Reykjavik Appeal on wireless technology in schools

We, the signers, are concerned about our children's health and development in schools with wireless technology for teaching. A vast amount of scientific studies have shown considerable medical risks with long-term exposure to Radiofrequency Radiation (RFR) from wireless devices and networks well below the recommended reference levels from the International Commission on Non-Ionizing Radiation Protection (ICNIRP). We ask the authorities to take their responsibility for our children's future health and wellbeing.

In May 2011 the International Agency for Research on Cancer (IARC) at WHO classified RFR as a Group 2B carcinogen, i.e., ‘possibly’ carcinogenic to humans. Since then more scientific studies on exposure to RFR in humans, animals and biological material have strengthened the association of an increased risk for cancer, especially brain tumors. Several laboratory studies have shown mechanistic effects in carcinogenesis such as oxidative stress, down regulation of mRNA and DNA damage with single strand breaks. The IARC cancer classification includes all sources of RFR. The exposure from mobile phone base stations, Wi-Fi access points, smart phones, laptops and tablets can be long-term, sometimes around the clock, both at home and at school. For children this risk may be accentuated because of a cumulative effect during a long lifetime use. Developing and immature cells can also be more sensitive to exposure to RFR. Based on scientific studies no safe level of this radiation has been established and therefore we have no safety assurances.

Besides the cancer risk, RFR may also affect the blood-brain barrier to open and let toxic molecules into the brain, hurt neurons in hippocampus (the brain centre for memory), down or up regulate essential proteins in the brain engaged in the brain's metabolism, stress response and neuro-protection and affect neurotransmitters. Sperms exposed to Wi-Fi have been seen with more head defects and DNA damage. RFR can increase oxidative stress in cells and lead to increase of pro-inflammatory cytokines and lower capacity to repair DNA single and double strand breaks.

Cognitive impairments in learning and memory have also been shown. Results from the OECD's PISA performance surveys in reading and mathematics show decreasing results in countries that have invested most in introducing computers in school. Multitasking, too many hours in front of a screen, less time for social contacts and physical activities with risk for aches in neck and back, overweight, sleep problems, and information technology (IT)-addiction are some of the known risks and side effects of IT. They stand in marked contrast to the often claimed, but largely unproven possible benefits.

We ask the school authorities in all countries to acquire knowledge about the potential risks of RFR for growing and developing children. Supporting wired educational technologies is a safer solution than potentially hazardous exposures from wireless radiation. We ask you to follow the ALARA (As Low As Reasonably Achievable) principle and Council of Europe Resolution 1815 to take all reasonable measures to reduce exposure to RFR.
Practical rules for schools concerning children and wireless technology.

- No wireless networks in preschool, kindergarten and schools.
- A hard wired direct cable connection is recommended to each classroom for the teacher to use during lessons.
- Prefer wired telephones for personnel in preschool, kindergarten and schools.
- Prefer cabled connection to Internet and printers in schools and turn off Wi-Fi settings in all equipment.
- Prefer laptops and tablets that can be connected by cable to Internet.
- Students should not be allowed to use cell phones in schools. They can either leave them at home or the teacher collects them in turned off mode before first lesson in the morning.

Children, Screen time and Wireless Radiation – International Conference
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Signed by

**Lennart Hardell**, MD, PhD (speaker)
Department of Oncology, Faculty of Medicine and Health, Örebro University, SE-701 82 Örebro, Sweden.
E-mail: lennart.hardell@regionorebrolan.se

**Cris Rowan**, BScOT, BScBi, SIPT (speaker)
CEO Zone’in Programs Inc. and Sunshine Coast Occupational Therapy Services Inc.
6840 Seaview Rd, Sechelt, BC Canada V0N3A4

**Tarmo Koppel**, PhD candidate (speaker)
Department of Labour Environment and Safety
Tallinn University of Technology,
SCO351 Ehitajate tee 5, 19086 Tallinn, Estonia
E-mail: tarmo.koppel@ttu.ee

