

THERE APPEARS TO BE A CONFLICT OF INTEREST BETWEEN THE WORLD HEALTH ORGANIZATION AND THE INTERNATIONAL COMMISSION NON-IONIZING RADIATION:

THE WORLD HEALTH ORGANIZATION TRUSTS A PRIVATE ENTITY WITH NO INDEPENDENT EXPERTS TO SET EMF EXPOSURE GUIDELINES FOR THE PURPOSE OF PROTECTING THE HEALTH OF THE POPULATION

PREPARED BY THE VALLISOLETANA ASSOCIATION OF PEOPLE AFFECTED BY MOBILE PHONE ANTENNAS (AVAATE) July 10, 2015.

As part of its mandate to protect public health, and in response to public concern over potentially adverse health effects due to human exposure to electromagnetic fields (EMF), in 1996, the World Health Organization (WHO) created the International EMF Project IN 1996. The purpose of the EMF Project is to assess health and environmental effects of exposure to static and time varying electric and magnetic fields in the frequency range 0-300 GHz¹.

The introduction of new wireless and electrically enabled technologies is causing growing anxiety in society. Many nations have developed electromagnetic field (EMF) human exposure standards, or guidelines, for the purpose of protecting the health of the population. The International Commission on Nonionizing Radiation Protection (ICNIRP), an international non-governmental scientific organization founded in 1992, is recognized by the World Health Organization and the International Labour Organization (ILO) on EMF standard setting matters.

According to its statutes, ICNIRP's goals are to advance protection from non-ionizing radiation for the benefit of people and the environment. ICNIRP has issued safety limits and other control measures that are based on avoiding thermal effects, or tissue heating. However, these guidelines do not accommodate the growing scientific evidence showing biological and adverse health effects for below the safety limits set by these guidelines.

The World Health Organization EMF Project has endorsed ICNIRP's EMF guidelines and is urging all nations to adopt these guidelines to ensure "harmonization" of EMF exposure standards worldwide. From an economic standpoint, industry and military operations would benefit by if individual nations adopt these guidelines. Our main concern is that the World Health Organization EMF Program is ignoring the scientific evidence pointing to harm, while promoting non-protective EMF guidelines established by a privately run organization that is not independent and is believed to be under the control of the affected industries it seeks to regulate². In

¹ See <http://www.who.int/peh-emf/project/en/>

² Michael Repacholi, an Australian biologist and radiation physicist, served as the Chairman of ICNIRP, starting in 1992 when it was initially organized. In 1996, he left that post to work at the WHO as Coordinator of *Radiation and Environmental Health Unit and chaired the International Advisory Committee* of the newly formed WHO EMF project https://de.wikipedia.org/wiki/Michael_Repacholi In 2006, he left the WHO and started working as an industry consultant. <http://microwavenews.com/CT.html>

Europe the EMF guidelines recommended by the European Union are based on the ICNIRP guidelines which are located under Recommendation 1999/519/EC of 12 July 1999 on public exposure to electromagnetic fields (0 Hz to 300 GHz). Spain has also legally adopted ICNIRP criteria by Royal Decree 1066 on September 28, 2001. This means when the courts rule on legal claims brought by people who have been harmed by electromagnetic waves generated by the telecommunications and electrical power companies, the court refers to ICNIRP's scientific criteria in denying the claim.

In May 2015, 206 scientists and researchers from 40 countries appealed directly to the UN and WHO, asking them to protect people from harmful levels of electromagnetic radiation. They stated that international protection guidelines for non-ionizing electromagnetic fields (which are based on ICNIRP's criteria) are inadequate. They point out that the WHO has a conflict of interest since it has classified non-ionizing radiation as a possible human carcinogen, Class 2B, while endorsing the ICNIRP guidelines which are based on thermal level exposure and ignore studies showing biological changes and adverse health effects that do not involve heat³.

The problems this causes are aptly described by D. Gabriel Doménech Pascual, a Professor of Administrative Law at the University of Valencia, Spain, in his article "Not Entirely Reliable: Private Scientific Organizations and Risk Regulation -The Case of Electromagnetic Fields"⁴

ICNIRP has an Executive Council that consists of a President, a Vice President and a maximum of 12 members. New and continuing members are elected by a vote of the simple majority at a General Meeting by secret ballot, based on nominations received by the current members, the Executive Council of the International Radiation Protection Association (IRPA) and IRPA Associate Societies. The election is held every four years at ICNIRP'S General Meeting held prior to each IRPA Meeting. According to ICNIRP's statutes, no member of the Commission may take a job that, in the Commission's view, might endanger their scientific independence. However, a quick overview of the Declarations of Interests signed by the members of the Commission, attesting that they do not have any conflicts of interest and, of their scientific publications, reveals some issues that call into question the impartiality of some of the members.

Thus we have, for example, Maria Feychting, Vice-Chair of ICNIRP since 2012, who was co-investigator of the COSMOS cohort study, funded by the Swedish Research

³ See the International EMF Scientist Appeal at www.emfscientist.org

⁴ European Journal of Risk Regulation, 1/2013, pp. 29-42. This article explains the reasons why private scientific organizations are less suitable than the democratically elected authorities when it comes to deciding on risk management as those produced by the electromagnetic emissions. The author stresses that ICNIRP members are elected and re-elected by co-option (among themselves). Also the author points to the lack of accountability, responsibility and transparency as major reasons for not delegating certain responsibilities to private organizations. The bias that occurs in this type of organization is greatly enhanced by homogeneity among its participants, which is a result of their self-selection practices.

Council, the Swedish Council for Working Life and Social Research, AFA Insurance, and VINNOVA (The Swedish Governmental Agency for Innovation Systems). VINNOVA received funds for this purpose from TeliaSonera, Ericsson AB and Telenor, which are leading companies in telecommunications. She also participated in projects funded by the Swiss Research Foundation on Mobile Communication of Zurich. Among the five founders of this organization are Swisscom (a Swiss telecommunications company, telephony and mobile telephony, and Internet service provider), Orange, Sunrise (a Swiss telecommunications provider based in Zurich), and 3G Mobile (liquidated in 2011).

