with funding agencies (http://www.who.int/peh-emf/research/agenda/en/index.html).

For radiofrequency fields, the latest EMF Research Agenda published in 2010 (http://whqlibdoc.who.int/publications/2010/9789241599948_eng.pdf) has been taken up by several national funding agencies, e.g. the European Commission, the Mobile Telecommunications and Heath Research (MTHR) Programme of the United Kingdom, the French agency ANSES and the Australian Centres of Research Excellence in Population Health Research (2012). The upcoming RF EHC monograph will provide an update of research priorities.

WHO input to national agencies
The EMF Project actively works with international donors and national authorities to review, promote, and fund research topics identified by WHO. Dr van Deventer is an observer on the Swedish independent expert group on EMF, commissioned by the Swedish Radiation Safety Authority for a second 3-year term.

3. RISK MANAGEMENT ACTIVITIES

WHO's International EMF Project provides a unique opportunity to bring countries together, identify criteria for science-based standards setting and encourage the establishment of exposure limits and other control measures that provide the same or similar level of health protection for all people.

The key **risk management objectives** of the Project are to:

- facilitate the development of internationally acceptable standards for EMF exposure,
- provide information on the management of EMF protection programs for national and other authorities, including monographs on EMF risk perception, communication and management, and
- provide advice to national authorities, other institutions, the general public and workers, about potential hazards resulting from EMF exposure and possible mitigation measures.

3. 1. INTERNATIONAL STANDARDS FOR NON-IONIZING RADIATION PROTECTION

Member states are increasingly interested in clear guidance based on harmonized standards and their application within a national framework of protection. The development of non-ionizing safety standards has been proposed by a Member State using the example of the International Ionizing radiation Basic Safety Standards (BSS) developed as a collaborative approach between different UN organizations.

One of WHO's six core functions is to "set norms and standards, and promote and monitor their implementation". Such endeavour has been undertaken in the PHE Department for several environmental agents, for example for ionizing radiation (BSS, 2012) and drinking water (GDWQ, 2011). To date, WHO has not developed norms and standards for non-ionizing radiation but has promoted the harmonization of standards worldwide and has provided advice with respect to the development of health-based exposure standards (2006) and national model legislation (2006).

This topic was brought for discussion at the 18th IAC meeting where it was proposed to parallel the Ionizing Radiation (IR) approach and develop Basic Safety Standards (BSS) for NIR, with WHO taking the lead role. Advantages of this approach would be the balance of science and policy, and the use of a benchmark to provide a high level of protection for all. "Safety Standards" (SS) for NIR would support governments, and be useful for risk communication, the international labour market, the global roll-out of technology and litigation. If WHO were to develop SS for NIR, this would

need to be coordinated across all UN agencies with an interest in the area (ILO, ITU, UNEP …) and may include representatives from other interested parties (e.g. ICNIRP, IEC, CIE …) as observers.

Since June 2013, contact was made at Director level with the relevant UN organizations to discuss the matter. To gather a broad range of opinions from relevant stakeholders, including international agencies, policy-makers and regulators, and non-governmental organizations, a consultancy meeting was scheduled to help define the objectives, membership and strategy of the project including:

- Shared understanding of the mandates and current activities of the relevant agencies and experience from other standards-setting areas
- Proposed objectives and Terms of Reference for the project
- Proposals for project funding / fund raising strategy
- Proposals for a roadmap (outputs, tasks, and timelines) and roles and responsibilities appropriate to the project.

The consultancy meeting is set for 2-3 June 2014 prior to the IAC meeting. The international agencies will brief on their mandate, current relevant activities and views on the need for global standards on NIR protection. Experts in non-ionizing radiation (electromagnetic fields, optical radiation, and ultrasound radiation) will provide a situation report on the current status on standards and regulations in the field of NIR and discussed gaps and any needed action to harmonize the situation. Taking stock of experiences for other environmental standards (ionizing radiation, food safety, water safety, and air pollution), the scope and content of a global NIR standard will be explored.

3. 2. STANDARDS DATABASE

A number of national and international organizations have formulated guidelines establishing limits for occupational and residential EMF exposure. The International EMF Project has provided information on worldwide EMF standards in a web-accessible database which was set up in 2001 and revised in 2004, hosted on a now obsolete website.

