International Commission on Non-Ionizing Radiation Protection

ICNIRP – 2002 REPORT

Introduction

This report summarises the activities of the Commission for the period between the annual meetings held in April 2001 and May 2002.

Ulf Bergqvist – A Tribute

It was with great shock and sadness that the Commission heard of the sudden death of Ulf Bergqvist on 11 September 2001. Ulf was a founder member of the Commission and an enthusiastic advocate of its principles and independence. The following obituary was published in Health Physics.

"In this issue of Health Physics there is a Statement from the International Commission on Non-Ionizing Radiation Protection (ICNIRP) on its philosophy of non-ionizing radiation protection. An ICNIRP Working Group under the leadership of Dr. Ulf Bergqvist produced this statement. Ulf died on 11 September 2001.

Ulf was a founding member of ICNIRP's main Commission and a member of its Standing Committee II on Biology. During his ten years of membership, Ulf led in many, and contributed to all, of the Commission's working groups, meetings and conferences on electromagnetic fields and human health. He had particular interests in epidemiology, human laboratory studies and in the philosophy of non-ionizing radiation protection and standards setting.

Ulf was born in Stockholm in 1948. He started his academic career at the Royal Institute of Technology in Stockholm where he graduated as a civil engineer in 1973. He continued his academic studies and research in metal toxicology at Stockholm University and the Karolinska Institute. These studies led to an invitation to work at the National Institute of Occupational Health (NIOH) to participate in newly undertaken experimental studies on organic solvents. In 1984 Ulf was asked by the Nordic Council to write a review on possible health effects of work with video display terminals (VDTs). This review covered the entire range of occupational environment issues of VDT work: visual ergonomics, electromagnetic fields, work posture and work organisation factors. It received widespread international recognition and appreciation, and for ten years this was Ulf´s main research area at NIOH. Ulf studied epidemiology, after which he participated and led epidemiological studies on VDT work. During his time at NIOH Ulf became increasingly interested in electromagnetic fields and their possible effects on occupational health. His knowledge of physics, biomedicine and epidemiology were key to the high quality of his studies in this field and as a result he was invited as an expert to Swedish and international groups within the World Health Organization (WHO), the European Commission, and International Commission on Occupational Health (ICOH).

In 1992, Ulf was invited to become a member of the then newly chartered International Commission on Non-Ionizing Radiation Protection.

In 1994 he obtained his doctoral degree at the Karolinska Institute on the dissertation "Health problems during work with visual display terminals".

Ulf played an important role in the work of the European Cooperation in the Field of Scientific and Technical Research, EC COST action 244bis, "Biomedical Effects of Electromagnetic Fields". He was the chair of one of the three working groups, "Epidemiology and Human Health Effects". He acted as rapporteur and made active contributions to many COST action workshops. He organised a short-term mission, on mobile communication base-station antennas with participants from six COST member countries and he prepared its final report. He was also active in a COST special project on "Possible health effects related to the use of radiotelephones". Upon completion of COST 244bis' term in November 2000 Ulf prepared the application for a new Cost action 281 focussing on possible health risks related to emerging technologies. This commenced at the end of September 2001 and it was intended that Ulf would be invited to chair this new action.

Ulf was appointed Chairman of the Radiation and Work Committee of ICOH and was responsible for organizing two symposia at the 26th International Congress of ICOH in Singapore in 2000, which gathered a surprisingly broad audience of medical doctors and other occupational professionals coming from various continents. Inspired by the successful performance of the Committee, he was already planning a new programme for the next ICOH Congress in Brasil in 2003.

In 2000 Ulf returned to the academic world as an Assistant Professor at the Linkoping University. He participated as an enthusiastic teacher in different forms of education, teaching representatives of occupational health services, university undergraduates and postgraduate doctoral students

All who met Ulf were immediately struck by his warmth and enthusiasm. He always had a smile for everybody and you felt comfortable in his company, irrespective whether it was in a scientific debate or in a more relaxed social atmosphere. Ulf was always posing questions and challenging assumptions. This was always done not aggressively, but with consideration for others and their understanding and beliefs and in the spirit of genuine scientific curiosity. In an area of science constantly the subject of social and political controversy, Ulf had the courage to stand up for and defend conclusions based on sound scientific research.

ICNIRP has lost a valuable scientist and its members have lost a valued colleague and friend.

Ulf is survived by his wife Gullevi, his sons Jonas and Tomas and his mother and sister and family."

Commission Membership
A number of consulting members have now been appointed – the complete list of these is available on ICNIRP's WebSite http://www.icnirp.org.

Chairman's Focus Group Meetings
The Chairman, Vice-Chairman and Scientific Secretary met together regularly at "Chairman's Focus Group" Meetings, held in Munich. At these meetings planning and execution of the business and administration of the Commission were addressed and actions completed.

ICNIRP 2001 Sweden
The 2001 Annual Meeting of the Commission was held at the Karolinska Institute, Stockholm 9 to 14 May 2001, hosted by Professor Anders Ahlbom. The Commission records its thanks to Anders and his colleagues for the warm hospitality and excellent facilities and organisation afforded by them for the meeting.