Rodney Croft has received financing for his travel expenses and at least one research study was financed by the Electric Power Research Institute (EPRI), a US-based research organization that serves the electric and telecommunications industries

James Lin is currently Editor-in-Chief of the Bioelectromagnetics Journal published on behalf of The Bioelectromagnetics Society (BEMS).

BEMS is an international society with members from approximately 40 different countries and regions around the world. BEMS was established in 1978 as an independent organization of biological and physical scientists, physicians and engineers interested in the interactions of electromagnetic fields with biological systems. It is incorporated as a non-profit organization in the District of Columbia, USA. The Society holds meetings in conjunction with other scientific or medical organizations, including the European Bioelectromagnetics Association (EBEA). It is interesting to note that the annual meeting celebrating the Bioelectromagnetics Society (BEMS) and the European Bioelectromagnetics Association (EBEA) was recently held from June 14-19, 2015 at the Asilomar Conference Center in California (USA), The program can be viewed at <http://www.bioem2015.org/Program.pdf> and lists the program sponsors including companies such as, the Electric Power Research Institute (EPRI), Mobile Manufacturers Forum (MMF), Korean Institute of Electromagnetic Engineering Society (Mobile EMF Consortium) and, GSM-ATM⁵

James Lin was recognized at this annual meeting of BEMS and EBEA with the "d'Arsonval Award", which is the highest award presented by the Bioelectromagnetics Society in recognition of his outstanding achievements in the field of bioelectromagnetics.

Carmela Marino: Member of the ICNIRP Commission served as President of EBEA in 2008 and has been an Associate Editor for the Journal of Bioelectromagnetics.

Zenon Sienkiewicz: In his Declaration of Interests submitted to ICNIRP, he states "provision of scientific support and advice to government and other stakeholders", without being specific. At the same time, in a statement of interest he submitted to

⁵ For information on GSMA activities related to EMF and health, see: www.gsma.com/health

the European Parliament in applying to join the Scientific Committee on Emerging Newly Identified Health Risks, he mentions his relationship with BT (one of the largest telecommunications companies in the world) from 2003 to the present day. Also since 2009, he has been a consultant to the Rapid Response Group at the Japan EMF Information Center, which is funded by "Japan Electrical Safety & Environment Technology Laboratories, where he conducts reviews and analyses of recently published scientific studies.

Per Söderberg, states in his Declaration of Interests submitted to ICNIRP that he is an "occasional expert statements for Swedish insurance companies".

Eric van Rongen: states in his Declaration of Interests submitted to ICNIRP that he is "President, European Bioelectromagnetics Association (EBEA)".

Soichi Watanabe: states in his Declaration of Interests submitted to ICNIRP that he teaches a workshop on RF safety for the Japan Electronics and Information Technology Industries Association (JEITA), a Japanese trade organization for the electronics and IT industries, formed in 2000 by the Electronic Industries Association of Japan, and the Japan Electronic Industries Development Association.

In 2006, EMF researcher Henry Lai analyzed how industry funding influenced research findings in the studies on the biological effects of cell phones is referenced here⁶.

The members of ICNIRP's Scientific Experts Group (SEG) are selected based on their scientific knowledge. Members of the SEG are elected every four years by the members of the Commission, the Executive Board of the International Radiation Protection Association (IRPA), the founding organization of ICNIRP, and the companies associated with IRPA, e.g. the Spanish Society for Radiation Protection. It is interesting to note that, the partners from the Spanish Society for Radiological Protection include major electrical power companies and nuclear associations.

Members of ICNIRP's SEG are also asked to sign a Declaration of Interests. We next will review the conflicts of interest that affect the majority of SEG members:

- **Peter Achermann:** graduated in 1983 in Electrical Engineering at the Swiss Federal Institute of Technology (ETH) Zurich and received a Ph.D. in natural sciences in 1988 at that same university. He currently is a professor and the Co-Director of The Human Sleep Laboratory, Institute of Pharmacology and Toxicology at the University of Zürich. In his Declaration of Interest for ICNIRP, he states that he is Vice President of the Board for the IT'IS Foundation in Zurich, Switzerland. The members of this Board include

⁶ Lai investigated the results of 307 studies (93 of these studies were industry-funded; 214 were not). Among the industry-funded studies, biological effects were found in 27 of them (29%), while in studies that were not industry-funded, biological effects were found in 147 of them (69%).

numerous private corporations with interests in the promotion of telecommunications, such as: Ericsson Radio Systems AB, Sweden, Motorola USA, Motorola Singapore, Nokia Research Center Finland, NTT Communications Japan, NTT DoCoMo Japan, Orange S.A. France, Sunrise Communications AG Switzerland, T-Mobil Germany and Vodafone United Kingdom.

Also, Achermann says that he is the Chairman of the Scientific Committee for the Swiss Research Foundation on Mobile Communication of Zurich. Among the five founders of this organization are Swisscom, a Swiss telecommunications company, telephony and mobile telephony and Internet service provider; Orange; Sunrise a Swiss telecommunications provider based in Zurich; and 3G Mobile, liquidated in 2011.

Although not mentioned in his ICNIRP Declaration of Interests or his resume posted on the ICNIRP website, we understand that he has collaborated on projects funded by this foundation.

- **Anssi Auvinen**: has a medical background. He is currently a professor of Epidemiology at the School of Health Sciences, University of Tampere in Finland.

In Declarations of Interests he submitted to ICNIRP as well as to the European Commission's Scientific Committee on Emerging Newly Identified Health Risks (SCENIHR), he states that, in 2013 and 2014 he received research funding from the Mobile Manufacturers Forum, an international organization founded in 1998 by leading manufacturers of mobile phones and radio equipment, such as Alcatel, Ericsson, Mitsubishi Electric, Motorola, Nokia, KarbonnMobiles, Panasonic, Philips, Sagem, Samsung, Siemens, Sony Ericsson and TCL & Alcatel Mobile Phones. Also in 2010 and 2012 he conducted research on mobile phone users under the Technology Agency of Finland which was partially funded by Nokia, TeliaSonera and Elisa.

