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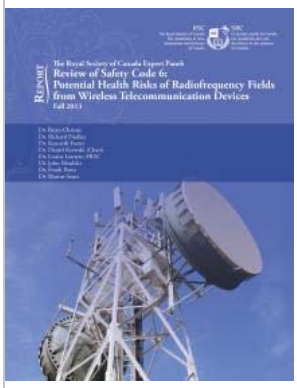
Review of Safety Code 6: Potential Health Risks of Radiofrequency Fields from Wireless Telecommunications Devices



Abstract:

At the request of Health Canada, the Royal Society of Canada has assembled this expert panel to conduct a review of Safety Code 6, which concerns the potential health risks of radiofrequency fields from wireless telecommunication devices. Please click here (https://rsc-src.ca/en/expert-panels/rsc-reports/review-potential-health-risks-radiofrequency-fields-from-wireless) to read the original report.

Panellists

Dr. Daniel Krewski, Chair - University of Ottawa
Dr. Brian Christie - University of Victoria
Dr. Richard Findlay - EMFcomp (UK)
Dr. Kenneth Foster - University of Pennsylvania
Dr. Louise Lemyre, FRSC - University of Ottawa
Dr. John Moulder - Medical College of Wisconsin
Dr. Frank Prato - Western University
Dr. Rianne Stam - National Institute for Public Health and the Environment (Bilthoven, the Netherlands)

Dr. Daniel Krewski, Chair (University of Ottawa)
Daniel Krewski, Ph.D. Dr. Krewski is Professor and Director of the R. Samuel McLaughlin Centre for Population Health Risk Assessment at the University of Ottawa, where he is involved in a number of activities in population health risk assessment within the new Institute of Population Health. Prior to joining the Faculty of Medicine at the University of Ottawa in 1998, Dr. Krewski was Director, Risk Management in the Health Protection Branch of Health Canada. While with Health Canada, he also served as Acting Director of the Bureau of Chemical Hazards and as Chief of the Biostatistics Division in the Environmental Health Directorate. Dr. Krewski obtained his Ph.D. in statistics from Carleton University and subsequently completed an M.H.A. at the University of Ottawa. His professional interests include epidemiology, biostatistics, risk assessment, and risk management.

Dr. Brian Christie (University of Victoria)
Dr. Brian Christie obtained his Ph.D. (1992) from the University of Otago (New Zealand) after obtaining a B.Sc. (1987) and M.Sc. (1989) from the University of Calgary. His post-doctoral work was with Dr. Dan Johnston (Baylor College of Medicine, Houston, TX) and Dr. Terry Sejnowski (The Salk Institute, San Diego, CA). Dr. Christie is a Michael Smith Senior Scholar in the Island Medical Program and Division of Medical Sciences at UVic, and is the Director of the Neuroscience Program at UVic. He has an active research program that examines how exercise can facilitate learning performance, synaptic plasticity, neurogenesis and synaptogenesis in the developing and aged brain. He has shown that exercise can not only produce new brain cells, but also induces structural and functional changes in existing brain cells. His current work seeks to understand how we can exploit this innate potential for brain repair and regeneration in a variety of neuropathological disease models (including mild Traumatic Brain Injury, Fetal Alcohol Syndrome, Fragile-X Syndrome) as well as the aging brain. Out of the classroom Dr. Christie is actively involved in coaching and supporting amateur sports in Victoria.

Dr. Richard Findlay (EMFcomp, UK)
Dr Richard Findlay, PhD is a physicist with over 25 years' experience. He has previously worked for the National Radiological Protection Board (NRPB) and the Health Protection Agency (HPA) in the UK. In this capacity he carried out extensive work in the field of computational electromagnetics and gave advice relating to the safety of electromagnetic fields. He has developed code for the computational modelling of electromagnetic field absorption in biological materials, created new human voxel and NURBS hybrid phantoms, provided expert scientific advice regarding electromagnetic fields to various advisory groups and published a number of papers in the peer-reviewed literature on the subject of human electromagnetic field absorption. Richard is currently a computational physicist at EMFcomp where he uses state-of-the-art hardware and bespoke software to model the interaction of electromagnetic fields with the body.