**Iceland**

**Sveinn S. Kjartansson**, Formaður, Félag foreldra leiðskólabarna, Chairman, Association of parents of preschool children in Reykjavik, Island

**Valdemar Gisli Valdemarsson**, Electronic technician/manager, Island

**Sweden**

**Lena Hedendahl**, MD, Independent Environment and Health Research Luleå, Sweden
Michael Carlberg, MSc, Department of Oncology, Faculty of Medicine and Health, Örebro University, Sweden

Mikko Ahonen, PhD, Sweden

Adamantia Fragopoulou, PhD, Department of Neuroscience, KI, (Karolinska Institute), Sweden

Olle Johansson, PhD, Department of Neuroscience, KI, Sweden

Johan Wilhelmson, MD, Sweden

Ulrika Åberg, MD, Sweden

Gabriella Ahlgren, Chairman, Vågbrytaren, Against insanitary electromagnetic radiation, Sweden

Gunilla Ladberg, PhD, Vågbrytaren, Sweden

Marianne Ketti, Chairwoman, FEB Sweden (The Swedish Association for the ElectroHyperSensitive)

Per Segerbäck, Scientific Advisor, FEB Sweden

Mona Nilsson, Chairman, Swedish Radiation Protection Foundation, Sweden

Bertil Arting, Teacher (former), Sweden

Kristina Arting, Teacher (former), Sweden

Linda Niewenhuizen, Teacher, Sweden

Gertrud Öjbrandt, Teacher (former), Sweden

Finland

Marjukka Hagström, Senior Specialist, LL.M., M.Soc.Sc., Finland

Rainer Nyberg, EdD, Professor emeritus, Finland

Norway

Solveig Glomsrød, Chairman, Association of electro-hypersensitive, Norway

Sissel Halmøy, Chair, International EMF Alliance, Norway

Thomas Middelthon, Chairman, Citizens´ Radiation Protection, Norway

Austria

Piero Lercher, MD, Consultant for environmental medicine in the Viennese medical chamber, Austria

Gerd Oberfeld, MD, Public Health Dept. Salzburg Government, Austria

Thomas Szekeres, a.o. Univ.-Prof. Dr. President of the Viennese medical chamber, Austria
Belgium

Ernesto Burgio, MD, Pediatrician, ECERI, European Cancer and Environment Research Institute Bruxelles, Belgium

Cyprus

Stella Canna Michaelidou, Dr, President of the National Committee on Environment and Children’s Health, Nicosia, Cyprus.
Alexia Sakadaki, Organizing Manager, Cyprus Greens – Citizens’ Cooperation, Cyprus

France

Dominique Belpomme, MD, MS, Professor, Oncology, Paris University Hospital, France, and European Cancer and Environment Research Institute (ECERI), Brussels, Belgium.
Christine Campagnac, Hospital Director, seconded from Assistance Publique-Hôpitaux de Paris (AP-HP), Paris, France; and ECERI, Brussels, Belgium
Philippe Irigaray, PhD, ARTAC, Paris, France
Etienne Cendrier, Spokesman for Robin des Toits, France
Janine Le Calvez, Chairman of the French NGO, Priartem, France
Sophie Pelletier, Collectif des Electrosensibles de France, France

Germany

Franz Adlkofer, Professor, Germany
Peter Hensinger, M.A., diagnose:funk, German consumer-rights organization, Germany
Markus Kern, Dr. med., Kempten, Germany
Peter Ohnsorge, Dr. Med., European Academy for Environmental Medicine, Member of the Board, Wuerzburg, Germany

Greece

Theodore Metsis, PhD, Electrical-Mechanical-Environmental Engineer-Consultant, Athens, Greece
Stelios A Zinelis, MD, BA, Hellenic Cancer Society of Kefallonia and Ithaki, Greece
Italy

Fiorella Belpoggi, Dr, Director, Research Department, Cesare Maltoni Cancer Research Center, Ramazzini Institute, Bologna, Italy

Dott. Morando Soffritti, Presidente Onorario, Istituto Ramazzini e Segretario Generale, Collegium Ramazzini, Bologna, Italy

Russia

Oleg A. Grigoriev, DrSc., PhD, Head of the Scientific Department of Non-Ionizing Radiation, Federal Medical Biophysical Center of Federal Medical Biological Agency of Russia, Moscow, Russia.