His Declaration of Interests statement to ICNIRP was unsigned.

- **David Coggon**: studied mathematics and medicine at the universities of Cambridge and Oxford. He is currently a Professor of Occupational and Environmental Medicine at Southampton University in the United Kingdom, where he works in the Medical Research Council Lifecourse Epidemiology Unit.

Although not detailed either in his ICNIRP statement or in his ICNIRP resume, he has been president of the British Mobile Telecommunications Health Research Programme⁷ (MTHR, which investigates possible health effects of mobile phone technologies. The programme is jointly funded by government and industry.

What he does not mention in his ICNIRP Declaration of Interests or in his resume is that he is a member of the Academy of Medical Sciences⁸, whose financing comes

⁷ <http://www.southampton.ac.uk/medicine/about/staff/dnc.page>

⁸ <http://www.southampton.ac.uk/medicine/about/staff/dnc.page>

from a global business organization called Helix Group⁹, which focuses on new technologies and innovation to drive its business in the United Arab Emirates and internationally.

-Clemens Dasenbrock: Received his DVM and DipECLAM from the European College of Laboratory Animal Medicine. He directs the Toxicology and Environmental Hygiene Division at the Fraunhofer Institute for Toxicology and Experimental Medicine in Hannover, Germany.

Although not mentioned in his ICNIRP Declaration of Interests, he has participated in studies funded, among others, by the GSM Association and the Mobile Manufacturers Forum¹⁰.

- **René de Sèze:** is a Senior Researcher in the Experimental Toxicology Unit at INERIS (Research and Expertise Institute for the Ministry of Ecology), France. He obtained a Masters degrees in human biology and in engineering, then completed his Ph.D., in Life Sciences at the University of Bordeaux in 1991, followed by a post doctorate degree in biophysics at the University of Montpellier in 1999 (Habilitation).

Although not detailed in his ICNIRP statement, René de Seze received many research grants funded by France Télécom and Bouygues Télécom. He also worked for Motorola. He also received a significant level of research funding from Fondation Santé et Radiofréquences, a research foundation created under the leadership of the French Ministry of Research, with public interest status. Half of the budget is State funded, the other half is provided by industry. He also obtained funding through the CoMoBio program sponsored by Alcatel, Bouygues Télécom, Cegetel and France Télécom¹¹.

He has been secretary and treasurer of the European Bioelectromagnetics Association (EBEA) and member of the Bioelectromagnetics Society (BEMS).

-Francis Duck: is a retired medical physicist and visiting professor at the University of Bath UK. He has a BSc in Physics from the University of Nottingham and a Ph.D., in DSc in Physics from the University College in London.

In his ICNIRP Declaration of Interests he states that he is a member of the Engineering and Physical Sciences Peer Review College UK. His work has focused on technology development.

Professor Duck helped to establish the British Medical Ultrasound Society (BMUS) Safety Group and he has been a member and Chair for the Safety Committee of European Federation of Societies for Ultrasound in Medicine & Biology (EFSUMB). He

⁹ <http://www.acmedsci.ac.uk/about/support-us/helix-group/>

¹⁰ <http://onlinelibrary.wiley.com/doi/10.1002/bem.20283/abstract>

¹¹ <http://www.santepublique-editions.fr/objects/cv-de-rene-de-seze.pdf>

currently is a member of the World Federation for Ultrasound in Medicine & Biology (WFUMB) Safety Committee.

In his ICNIRP Declaration of Interests statement he also states that he is a member of the Engineering and Physical Sciences Peer Review College, UK.

Not mentioned in this ICNIRP statement is the fact that he has participated in a book partially funded by Silsoe Research Institute: Acoustical Imaging, Volume 25, edited by Michael Halliwell and Peter N.T. Wells.

Silsoe Research Institute used to have an international reputation for its research in Agricultural, Food Processing and Environmental Engineering. In 2004, its main sponsoring body, the BBSRC, changed its research priorities and funding ceased. Silsoe Research Institute ceased operations at the end of March 2006 after 80 years of operation.

BBSRC is managed by the BBSRC Council that includes the Chairman, Professor Sir Tom Blundell, who has served since July 2009; a Chief Executive, Professor Jackie Hunter; and, between ten to eighteen representatives from UK universities, government and industry.

Francis Duck co-edited a report called "The effects of ultrasound on the cells of the vascular Wall" at Exeter University, sponsored by EPSRC. The Engineering and Physical Sciences Research Council (EPSRC) is the UK's main agency for funding research in engineering and the physical sciences. This organization currently has strategic partnerships with companies such as Arup, a global firm of consultants, engineers and designers); AWE, Atomic Weapons Establishment; BAE Systems, a military contractor, Aeronautics BT, a British multinational telecommunications services company; EDF Energy; NDEvR, a computer company; Siemens, etc.

- **Penny Gowland: She** obtained degrees in Astronomy and Physics from University College London in 1985 and then specialised in Medical Physics, completing a PhD in Magnetic Resonance Imaging from the Institute of Cancer Research in 1990. She is a physics professor at the University of Nottingham.

According to her Declaration of Interests, she reports that she has held many research contracts with Phillips Electronics but notes there is no monetary value.

According to this statement, she has been part of the MR safety working group of British Institute of Radiology. According to the British Institute of Radiology website, Phillips and Siemens are platinum sponsors.

The European Society for Magnetic Resonance in Medicine and Biology (ESMRMB), organization mentions that she has belonged to several committees, including the

Committee on Security, and has received financial support from companies like Hitachi, Philips, Siemens, Toshiba and General Electric¹².