ICNIRP Publications
A leaflet listing all of ICNIRP's publications has been produced by the Chairman's Focus Group. Members are urged to take some of these with them to meetings and conferences as they feel appropriate to publicise the Commission and its publications. A copy of the leaflet can be downloaded from the WebSite.

The ICNIRP WebSite
The content of the WebSite has been reviewed by the Chairman's Focus Group and Ms. Karine Chabrel has updated it and given it a fresh look. The WebSite now provides not only a window to ICNIRP's activities to the outside world but a valuable reference resource for members.

ICNIRP Scientific Secretariat
The Chairman, Vice-chairman and members of the Commission and Standing Committees, express thanks to the Scientific Secretariat Dipl. Ing. Roger Matthes and Ms. Karine Chabrel for their continued excellent support during the past 12 months.

News from the Standing Committees
Standing Committee I - Epidemiology
A meeting of Standing Committee I – Epidemiology was held in Paris, 11-12 March 2002. The meeting was chaired by Prof. Anders Ahlbom and the other participants were Prof. Patricia Buffler, Dr. Adele Green, Dr. Leeka Kheifets, Dr. David Savitz and Dr. Anthony Swerdlow.

The purpose of the meeting was to discuss the plans for a review of epidemiological research on health effects of radio frequency electromagnetic fields.

The scope and format of the review were discussed in the light of already published reviews and others currently under way and also in respect of the state of the existing literature and the timing of expected new studies

Standing Committee II- Biology
Work is ongoing to complete a review of the biological effects of ELF exposure.

Standing Committee III – Physics and Engineering
Work is ongoing to complete a review of physics and engineering aspects of ELF exposure.

Standing Committee IV – Optical Radiation
Standing Committee IV completed work on a statement on the health issues of the use of sunbeds. It continued work on the publication on protection of outdoor and indoor workers from UVR, in part through a meeting held in Paris in March 2002. A Task Group met on effects of UVR on the eye in connection with the ICNIRP Annual Meeting in Stockholm in April 2001, and continued discussions in connection with a meeting on corneal effects from lasers in a further meeting held in Baltimore in September 2001. A statement on the applicability of exposure guidelines to ophthalmic instruments was also completed by correspondence and a small joint meeting with ISO TC172 WG was also held.

Working with ICNIRP's partners in NIR protection
Much of ICNIRP's work is achieved through its successful collaborations with many other international and national expert bodies. The following summarises some of the achievements of those collaborations over the past 12 months.

MRI Technology
ICNIRP is currently revising the former MRI Statement of the International Non-Ionizing Radiation Committee (INIRC) of IRPA which was published in 1991. For that purpose an expert meeting sponsored by the French Ministry of Health was organised at INERIS, Paris, France in October 2001 and a draft report is under preparation by this group. The purpose of the final document is to provide information on levels of exposure and health effects from magnetic and radiofrequency electromagnetic fields associated with MR diagnostic devices, and on precautions to be taken to minimise health hazards to patients and volunteers undergoing MRI examinations, as well as for paramedical staff working in and around the MRI room. It will also consider the occupational safety of the operator and of volunteers. This document is intended for use by international or national medical device regulatory authorities, MR users and health professionals, and those involved in the design and manufacture of MR equipment for clinical applications. Contraindications, warnings, precautions, and safety considerations for the patients will be given.

The World Health Organization (WHO)
ICNIRP's co-operation with WHO continues to be actively pursued principally through its involvement in the WHO International EMF Project and the WHO INTERSUN Project. During the past 12 months ICNIRP members provided advice, support and speakers in the joint planning of workshops. These included, meetings held in Lima Peru, Orvieto Italy, Cape Town South Africa, and Seoul South Korea.

International Electrotechnical Commission (IEC)

Much of the work of ICNIRP Standing Committee IV (Optical Radiation) was advanced through liaison with technical committees in three collaborating organisations: the International Electrotechnical Commission (IEC), International Standards Organization (ISO) and International Commission on Illumination (CIE).

IEC Technical Committee TC76 (laser equipment and optical radiation safety) maintained liaison through both Working Group 1 (Emission limits and biological effects) and Working Group 9 (Incoherent optical radiation exposure limits). A revised standard on laser-product safety (Amendment 2, IEC 60825-1) was completed and published; this incorporated and cited the ICNIRP revision of guidelines for human exposure to laser radiation. This Technical Committee met in Mishima, Japan in November 2001, with ICNIRP liaison.

IEC Technical Committee TC-34 (Lamps) maintained liaison with task-group on lamp safety standards, working with the International Commission on Illumination (CIE) Technical Committee TC 6-43 to develop photobiological lamp safety standards. The draft CIE international standard on lamp safety incorporated and cited the ICNIRP guidelines for human exposure to non-coherent optical radiation.