Yury G. Grigoriev, Professor, M. Dr Sci. President, Russian National Committee on Non-Ionizing Radiation Protection, Moscow, Russia

Spain

Enrique A. Navarro, Professor, Universitat de València, Spain

Pedro Belmonte, Area of electromagnetic pollution of Ecologistas en Acción, Spain

Julio Carmona, Coordination PECCEM (Spanish Citizen Platform Against Electromagnetic Pollution), Spain.

Minerva Palomar, President of Electro and Chemical Sensitive for the Right to Health, Spain

Slovak Republic

Igor Belyaev, Dr.Sc. Cancer Research Institute, BMC SAS, Slovak Republic

United Kingdom

David Gee, Visiting Fellow, Institute of Environment, Health and Societies, Brunel University, UK

Paula Healy, MSc., (neuroscience), UK

Erica Mallery-Blythe, MD, BMBS (Soton), PHIRE Medical (Physicians’ Health Initiative for Radiation and Environment), UK

Alasdair Philips, BSc, DAgE, Director of Powerwatch (UK NGO), UK

Sarah Starkey, PhD, Independent Neuroscience and Environmental Health Research, UK

Michael Bevington, Electrosensitivity UK, United Kingdom

Eileen O’Connor, Director, EM Radiation Research Trust, and PHIRE, Board Member International EMF Alliance, UK
Nicola Kingsley, School secretary (retired). UK

Gabriel Millar, Teacher, activist organizer of 6 public meetings on the subject of wireless radiation in Stroud, Gloucestershire, UK

Israel

Gadi Lissak, Dr, Behavioral Gadi medicine psychologist, Israel

Yael Stein, Dr, MD, Hadassah Medical Center, Jerusalem, Israel

Iris Atzmon, MPH, Author, Israel.

Brazil

Alvaro Augusto de Salles, PhD, Professor, Federal University of Rio Grande do Sul – UFRGS, Porto Alegre, Brazil.

Colombia

Carlos Sosa, MD, Medellin, Colombia,

Canada

Daniel Berman, MSW, Vancouver, Washington, Board Member, Wireless Education Action, Canada

Anthony B. Miller, MD, FRCP, Professor Emeritus, Dalla Lana School of Public Health, University of Toronto, Canada

Heather Dawn Gingerich, MSc, International Medical Geology Association and AAAS Science & Human Rights Coalition, Canada

Melissa Chalmers, Director, Electromagnetic Pollution Illnesses Canada Foundation (EPIC), Canada

Janis Hoffmann, Parents for Safe Schools, Canada

Jean Hudon, Co-founder, Quebec's Coalition Against Electromagnetic Pollution, Quebec, Canada

Lucie Montpetit, Occupational therapist with EHS, ME and FM patients, Canada

Sharon Noble, Director, Coalition to Stop Smart Meters, Director, Citizens for Safe Technology, Victoria, British Columbia, Canada

Barbara Payne, Director’ Electromagnetic Pollution Illnesses Canada Foundation (EPIC), Canada

Marcus & Benita Schluschen, Canadians for Safe Technology, British Columbia, Canada
Pedro Gregorio, M.Eng, Canada
Vladimir Gagachev, P.Eng., Electrical Engineer, Canada
Petrina Gregson, B of Mus, MA, Retired teacher, Clearwater, BC, Canada
Sheila Pratt, BA, Retired teacher, Canada
Cathy Veris, Community Mediation Coordinator, Mississauga, Ontario, Canada
Shelley Wright, Teacher, Canada