- **Akimasa Hirata:** received his B.E., M.E., Ph.D degrees in communications engineering from Osaka University, Suita, Osaka, Japan, in 1996, 1998, and 2000, respectively. He is an Associate Professor at Nagoya Institute of Technology, Research and Education in Japan.

He is a member of the IEEE (Institute of Electrical and Electronics Engineers).

According to his Declaration of Interests statement, he has collaborated with the company NTT DOCOMO, Japan's largest mobile service provider.

He holds many academic honors, such as the TELECOM System Technology Award, Telecommunication Advancement Foundation, Japan (2004), the Young Scientist Award, URSI General Assembly (International Union of Radio Science) (2002), the Young Scientist Award, Ericsson, Japan (2001) and the Young Scientist Award, International Symposium on Electromagnetic Theory (2001).

- **Jukka Juutilainen:** he is a Professor of Radiation Biology and Radiation Epidemiology, and Department Head of the Department of Environmental Science at the University of Eastern Finland.

In his ICNIRP Declaration of Interests, he states that he has received research funding from government organizations and foundations.

In Finland, the national research programme on possible health effects of mobile phones was carried out in two parts from 1998 to 2003. and was coordinated by Professor Juutilainen through the University of Kuopio. The other participants were STUK – the Radiation and Nuclear Safety Authority-, Technical University of Tampere, University of Turku, Finnish Institute of Occupational Health, and VTT Information Technology. The main source of funding was TEKES, National Technology Agency and a governmental organisation). The programme was also supported by Nokia, Benefon, Sonera, Elisa, Radiolinja, Finnish 2G, Mobile Manufacturers Forum and the GSM Association.

(http://www.brightsurf.com/news/headlines/11411/Health_effects_from_mobile_phone_radiation.html)

He has participated in conferences and publications funded in part by organizations with interests in the telecommunications sector.

¹² <http://www.esmmb.org/>

He had numerous research programs funded by Nokia, Benefon, Sonera, Elisa, FINNET, the GSM Association and the Mobile Manufacturer Forum.

According to his statement, he is a member of the European Bioelectromagnetics Association and served on EBEA's Board from 2011 to 2014); a member of the Bioelectromagnetics Society and serves on the Editorial Board for the journal of Bioelectromagnetics¹³.

- **Leeka Kheifets:** is Professor of Epidemiology in the UCLA School of Public Health (USA).

Prior to her professorship at UCLA, she was Head of the Radiation Studies Program at the World Health Organization and was a Technical Executive at the Electric Power Research Institute (EPRI), where she directed a multi-disciplinary electric and magnetic fields (EMF) research program. At the WHO she took part in the 2004 WHO Task Force on electrical hypersensitivity.

EPRI is an independent nonprofit scientific organization funded by the electric power industry in the United States. Kheifets states that she still receives research support from EPRI, but notes that EPRI is not a commercial entity.

She served as a member of The International Committee of the Swedish Radiation Protection Authority (SSI). She has served on committees for the National Academy of Sciences, Institute of Electrical and Electronics Engineers, and National Council on Radiation Protection and Measurements. Dr. Kheifets is a member the standing committee on Epidemiology of the ICNIRP and participated in EU EMF-Net reviews. Dr. Kheifets was also a member of the National Institute of Environmental Health Sciences, the International Agency for Research on Cancer and World Health Organization Working Groups charged with evaluating potential health effects from EMF exposure. Committee of the Institute of Electrical and Electronics Engineers (IEEE).

In the section of her Declaraton of Interests statement on "Investments and commercial interests" she mentions "Apple Stock", without giving further details.

However, she has not reported in her statement to ICNIRP that between 2001-2004 she served on the Board of Directors of the Bioelectromagnetics Society (BEMS). Nor, between 2004 and 2005 she was a Guest Co-Editor of the Bioelectromagnetics Journal

¹³ See what was said about the "European Bioelectromagnetics Association", the "Bioelectromagnetics Society" magazine "Bioelectromagnetics" at René de Sèze.

or, between 2002 and 2004, she was Chairman of the Editorial Committee for the Bioelectromagnetics Journal¹⁴.

She did not report that she has been a grant reviewer for the Fondation Santé et Radiofréquences y Swiss National Science Foundation¹⁵. Fondation Santé et Radiofréquences, is a research foundation created under the leadership of the French Ministry of Research and with public interest status. Half of the budget is State funded, and the other half is provided by industry. Among the industries that contributed to the creation of this foundation were Alcatel-Lucent, Ericsson France et Motorola, Bouygues Telecom, Orange France et SFR, TDF et Towercast.

She has participated in projects funded by the Swiss Research Foundation on Mobile Communication de Zurich. Among the five founders of this organization are Swisscom a Swiss telecommunications company, telephony and mobile telephony and Internet service provider; Orange; Sunrise, a Swiss telecommunications provider based in Zurich; and, 3G Mobile, which was liquidated in 2011).

- **Masami Kojima:** received his Ph. D. in Medicine from Kanazawa Medical University in 1991. He is a professor at that University.

He has published several scientific articles in the Bioelectromagnetics Journal, ¹⁶.

- **Isabelle Lagroye:** PharmD and PhD in Life Sciences, graduated from the Bordeaux II University, France, in 1997. After a post-doctoral position at the Radiation Oncology Center in Dr Roti-Roti's laboratory in Saint-Louis, MO, USA, she has carried out research work since 1999 at the Bioelectromagnetics group of the IMS laboratory, University of Bordeaux. She is an Associate Professor at the Ecole Pratique des Hautes Etudes (EPHE), France.

In her Declaration of Interests statement, she states she has had projects funded by industry, one of them being Bouygues Telecom). Also she notes that she has participated in three projects funded by public entities, including the "Swiss Foundation", referring to Swiss Research Foundation for Electricity and Mobile Communication, which is not a public entity as discussed above¹⁷.

¹⁴ See what was said about the "European Bioelectromagnetics Association", the "Bioelectromagnetics Society" magazine "Bioelectromagnetics" at René de Sèze.