The International Commission on Illumination (CIE)

The draft CIE international standard on lamp safety incorporated and cited the ICNIRP guidelines for human exposure to non-coherent optical radiation. The CIE draft standard was circulated for international comment and voting during 2000. This work is carried out within CIE Division 6 (Photobiology and Photochemistry) and specifically within Technical Committee TC 6-43, Photobiological Safety of Lamps. ICNIRP Commission members Dr. David Sliney and Dr. Jean-Pierre Césarini are Director and Deputy Director of CIE Division 6 respectively.

The International Standards Organization (ISO)

Dr. David Sliney is a member of ISO Technical Committee TC 172 (Optical Instruments) Safety Committee SC 7, Working Group WG 5 (Ophthalmic Instrument Safety). Joint meetings of members of ICNIRP Standing Committee IV and this special working group were held in conjunction with a major ophthalmological congress in Dallas, Texas in November 2000 and at the International Laser Safety Conference on Laser Safety in San Diego, California in March 2001. A draft ISO standard on "Light Hazards from Ophthalmic Instruments "Fundamental Requirements and Test Methods for Optical Radiation Safety", is based on ICNIRP guidelines, that have been adapted for the special conditions of ocular exposure encountered during ophthalmic instrument examination. ICNIRP Standing Committee IV has been developing a statement on the proper use of exposure guidelines under the conditions of ocular instrument exposure.

The European Society for Skin Cancer Prevention of (EUROSKIN)
Several members of the ICNIRP contributed to the EURO*SKIN* Conference on primary and secondary prevention of skin cancer in children – "Children under the Sun" held 1-4 October in Orvieto and to the WHO Workshops held around that time. ICNIRP's association with EUROSKIN is scientifically very valuable for the Commission and to EURO*SKIN* and we look forward to further collaborative ventures.

The International Radiation Protection Association (IRPA)
The Chairman wrote to the President of IRPA, Mr. Geoff Webb, sending fraternal greetings and thanking IRPA for its continued support.

European Bio-electromagnetics Association EBEA 5th International Congress - Helsinki
This successful meeting was attended by 290 registered participants representing 35 countries. The scientific programme consisted of 72 oral and 69 poster presentations. In addition, 5 invited keynote papers were given, among them : ICNIRP - 10 years on by Dr. Alastair McKinlay and Protection of the Public from EM Fields by Dr. Michael Repacholi. A press conference was also held. The Commission is very grateful to the EBEA for this opportunity and to Commission members Dr. Paolo Vecchia, the President of the EBEA and to Dr. Maila Hietanen, Chairman of the Congress Organising Committee for their kind hospitality. A joint letter was sent to the European Parliament from ICNIRP, EBEA and COST 281 *action* pointing out to members of the Parliament that accurate impartial scientific information about non-ionising radiation and health could be had from these three organisations.

Australasian Radiation Protection Society ARPS 26 Conference – Brisbane
The Chairman was invited to present the Keynote Paper for the Conference on "Prudent Dosimetry – A Wise Precaution" – an overview of measurement and computational EMF dosimetry. He presented an invited paper on the work of ICNIRP and current and future challenges for the Commission and chaired a one-day workshop on NIR. The feedback from the delegates was very positive about the work of ICNIRP.

European Commission
An EC Concerted Action Contract report on possible adverse health effects associated with the use of electronic security and other such devices has been completed. The report provides advice to the EC and Members States as an input to policy development. Prof. Juergen Bernhardt, Commission Vice-chairman is the co-ordinator of this work.

Two workshops were held to review the technology of electronic article surveillance (EAS), radiofrequency identification (RFID), and metal detection (MD) systems and the field exposure characteristics of such equipment currently in use and collect available details of the emission characteristics. Another important issue was the review of data concerning interference of

electromagnetic fields of security devices with implanted medical devices such as cardiac pacemakers, implanted defibrillators and nerve stimulators. A notable feature of this meeting was the inclusion of cardiac physicians and technical representatives for the manufacturers of EAS, RFID and MD devices and of medical devices assuring a comprehensive technical input to the meeting.

On the basis of this information, a final report was drafted by the concerted action working group comprised of Commission members, Standing Committees members and additional appointed participants whose memberships expertise covers all the relevant scientific disciplines including biology, physics and engineering.

European Commission, Directorate Public Health (Health and Consumer Protection DG) and Academy of European Law (ERA)
A conference on "Electromagnetic fields and health – which regulatory framework for the European Community?" was held in Luxembourg, 30 November 2001.

Dr. Bernard Veyret represented the Commission and presented a paper on "Science and Development of Exposure Standards: The ICNIRP Approach"

COST 281 action
COST 281 Action was started in September 2001. An ICNIRP Commission member Dr. Maila Hietanen was elected as a Vice-chairman, and she will also serve as the Finnish National Representative at the COST 281 *action* Management Committee Meetings.

Miscellaneous
A meeting was held in February 2002 in Brussels with the Finnish Members of the European Parliament concerning general public radiofrequency exposure to mobile phones and base stations.

Alastair McKinlay, Chairman
Juergen Bernhardt, Vice-chairman
Roger Matthes, Scientific Secretary
Karine Chabrel, Scientific Secretariat