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ICNIRP constantly seeks to extend and improve its knowledge base in order to ensure that it continues to provide sound science-based advice on non-ionizing radiation protection. This task has become increasingly complex and demanding, particularly with the rapid expansion of new technologies employing electromagnetic fields, radiofrequency radiation and optical devices that could result in an increase in the exposure of people. ICNIRP recognises the need to benefit from as wide a range of professional expertise and scientific/technical knowledge as possible and, to achieve this, has invited a number of key experts in specific areas in the role of "Consulting Experts". Consulting Experts are invited to help ICNIRP through the work programme of each Standing Committee. They bring to ICNIRP specific expertise, often in a specific and highly technical area, and required for a specific task in hand. They also provide a broadening of the scientific consultation that ICNIRP employs to review its publications. They are not members of ICNIRP.

### Consulting Experts

Prof. J. H. Bernhardt  
Former ICNIRP Chairman,  
Germany

[j.h.bernhardt@t-online.de](mailto:j.h.bernhardt@t-online.de)

Jürgen H. Bernhardt studied physics and biophysics in Munich and Frankfurt, Germany. He investigated the electric properties of living cells and obtained his PhD in this field. His main research interests included aspects of the biophysical interaction of electromagnetic fields with biological systems and the assessment of health effects. He was Head of the Division of Medical Radiation Protection and Non-Ionizing Radiation and deputy director of the Institute of Radiation Hygiene at the German Federal Office for Radiation Protection until 1998. He is an associate professor at the University of Erlangen-Nürnberg. He became a member of INIRC/IRPA in 1984 and has been an ICNIRP member since its inception in 1992. From May 1996 to May 2000 he was ICNIRP Chairman, and from May 2000 until May 2004, ICNIRP Vice-Chairman.

Dr. D. Black  
University of Auckland,  
New-Zealand

[d.black@auckland.ac.nz](mailto:d.black@auckland.ac.nz)

David Black is an Occupational and Environmental Physician currently Senior Lecturer in the Department of Occupational Medicine at the Auckland Medical School. Dr Black originally trained in radio engineering, and worked in that industry for ten years before entering Medical School in 1977. He began an academic interest in Radiofrequency Safety while an academic at the university of Otago Medical School in 1986. Since that time he has qualified as a Specialist in Occupational Medicine. He has been involved in the development of the New Zealand and Australian RF standards, and has published in the area of biological and health effects relevant to standard setting. His practice is now divided between clinical and academic Occupational and Environmental Medicine and electromagnetic safety.

Dr. J. Brix  
Bavarian Ministry for  
Environment, Public Health &  
Consumer Protection  
Munich, Germany

[jutta.brix@stmugv.bayern.de](mailto:jutta.brix@stmugv.bayern.de)

Jutta Brix received her diploma in biology and her PhD degree in neurobiology from the Technical University in Munich. In 1992 she started working at the German Federal Office of Radiation Protection (BfS) where she became head of the group Non-Ionizing Radiation Effects in 1998. Since August 2002 she works with the Bavarian Ministry of Environment, Public Health and Consumer Protection, where cellular phone technology and health effects are at the core of her tasks within non-ionising radiation. Her main interests centre on biological effects of non-ionizing radiation in the frequency range 0 to 300 GHz covering all aspects of NIR protection. Since 2000, she has been a member of the editorial board of the Journal of the Bioelectromagnetics Society.

Dr. J. Buschmann  
Fraunhofer-Institute  
Toxicology and  
Experimental Medicine  
Hannover Germany

[buschmann@item.fraunhofer.de](mailto:buschmann@item.fraunhofer.de)

Jochen Buschmann studied biology at the Kishinev State University, USSR. In 1985 he finished his PhD thesis on "Prenatal toxicity of agrochemicals: experimental studies including behavioral teratology". From 1984 to 1988 he carried out a postgraduate study on "Toxicology" at the "Akademie für Ärztliche Fortbildung" in Berlin. His practical experience is in the performance and evaluation of reproductive, behavioural and general toxicity and ecotoxicity studies in mammals and birds and in studies with exposure to electromagnetic fields. In 1980 he started working as a Scientific coworker (reprotox) in the department of Experimental Toxicology, Institute for Plant Protection Research, Kleinmachnow. In 1987, he became Head of the department and was nominated in 1990 Deputy Director of the Toxicology Division at this institute. Since 1991 he heads the reprotox working group at the Fraunhofer Institute of Toxicology and Aerosol Research in Hannover, Germany. He is a member of several national scientific committees on Toxicology.