¹⁵ https://www.google.es/?gws_rd=ssl#q=Leeka+Kheifets+Foundation&start=10

¹⁶ See what was said about the "European Bioelectromagnetics Association", the "Bioelectromagnetics Society" magazine "Bioelectromagnetics" at René de Sèze. One of the publications may be seen in <http://onlinelibrary.wiley.com/doi/10.1002/bem.10195/abstract>

¹⁷ Among the five founders of this organization are Swisscom (Swiss telecommunications company, telephony and mobile telephony and internet service provider), Orange, Sunrise (is a Swiss telecommunications provider based in Zurich) and 3G Mobile (company liquidated in 2011).

- **Timothy Grant Leighton:** is a professor of Ultrasonics and Underwater Acoustics; Chairman of the Fluid Dynamics and Acoustics Research Group in the Institute of Sound and Vibration Research (ISVR); and Associate Dean with responsibility for research at the Faculty of Engineering and the Environment, at the University of Southampton, UK.

According to his Declaration of Interests statement he has received research funding from industries such as Philips.

He has also been a consultant to DSTL, through the University.

He has Fellowships with the Royal Society, the Royal Academy of Engineering (where there are several companies and organizations related to new technologies that finance their programs, such as BT and Motorola Solutions Foundation), the Institute of Physics, the Institute of Acoustics, and the Acoustical Society of America. His curriculum is based on the momentum of technological development.

He was awarded Senior and Advanced Research Fellowships at Magdalene College at Cambridge University and the Engineering and Physics and Science Research Council (EPSRC). He has also done work financed by EPSRC¹⁸.

- **Sarah Loughran:** received her BSc in physiology and psychology from Deakin University, in Australia, before completing a PhD in cognitive neuroscience/psychophysiology at Swinburne University of Technology, investigating the effects of electromagnetic fields on human sleep, the electroencephalogram (EEG), and melatonin. She subsequently spent several years as a postdoctoral fellow at the University of Zurich, continuing research in the field of bioelectromagnetics while also expanding her expertise in the areas of sleep and EEG signal analysis. She is currently a research fellow at the University of Wollongong where her research interests focus on a wide range of bioelectromagnetics and electromagnetic health research issues, including effects on sleep, the EEG, and associated mechanisms, as well as cognitive neuroscience and sleep more generally.

Loughran is affiliated with the Australian Research Centre for Biological Effects of Radiofrequency Radiation (ACEBR) human neurophysiology research group¹⁹ and is a member of BEMS²⁰.

¹⁸ The Engineering and Physical Sciences Research Council (EPSRC) is the UK's main agency for funding research in engineering and the physical sciences. This organization currently has strategic partnerships with companies such as Arup (global firm of consultants, engineers and designers), AWE: Atomic Weapons Establishment, BAE Systems (military contractor) and Aeronautical BT (a British multinational telecommunications services corporation), EDF Energy, NDEvR (computer company), Siemens, etc.

- **Simon Mann:** heads the Physical Dosimetry Department at Public Health England's Centre for Radiation, Chemical and Environmental Hazards, and is responsible for programmes of scientific work to develop health-related advice on exposures to electromagnetic fields (EMFs) and optical radiation across the UK. He is an electrical engineer, and received his BSc in Electronics and his DPhil in Electromagnetic Compatibility from the University of York in 1988 and 1993 respectively.

However, she did not mention in her Declaration of Interests statement submitted to ICNIRP, that she has received research funding from the GSM association, the Mobile Manufacturer Forum and the UK's Mobile Telecommunication and Health Research Program (MTHR)²¹.

Since 2009 she has been a member of BEMS and the EBEA²².

- **Mats-Olof Mattsson:** He studied biology and chemistry at Umea University, Sweden, where he graduated in 1983. He received his Ph.D. (animal physiology) from the same university in 1987 and later received his habilitation in cell and developmental biology in 1992. He has held positions as assistant and associate professor until 1999, when he got appointed as professor in cell biology at Örebro University, Sweden. From 2010 until today, he is a Senior Scientist at AIT Austrian Institute of Technology, Department of Health & Environment.

The Republic of Austria, through the Federal Ministry for Transport, Innovation and Technology, holds a 50.46% interest in the Austrian Institute of technology (AIT), while the Federation of Industries of Austria holds a 49,54% interest in AIT through the VFFI (Association to Promote Research and Innovation).

According to his Declaration of Interests statement to ICNIRP, from 2009 to the present he is member of the Scientific Advisory Committee of the company TeliaSonera, Stockholm. He says that he doesn't receive compensation for it. TeliaSonera is a mobile operator based in Stockholm, which serves Sweden and Finland. It also operates in other countries under different brands, including in Norway, Denmark, Estonia, Latvia, Spain, Russia and Turkey. In 2010, the company held 150 million global customers. The company was founded in 2003 following a business merger between two telecommunications companies, Telia of Sweden and Sonera of Finland.

¹⁹ Telstra is Australia's leading provider of mobile phones, mobile devices, and broadband Internet and is a Participating Institutions with the ACRBR.

²⁰ See what was said about the "European Bioelectromagnetics Association", the "Bioelectromagnetics Society" magazine "Bioelectromagnetics" at René de Sèze.

²¹ MTHR received funding from the Vodaphone, a wireless company.

²² See what was said about the "European Bioelectromagnetics Association", the "Bioelectromagnetics Society" magazine "Bioelectromagnetics" at René de Sèze.

He is a member of the Bioelectromagnetics Society serves on the Editorial Board for the Bioelectromagnetics Journal²³.

In his statement he said that he has served as peer reviewer for several scientific journals on articles relating to NIR.

- **Sharon Miller:** She works as a Senior Optical Engineer in the Magnetic Resonance and Electronic Products Branch, Division of Radiological Health, Office of In vitro Diagnostics and Radiological Health at the Center for Devices and Radiological Health, which is under the US Food and Drug Administration. She has a Masters of Science in Electrical Engineering.