Dr. Kenneth Foster (University of Pennsylvania)
Kenneth R. Foster is Professor of Bioengineering at the University of Pennsylvania. Since receipt of the Ph.D. in physics in 1971, Dr. Foster has been engaged in studies on the interaction of nonionizing radiation and biological systems, with more than 100 papers in peer-reviewed journals on topics including biophysical mechanisms of interaction, electrical properties of biological materials, and medical applications and possible human health effects of radiofrequency (RF) fields. He is a registered professional engineer, and a fellow of the IEEE and the American Institute of Medical and Biological Engineering . He has long been involved with professional activities related to radiofrequency fields and human health, including longstanding membership on the IEEE International Committee on Electromagnetic Safety (SCC39) that sets safe limits for human exposure to RF fields and the IEEE EMBS Committee on Man and Radiation as well as membership on the Physical Agents Committee of the American Conference of Governmental Industrial Hygienists (ACGIH). He spent a sabbatical year (2000) with the EMF Project of the World Health Organization, and has consulting with a number of government and commercial firms on the issue of human health and safety as related to exposure to nonionizing electromagnetic fields. A former president of the IEEE Society on Social Implications of Technology, he has written numerous articles on social and ethical implications of technology and on the public controversy surrounding the possible health effects of RF energy. He is coauthor or coeditor of two books on risk assessment and the law.

Dr. Louise Lemyre (University of Ottawa)
Dr Louise Lemyre, Ph.D. is a Full Professor at the School of Psychology, Fellow of the Academy of Social Sciences of the Royal Society of Canada, and the McLaughlin Research Chair on Psychosocial Risk at the Institute of Population Health of the University of Ottawa, where she leads a research unit on

psychosocial analysis of health 'GAP-Santé'. She obtained her Master's degree from the University of British Columbia (UBC) and her doctorate at Université Laval in Social Psychology. She then went for an interdisciplinary postdoctorate in social epidemiology and medical sociology at the British MRC Social Research Unit at the University of London, UK. Her work examines the social environment, especially risk perception, risk communication and risk management, in the context of public health and public safety. She was the founding scientific leader of the national Psychosocial Cluster of the Center for Security Science Canada.

Dr. John Moulder (Medical College of Wisconsin)

Dr. Moulder, Ph.D., is Professor of Radiation Oncology, Radiology, and Pharmacology-Toxicology at the Medical College of Wisconsin (MCW), and Director of the MCW Center for Medical Countermeasures against Radiological Terrorism. His primary research interest is the development of methods to detect, prevent and treat injuries from exposure to ionizing and non-ionizing radiation. This has led to his work in areas as diverse as the radiobiological risks of space travel, the development of methods to mitigate injuries from radiological terrorism, and evaluation of the biological risks of mobile phone use. Dr. Moulder's work has been supported by the U.S. National Institutes of Health, the American Cancer Society and the American Heart Association; he is the author or co-author of over 150 peer-reviewed articles on radiation biology and radiation-related issues.

Dr. Frank Prato (Western University)

Dr Frank S Prato is the Research Imaging Program Leader and Assistant Scientific Director at the Lawson Health Research Institute. As a researcher/scientist he has implemented $34,000,000 in molecular and hybrid imaging including, as of Feb 7 2012, the first PET/MRI whole body hybrid imaging platform in Canada. Dr Prato has a background in both Nuclear Medicine imaging and MR imaging and has published close to 200 peer review papers including 55 in the last 5 years. Dr. Prato has discovered how Magnetic Resonance Imaging (MRI) can be used to "see" the extent of permanent heart muscle damage caused by a heart attack, better than any other imaging method. He also discovered that exposure to extremely low frequency magnetic fields can affect opioid related behaviours and induce analgesia in humans. With the Lawson imaging team of 31 researchers his group is a recognized leader in non-invasive biomedical imaging with new developments in hybrid imaging platforms currently being applied to the areas of cardiology, neurology (including mental health), metabolic disease and cancer. Newly-acquired cyclotron and radiochemistry facilities will provide key resources for this research. Also at the forefront of biomedical imaging are the emerging technologies of photoacoustic and optical imaging and optical spectroscopy as well as the investigation and therapeutic application of bioelectromagnetics.

Dr. Rianne Stam (National Institute for Public Health and the Environment, Bilthoven, the Netherlands)

Rianne Stam was trained as a medical biologist at Utrecht University. She subsequently conducted scientific research and taught medical and biology students at University Medical Center Utrecht, first as post-doctoral fellow and then as assistant professor. Her main area of interest at university was the neurobiology and physiology of stress. Since 2007 she works as senior scientist at the National Institute for Public Health and the Environment (Bilthoven, the Netherlands), where she performs risk assessments and policy research on the biological effects and possible health risks of electromagnetic fields (EMF). She has published over 30 peer-reviewed research papers and has regularly acted as a reviewer for neuroscience, physiology and pharmacology journals. She was actively involved as an invited scientific expert in the preparations and negotiations for a new EU Directive on worker protection against the risks of EMF in the Advisory Council for Safety and Health at Work and in the Council of the European Union. She has also developed information documents on EMF for the non-profit public outreach organization "Knowledge Platform Electromagnetic Fields", in which her employer participates.