The WHO's portal providing access to data and analyses for monitoring the global health situation, the Global Health Observatory (GHO) (www.who.int/gho), will be used for the new database. This tool provides a harmonized approach to a great variety of data previously in different formats and databases scattered around the WHO website. It also offers a number of the features that we wish to incorporate in the database, e.g. interactive maps and export of data into Excel.

A survey was developed to closely align with the content on the database. This questionnaire is divided into three broad frequency ranges (static, low frequencies and radio frequencies). The challenge has been to identify and coordinate at national level the different organizations or sections of government that the responsibility for different frequency ranges may rest with.

Within each frequency range, the questionnaire asks separately about standards applying to the public and to workers, and about the existence of standards, their legal status, and the values at specific frequencies within each range to allow easy comparison of different standards. The survey was sent to all IAC members. Results from 25 countries were compiled in summer 2013, and further updated in spring 2014. There are still a few issues pending regarding the accuracy/clarity of the data. The next step will be the development of comprehensive country profiles with specific national information. This topic is tabled for discussion at the 2014 IAC meeting.

3. 3. LOCAL AUTHORITIES BROCHURE

To help municipalities, a brochure on Wireless Networks for local authorities has been developed to provide them with information they need to plan and approve the installation of mobile phone base stations and to respond to public enquiries. The Brochure is also intended to provide information on levels of RF fields and risks of exposure to all current wireless network fields.

Ahead of the IAC meeting last year, a revised version was circulated with a deadline of mid-July for comments. Over 40 pages of comments were received and included into a Version 7 by Martin Gledhill from New Zealand. Since then, a new version has been developed, with the help of the WHO collaborating centre of ARPANSA, using a more accessible style and revised diagrams and boxes. The document will be shared with the IAC prior to the 4-5 June meeting. Pilot sites will be chosen and test will be conducted this year. While ITU had shown some interest in co-publishing such a brochure, the IAC advised that the brochure should remain a WHO document.

4. RISK COMMUNICATION ACTIVITIES AND RESOURCES

4. 1. ENQUIRIES

A number of enquiries are sent to the EMF Project from governments, the media and the general public. Depending on the nature of the enquiries, these are usually handled by the Project staff or by the communications officers of WHO. Technical support is regularly needed - and given - as requests in other languages are often forwarded to IAC members for translation and/or response.

4. 2. WEBSITE INFORMATION

EMF Home page
The EMF Project page is in major need of update. Advice and help has been sought from the IAC members for a redesign plan. The main pages currently provide information in 6 languages (Arabic, Chinese, English, French, Russian, and Spanish). Some of the tutorial pages are currently being translated into Russian.

National contacts and information
Because many enquiries to the EMF Project are of a local nature, a country-focused database of information that lists the Member States of the EMF Project has been

set up. Thanks to the input of the IAC members (http://www.who.int/peh-emf/project/mapnatreps/en/) who provide annually updated information for their respective pages; this has proved to be a very useful tool worldwide. Over the past year, several new country pages were built.

4. 3. WHO PUBLICATIONS

The publications of the EMF Project are reviewed by the International Advisory Committee before seeking formal approval by WHO management. Recent documents are available electronically for download on the Project's website. Some of the materials are available free of charge, while priced publications are on sale through the WHO Online Bookstore http://apps.who.int/bookorders/.

Relevant EMF-related publications over the past year include

- ICNIRP/WHO International Workshop on Non-Ionizing Radiation (NIR) Protection in Medicine, Rapporteur: Z. Sienkiewicz, Medical Physics 40, 117001; 2013. doi: 10.1118/1.4824921 http://www.icnirp.de/documents/ICNIRPWHOmedNIR_2013.pdf
- World Cancer Report, 2014 http://www.iarc.fr/en/publications/pdfs-online/wcr/
- WHO/EURO "Health and environment: Communicating the risks." that includes a discussion on EMF. (http://www.euro.who.int/__data/assets/pdf_file/0011/233759/e96930.pdf

Translations

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Since the Project's inception, translations have been encouraged, many of which being undertaken by members of the IAC. These translations have proven to make the EMF Project a web site well visited over the years. This past year, several fact

sheets and the handbook "Establishing a Dialogue on Risks from EMF" were translated into Korean.