- **Augusto Morales, Jr.:** He received his BS in Physics from the University of the Philippines- Diliman, and his Doctor of Science degree from the Department of Physics of Waseda University in Tokyo (Japan) in condensed matter physics. He served as the Radiation Protection Officer for the Philippine Mission to Fukushima in 2011. He is currently with the Center for Device Regulation, Radiation Health and Research of the Philippine Food and Drug Administration where he heads the Laboratory Management and Special Projects Section, which is responsible for assessing scientific recommendations for ionizing and non-ionizing radiation safety. He also serves as an Associate Professorial Lecturer in Medical Physics in the University of Santo Tomas Graduate School.

His statement ICNIRP is unsigned.

- **John O'Hagan:** Senior Scientific Group Leader, Laser and Optical Radiation Dosimetry Group at Public Health England (formerly Health Protection Agency (HPA) until April 2013). This research group covers all aspects of optical radiation dosimetry, including both the beneficial and detrimental effects of optical radiation on people. The group also operates a UV monitoring network across the UK. He received his PhD from Loughborough University for research on risks arising from the use of lasers in the entertainment industry. He is an honorary Visiting Fellow at Loughborough University, where since 1992, he has organized University training courses on laser safety.

In his Declaration of Interests statement for ICNIRP he notes that he provides "scientific support and advice to government and other stakeholders", without specifying what this means.

²³ See what was said about the "European Bioelectromagnetics Association", the "Bioelectromagnetics Society" magazine "Bioelectromagnetics" at René de Sèze.

In his statement he says that he is the President of the Committee EPL/76 Optical radiation safety and laser equipment, of BSI Standards Development (BSI is a company that sets rules to help organizations worldwide achieve excellence). Organizations that work with this committee include the Association of Industrial Laser Users, the Association of Manufacturers of Domestic Appliances, GAMBICA Association Limited (a UK national organisation representing the interests of companies in the instrumentation, control, automation and laboratory technology industry) the Institute of Physics, the Institution of Engineering and Technology, the Institution of Mechanical Engineers, and the Lighting Industry Association.

He also reports that he is the Vice President of the CIE-UK National Illumination Committee of Great Britain. This committee was established by the Illuminating Engineering Society of Great Britain, the Institute of Electronic and Electrical Engineers, the Institute of Gas Engineers, and the NPL, in collaboration with industry and professional associations, government departments and lighting technicians.

- **Chiyoji Ohkubo:** he received his PhD in Medicine in 1982 from the Showa University, School of Medicine in Japan. He is currently Director of the Japan EMF Information Center (JEIC), which was established in July 2008 to facilitate communication on EMF issues among government agencies, industry, the media and the general public. (Japan EMF Information Center is under the Japan Electrical Safety & Environment Technology Laboratories and the Japan Electrical Association).

- **Tsutomu Okuno:** he received his B.S. and M.S. in Physics and his Ph.D in Applied Physics from Tohoku University in Japan. He is currently the director of the Human Engineering and Risk Management Research Group at the National Institute of Occupational Safety and Health, Japan.

According to his resume, he is a member of Safety, Health and Environment Committee, and the Japan Welding Engineering Society, a type of standard setting organization.

His Declaration of Interests statement to ICNIRP is unsigned.

Although he did not report this in his statement of interest, he is a member of the Physical Society of Japan and other professional groups. He doesn't mention that he is the inventor of two patents: HONDA GIKEN KOGYO KABUSHIKI KAISHA (1978), and MUTOH INDUSTRIES LTD. (1994).

- **Jeong-Ki Pack:** he is a Professor of Radio Science and Engineering at the School of Engineering, Chungnam National University, Korea. In 1988, he obtained his Ph.D. degree in Electrical Engineering at Virginia Tech, in the U.S.A. and, in 1978, he received B.S. degree in Electronics Engineering at Seoul National University (Korea).

Although he doesn't mention this in his Declaration of Interests statement to ICNIRP, he is the Honorary President of the Korean Institute of Electromagnetic Engineering and Science, and collaborates actively with the industry to develop telecommunications technologies.

He doesn't mention in his statement he is Member of the BEMS Board of Directors.²⁴.

- **David Savitz:** He is currently a Professor of Epidemiology and Obstetrics and Gynecology at Brown University, in Providence, MA, USA. He began his academic career as an Assistant Professor in the Department of Preventive Medicine and Biometrics at the University of Colorado School of Medicine. In 1985, he moved to the University of North Carolina School of Public Health.

Although he doesn't mention say anything about it in his Declaration of Interests statement to ICNIRP, he gave expert witness testimony on behalf of the defendants in a January 2012 lawsuit in Federal District court in Portland, Oregon. See <http://apps.fcc.gov/ecfs/document/view?id=7520958537>

The plaintiffs are AHM, through its representative, David Mark Morrison. The defendant is the Portland Public School System. This case was heard to resolve a lawsuit filed by AHM against Portland Public Schools in Portland, Oregon, calling for the removal of a Wi-Fi system in the schools.

The services of Professor D. David Savitz were requested to assess the expertise of plaintiffs' claims that the implementation of wireless devices and wireless systems in the schools could possibly cause cancer or other adverse health effects.

He is asked whether he received or expect to receive for his witness some input value different from that indicated in paragraph 41 of his written statement. He notes that the only thing that adds to its written statement is that he be reimbursed travel expenses to travel to this meeting.

He notes that from graduate school he worked for a while under contract with the Battelle Research group, a federal government research laboratory in Washington State, USA, and then continued his doctorate in epidemiology at the University of Pittsburgh.

²⁴ See what was said about the "European Bioelectromagnetics Association", the "Bioelectromagnetics Society" magazine "Bioelectromagnetics" at René de Sèze.

He states that the purpose of his contract with Battelle was to investigate relationships between environmental agents and human health. He says he had a variety of sponsors, including some federal government agencies and other groups that he does not recall at this time.