USA
David O. Carpenter, MD, Director, Institute for Health and the Environment. A Collaborating Centre of the World Health Organization, University at Albany, NY, USA
Scott Eberle, MD, Medical Director, Hospice of Petaluma, CA, USA
Dan O. Harper, MD, Solana Beach, CA, USA
James Huff, PhD, Guest Researcher, Formerly, Associate Director for Chemical Carcinogenesis, National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina , USA
Peter F. Infante, D.D.S, Dr.P.H., F.A.C.E. USA
Toril Jelter, MD, MDI Wellness Center in Walnut Creek, CA, USA
Elizabeth Kelley, MA, Former Managing Director, International Electromagnetic Safety Alliance, USA
Ann Yeawon Lee, MD, USA
L. Lloyd Morgan, Senior Research Fellow, Environmental Health Trust, USA
Ronald M. Powell, PhD, USA
Camilla Rees, MBA, ElectromagneticHealth.org., USA
Cindy Sage, MA, Sage Associates, Co-Editor, BioInitiative Reports, USA
Theodora Scarato, MSW, Environmental Health Trust, USA
Barry Castleman, ScD, Environmental Consultant, USA
Mary Beth Brangan, Ecological Options Network, USA
Patrick Burke, HaltMAsmartmeters.org., USA
Galilee Carlisle, M.Ed., Heads Up! for Public Health’ Chehalis, WA, USA
Elizabeth Doonan, Maryland for Safe Technology, USA
Cecelia Doucette, Technology Safety Educator, USA
Lee Emerson, President, Lee F. Emerson & Associates Inc., Mill Spring, NC, USA
Arthur Firstenberg, President, Cellular Phone Task Force, Santa Fe, NM. USA
Diane Hickey, Co-founder, National Association For Children and Safe Technology, USA
Desiree Jaworski, Executive Director, Center for Safer Wireless, USA
Ellie Marks, Director, California Brain Tumor Association, San Francisco, CA, USA
Sandi Maurer, Director, EMF Safety Network, USA
Sam Parish, Forensic Engineer, Providence, RI, USA
Katie Singer, Author, An Electronic Silent Spring, EMRadiation Policy Institute, USA
Angela Tsiang, Engineer, USA
Gary Vesperman, Clean Energy Inventions, Boulder City, Nevada, USA
Dianne Wilkins, Paralegal, Maine, USA
Mary Anne Tierney, RN, MPH, Fairview, NC USA

Australia
Don Maisch, PhD, Member of the Australasian Oceania Radiofrequency Scientific Advisory Association (ORSAA), Australia
Steven Weller, B.Sc., Australia
Karen Adler, EHS group network, Sydney, Australia
Linda Jones, Stop Smart Meters Australia, Victoria, Australia
Greg Jones, Stop Smart Meters Australia, Victoria, Australia
Lyn McLean, Director, EMR Australia PL
Sarah Benson, Retired teacher, Australia

Additional signers after the conference

Germany
Jan Gerhard, MD, Pediatrician, Youth-Psychiatrist, Bünisdorf, Germany
Dietrich Moldan, Dr, Moldan Umweltanalytik, Iphofen, Germany
Claus Scheingraber, Dr. med dent., Chairman German Working Group Electro-Biology, Germany
Sonja Tamm, Baubiologin IBN, Germany
Ortwin Zais, Dr, Managing Chairman, EUROPAEM e.V. European Academy for Environmental Medicine e.V. Germany

Italy
Sparer Armin, Fach. Ing., Bozen, Italy
Netherlands

**Peter van der Vleuten**, Stichting Kennisplatform Elektromagnetische Straling and Brainport Biotech Solutions BV, The Netherlands

Switzerland

**Peter Schlegel**, M.Sc., Esslingen, Switzerland

**Markus Lauener**, Präsident (chairman), Dachverband Elektrosmog Schweiz und Liechtenstein (Swiss Umbrella Organization for EMF protection), Switzerland

Argentina

**Liliana Palancio**, Presidente Asociación Civil Aletheia por la vida Personería Jurídica. Buenos Aire, Argentina.

Canada

**Paul Héroux**, PhD, Occupational Health Program Director, Department of Epidemiology, Biostatistics and Occupational Health, McGill University Medicine, Montreal, Canada

**Martin Weatherall**, Co-Director WEEP Initiative, Canada
Appendix for further reading.

References


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