Fact sheets
Simple, easy to read information is provided through fact sheets that are formally approved by the Director General's Office. The latest Fact Sheets can be found on the corporate WHO **Media Centre website**, which is aimed primarily at the press and general public (http://www.who.int/mediacentre/factsheets/en/). Over the past year, several fact sheets have been renamed as backgrounders, and can be found on the EMF Project website. (http://www.who.int/peh-emf/publications/facts/factsheets/en/index.html).

4. 4. MEETINGS

WHO staff hosted several meetings with delegations from different countries, including Dr Carl-Magnus Larsson, CEO, ARPANSA (25 September 2013) and a Japanese delegation representing MIC, 30 January 2014.

Dr van Deventer participated in a number of local, national and regional scientific and coordination meetings during the reporting period:

When	Where	Title
August 7-12, 2013	**Monteria, Armenia and Bogota, COLOMBIA**	International Forum " Non- Ionizing Radiation, Health and Infrastructure Deployment", organized by the Ministry of Telecommunication and Society Information
August 13-14, 2013	**Quito, ECUADOR**	ITU Workshop on Human Exposure to Electromagnetic Fields
August 29, 2013	**Paris, FRANCE**	Joint Workshop on Non-Ionizing Radiation, co-organized by URSI Commission K and ICNIRP
October 11, 2013	**Ankara, TURKEY**	Electromagnetic Fields and Health Symposium convened by the Ministry of Health
November 5-6, 2013	**Stockholm, SWEDEN**	Bi-annual meeting of the Swedish Radiation Safety Authority's Scientific Council on EMF and Health
December 9-11, 2013	**Lima, PERU**	ITU workshop on "With Information and Communication Technologies (ICT's) everywhere – How safe is EMF in Latin America?"
March 12-13, 2014	**Montevideo, URUGUAY**	ITU/UNESCO Forum on "Human exposure to EMF in Latin America"
March 14, 2014	**Buenos Aires, ARGENTINA**	Visit with Ministry of Health and with Nuclear Regulatory Authority
March 18-19, 2014	**Geneva, SWITZERLAND**	Face-to-face meeting of the Core Group of experts for the WHO Environmental Health Criteria on radiofrequency fields
March 20, 2014	**Geneva, SWITZERLAND**	WHO-ICNIRP meeting
March 26, 2014	**LUXEMBOURG**	20th meeting of the Working Party Electromagnetic Fields , EC Employment, Social Affairs and Inclusion DG (*unable to*

		attend)
March 28, 2014	**Athens, GREECE**	Workshop on electromagnetic fields and health effects organized by the EC and Greek Atomic Energy Commission (GAEC)
May 12-13, 2014	**Munich, GERMANY**	Visit to the Department of Radiation Protection and Health, German Federal Office of Radiation Protection (BfS)
May 22-23, 2014	**Stockholm, SWEDEN**	Swedish Radiation Safety Authority (SSM) biannual meeting
June 2-3, 2014	**Geneva, SWITZERLAND**	WHO Consultancy meeting on the Development of International Standards for Non-Ionizing Radiation
June 4-5, 2014	**Geneva, SWITZERLAND**	19th International Advisory Committee of the EMF Project

Note that this is not an exhaustive travel list as Dr van Deventer also covers UV activities and ionizing radiation (including Fukushima-related work and radon activities).

4. 5. UPCOMING MEETINGS

- BioEM2014, organized by the Bioelectromagnetics Society (BEMS) and the European BioElectromagnetics Association (EBEA), Cape Town, South Africa, 8-13 June 2014
  http://www.bioem2014.org/
- Fourth European IRPA Congress, Radiation Protection Culture - A global challenge, June 23-27, 2014, Geneva, Switzerland
  http://www.irpa2014europe.com/
- Fourth African IRPA Regional Congress, 13-17 September, 2014, Rabat, Morocco
  http://afrirpa04.com/
- 8th International Workshop on Biological Effects of EMFs, 21-26 September, 2014, Varna, Bulgaria
  www.emf2014.emfbg.com
- 31st International Congress on Occupational Health, May 31- June 5, 2015, Seoul, Korea
  http://www.icoh2015.org/

FOR FURTHER INFORMATION ON THE INTERNATIONAL EMF PROJECT

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