In answer to being asked about his relationship with the ICNIRP organization, he said that doesn't consider himself a member of that organization. He said that since 2000, he has served as a member of the Standing Committee on Epidemiology, but doesn't put it on his resume.

When asked if he is paid to be part of scientific committees, he says that he remembers only travel expenses being reimbursed by ICNIRP. He says he doesn't remember how many scientific committees he belongs to.

When asked if the purpose of ICNIRP is really protecting people from the harmful effects of non-ionizing radiation he indicates that his knowledge about ICNIRP is very limited. He wasn't involved with what ICNIRP does in making decisions after it receives the results of the evaluation carried out by the Standing Committee on Epidemiology. He says that he has never read the ICNIRP Statutes, its mission, etc. He maintains that he is hired to help evaluate a particular line of research.

When he was asked if he can list the four reports generated he worked on for ICNIRP he gives a general answer. He also notes that he was paid only for travel expenses to review these reports.

When asked if there was any relationship between ICNIRP and the WHO for the work in which he contributed to, he said he did not know.

When asked whether he has been paid out of funds acquired from companies and/or telecom consultants and law firms that represent these companies, he replied that there are a few cases where he has done research funded by the electrical industry. However he emphasized that the funders tried to isolate his work from the source of funding. He says he once had done a study before realizing where the money came from.

He stated that he has done work sponsored by EPRI which is funded by the electrical power industry, but also says that EPRI also sought to isolate his work from the funding source.²⁵

- **Karl Schulmeister:** he graduated in 1992 from the Univ. of Technology in Vienna, Austria, with a Dipl-Ing in physics and from Trinity College in Dublin, Ireland in 1994 with an MSc. In 2001 he received a PhD in biophysics based on his research on the risk

²⁵ There is no record of this data in the Declaration of interests that has been submitted to ICNIRP.

for retinal injury from lasers. Since 1994 he has been head of the Laser, LED and Lamp Safety Group at Seibersdorf Laboratories in Austria, under the Austrian Institute of Technology AIT is the best Austrian research institute, but it is not based at a university. AIT is a research and development partner for a highly specialized industry that collaborates with researchers at universities and other institutions of higher education or research nationally and internationally. Austria's most important corporations are partners or shareholders of AIT.

In his Declaration of Interests statement, Schulmeister said that part of his job is to advise and train those who employ people who work with Lasers and/or lamps on workplace safety and the manufacturers of products that incorporate Lasers and/or lamps. He said he is an appointed member of several technical committees for dealing with Laser standardisation and optical radiation safety and also an appointed member of professional associations of radiation and laser protection. He also teaches at seminars organized by the labor security Austrian Workers' Compensation Board, which governs social insurance coverage for occupational risks for more than 3.3 million employees and 1.4 million pupils and students. These seminars are financed mainly by contributions paid by employers.

- **Rianne Stam:** She was trained as a medical biologist at Utrecht University, where she obtained a PhD in neuroscience. She subsequently conducted scientific research and taught medical and biology students at University Medical Center Utrecht, as a post-doctoral fellow and assistant professor. Her main area of interest at the university was neurobiology and physiology of stress. Since 2007 she has worked as a senior scientist at the National Institute for Public Health and the Environment (Bilthoven, in the Netherlands), where she performs risk assessments and policy research on the biological effects and possible health risks of electromagnetic fields (EMF).

According to her resume, she has also helped to develop information pamphlets on EMF for a public outreach non-profit organization, called Knowledge Platform Electromagnetic Fields, a program supported by her employer. The Knowledge Platform is a collaboration of the organisations: RIVM, TNO, KEMA, Agentschap Telecom, the Local Health Authorities (GGD's), and ZonMw. The current funding grants of the Knowledge Platform EMV will run till 31st December 2014.

- **John Tattersall:** Tattersall is a Principal Scientist in the Defence Science and Technology Laboratory (Dstl), a government agency which provides research and advice for the UK Ministry of Defence and other government departments. He is also an Honorary Senior Lecturer in Clinical Neurosciences at the University of Southampton. He received his Ph.D. from the University of Nottingham in 1984, for his

research on neuromuscular physiology in mollusks. From 1983 to 1986, he served as a Postdoctoral Research Assistant in Physiology at the University of Bristol, investigating spinal cord pathways involved in visceral pain. In 1986, he joined the Ministry of Defence to set up in vitro electrophysiological techniques for investigating the mechanisms of anticholinesterases and antidotes.

He is a member of the IEEE International Committee on Electromagnetic Standards. IEEE is a non-profit organization that is dedicated to advancing the theory and application of electrical and electronics engineering and computer science.

His Declaration of Interests statement filed with ICNIRP is unsigned.

In the employment section of his statement he says, among other things, that he provides "scientific support and advice to government and other stakeholders, but he does not specify who those other "stakeholders" are.

Although he doesn't mention this on his Declaration of interests statement and on his resume, he is on the EBEA Board²⁶.

- **Andrew Wood: Wood** is a Professor in the Brain and Psychological Sciences Research Centre (BPsyC) at Swinburne University of Technology in Melbourne, Australia. He is the Chief Investigator for the new Australian Centre for Electromagnetic Bioeffects Research, funded through a collaboration with Telstra -Australia's, a leading provider of mobile phones, mobile devices and broadband internet.

He is an Associate Editor for the Bioelectromagnetics Journal Bioelectromagnetics. Bioelectromagnetics. Under the Editor, James C. Lin, he serves on ICNIRP's Board of Commissioners. Furthermore, in his Declaration of Interests statement he is currently shown as the Treasurer-elect for the Bioelectromagnetic Society for the coming 3 years²⁷.

In his Declaration of Interests statement, recorded in 2012, he was employed for two years at Swinburne University under a contract between EMC and the University to write a report (unpaid) for EMC Technologies on smart meter safety. EMC Technologies is an independent, privately owned Australian company providing specialist approval and certifications testing to Electromagnetic (EMC, EMI, EMR/EMF/SAR), Electrical Safety, Telecommunications and engineering consultation and special projects services to all areas of the electrical/electronics industry since 1992.

²⁶ See what was said about the "European Bioelectromagnetics Association", the "Bioelectromagnetics Society" magazine "Bioelectromagnetics" at René de Sèze.

²⁷ See what was said about the "European Bioelectromagnetics Association", the "Bioelectromagnetics Society" magazine "Bioelectromagnetics" at René de Sèze.

In response to questions about research support received from commercial entities, in his Declaration of Interests statement to ICNIRP, Wood states that Progress in Electromagnetic Research (PIER) AND BEMS financed his trip to an international conference in Moscow and Brisbane, respectively, adding that he “anticipates this will continue, during 2012 and that some funds from commercial sources (unnamed) will be used to employ a research assistant”. PIER Symposium (PIERS) has provided an international forum for reporting progress and recent advances in the modern development of electromagnetic theory that has offered new and exciting applications since 1989. Topics include radiation, propagation, diffraction, scattering, guidance, resonance, power, energy and force issues, and all other modern developments, with spectra ranging from statics to RF, microwave, photonics, and beyond.

The PIER Symposium is sponsored by The Electromagnetics Academy. The Academy co-sponsored the 1st Progress in Electromagnetics Research Symposium (PIERS) held in Boston, Massachusetts, July 25-26, 1989. The Symposium was followed by a National Science Foundation (NSF) workshop on future directions in electromagnetics research, also co-sponsored by the Academy. Subsequent PIER Symposiums have been held in various cities around the world, including Cambridge, Pasadena, Noordwijk, Seattle, Innsbruck, Hong Kong, Nante, Taipei, Osaka, Singapore, Honolulu, Pisa, Nanjing, Hangzhou, Prague, Beijing, etc.

Wood notes in his ICNIRP statement that the RF dosimetry laboratory, which he heads, did a project for the GSM Association (GSMA) in 2012, but explains that he had no role in this matter and that the funds allocated through a contract between the GSMA and the University of Swinburne²⁸.

In 2012 Swinburne received support from Telstra Corp. for its annual Science and Wireless event, organized through a contract between Telstra and Swinburne University of Technology. Telstra-Australia's leading provider of mobile phones, mobile devices, and broadband internet. He says he received no financial compensation for organizing this event.

- **Marvin Ziskin** is an Emeritus Professor of Radiology and Medical Physics at Temple University School of Medicine in Philadelphia, where he received his A.B. and M.D. degrees.

He was the Chairman of the IEEE Committee on Radiation and Man (COMAR). He serves as Co-Chairman of the Institute of Electrical and Electronics Engineers, Inc. (IEEE) International Committee on Electromagnetic Safety SC-4, the committee responsible for the safety standards for radiofrequency electromagnetic exposures. IEEE is a non-profit organization that is dedicated to advancing the theory and application of electrical and electronics engineering and computer science, funded by the electrical power industry.

²⁸ The GSMA represents the interests of mobile operators worldwide. For information on activities related to the GSMA regarding electromagnetic fields: www.gsma.com/health

He has served on the Board of Directors of the Bioelectromagnetics Society and continues as a BEMS member. Ziskin received the 2011 D'Arsonval Award from the Bioelectromagnetics Society, which is its highest award²⁹.

Ziskin did not state in his Declarations of Interests statement to ICNIRP that, on June 3, 2002, he served as an expert witness before the Superior Court of New Jersey Appellate Division on behalf of the plaintiff, Ocean County Phone Company d/b/a Cellular One Comcast who was being sued by the Lakewood Township Board. See <http://caselaw.findlaw.com/nj-superior-court-appellate-division/1247191.html#sthash.4y3S0xZJ.dpuf>

The plaintiff, intended to install twelve antennas on a building near several existing homes in Lakewood, New Jersey. The building served as a residence for 1,000 students, had a school facility that was attended by about 400 children and had two synagogues. The proposed antennas would be installed in the attic of the building's elevator, and after installation, would extend approximately seven feet above the attic ceiling. The antennas were each forty eight inches high, six to eight inches wide and about six inches deep.

The Lakewood Township Board rejected Comcast's for the reasons of (1) "the adverse visual impact" antennas will have; (2) Citizens' fears of radiofrequency emissions; and, (3) the existence of other suitable sites for the proposed facility.

The trial court upheld the refusal. It concluded that the Board was not arbitrary or unreasonable to determine that other suitable sites were available, and decided that public concern about RF emissions, although unfounded according to government standards, was real.

CONCLUSIONS:

1- It is hard to understand what of controls are carried out ICNIRP, a private organization, regarding the Declarations of Interests filed by their Commissioners and their appointed members of their Expert Committees, when, in a majority of cases it is seen that there are direct or indirect connections between these experts and representatives of telecommunications, electric or insurance companies (even if they are not paid in some cases).

2- It is hard to understand how ICNIRP's Executive Committee who is elected, can have had direct or indirect relations with telecommunications, electric or insurance companies.

²⁹ See what was said about the "European Bioelectromagnetics Association", the "Bioelectromagnetics Society" magazine "Bioelectromagnetics" at René de Sèze.

3- It is hard to understand whether ICNIRP investigates the Declarations filed by appointed members of the ICNIRP Commission and Scientific Expert Committee, since in some cases these members report that they work or have worked for these organizations but do not specify what they have done or whether they are paid.

4- It is hard to understand how ICNIRP controls the content of the declarations by the appointed members of their Expert Committees, when in most cases the most contentious aspects of the biographical statement are not reported in these statements.

5- It is hard to understand how ICNIRP controls the content of the declarations by the appointed members of their Expert Committees when, at least in five cases, the persons concerned have not signed their statements.

6- Finally the most serious problem of all is that the World Health Organization and the International Labour Organisation delegate their responsibility in these matters to ICNIRP, a private organization