Dr. E. Cardis  
International Agency  
for Research on  
Cancer, France

[cardis@iarc.fr](mailto:cardis@iarc.fr)

Elisabeth Cardis has headed the Unit of Radiation and Cancer at the International Agency for Research on Cancer (IARC) since 1998 and the Radiation Programme between 1995 and 1998. She is responsible for the planning, conduct and analyses of epidemiological studies of cancer in relation to exposure to radiation - both ionising and non-ionising, including the 13-country INTERPHONE study which focuses on the risk of tumour of the brain, acoustic nerve and parotid gland tumour in relation to RF exposure from mobile telephones. She was a member of the ICNIRP Standing Committee on Epidemiology from 1998 to 2002 and has been a corresponding member since then. She has been consultant to the United Nations Scientific Committee on the Effects of Atomic Radiation. She is currently a member of the US National Academy of Sciences BEIR VII Committee; of the Steering Committee and of the Fast Response Team for the EU FP6 project EMF-Net; of the International Advisory Committee for the WHO International EMF Project; and of the Scientific Council of the French Agence Française pour la Sécurité Sanitaire et Environnementale. She is a Fellow of the Institute of Physics. She is also a member of the Scientific Council for the Joint congress of the International Society for Environmental Epidemiology and the International Society for Exposure Assessment (ISEE-ISEA), Paris 2006 and was a member of the International Programme Committee for the 11th International Radiation Protection Association (IRPA) Congress, Madrid 2004. She has been responsible for numerous projects supported currently or previously under the European Commission's Quality of Life, Radiation Protection and INCO-Copernicus Programmes.

Dr. P. Chadwick  
Microwave Consultants Ltd,  
UK

[phil.chadwick@mcluk.org](mailto:phil.chadwick@mcluk.org)

Philip Chadwick is a Chartered Physicist; His primary interests are public and occupational exposure assessment, the practical application of exposure guidelines and dosimetry. He is a Director of MCL, an independent UK-based scientific research and consultancy organisation specialising in the interaction of electromagnetic fields with people. Dr. Philip Chadwick is Co-Chair IEEE SCC28/ICES subcommittee 3 on ELF exposure standards, and the Chair of CENELEC TC106X, the European Committee setting EMF measurement standards.

Prof. G. D'Inzeo  
University "La Sapienza"  
Italy

[dinzeo@die.uniroma1.it](mailto:dinzeo@die.uniroma1.it)

Guglielmo d'Inzeo is Professor of "Bioelectromagnetic Interaction" at "La Sapienza" University of Rome. His research activities have been concerned with active and passive microwaves components' design and with bioelectromagnetism. In this last area his interest is devoted to the modelling of the interaction of electromagnetic fields with biological tissues and to the study of the effects of fields on biological samples and humans. He has had a broad involvement in many international organizations, as a Chairman of EBEA (European Bioelectromagnetic Association) from 1993 to 1998, as the Italian representative for the COST 244 and COST 244Bis projects on "Biomedical Effects of Electromagnetic Fields" and Chairman of the Working Group 3 (System Application and Engineering) from 1992 to 2000 and COST 281 project "Potential Health Effects from Emerging Wireless Communication Systems" since 2001. Since 1997 he is Chairman of the Electronic Engineering Department at "La Sapienza" University. Since 1998 he is scientific director of Elettra 2000. From 1999 to 2004 he was director of ICEmB (Italian Inter-University Centre for the study of Electromagnetic Fields and Biosystems). He is also a member of the Steering Committee and Fast Response Team of the European EMF-NET project.

Dr. S. Eggert  
Germany

[siegfried\\_eggert@t-online.de](mailto:siegfried_eggert@t-online.de)

Dr. Siegfried Eggert has been working for more than 30 years as a scientist in the research group for vibration and electromagnetic fields at the Federal Institute for Occupational Safety and Health, Berlin, Germany. Since 2004 he is retired. The main areas of his work comprised research on biological effects of electromagnetic fields of the entire frequency range (presently em-radiation of mobile telecommunication equipment), in particular design of exposure equipment, dosimetry and determination of exposure in workplaces (measurement and evaluation of EM-fields). He is also advising the German Federal Ministry of Labour and Social Affairs in this field. Dr. Eggert is member of the German-Swiss Radiation Protection Association and of the German Standardisation Committee within the German Commission for Electrical, Electronic and Information Technology of DIN and VDE. He serves ICNIRP as a consulting expert since 2000.

Dr. M. Feychting  
Karolinska Institutet,  
Stockholm, Sweden

[Maria.Feychting@imm.ki.se](mailto:Maria.Feychting@imm.ki.se)

Maria Feychting is associate professor in epidemiology at the Institute of Environmental Medicine, Karolinska Institutet, Stockholm, Sweden. Her main research interests are possible adverse health effects of exposure to extremely low frequency electric and magnetic fields, with a focus on chronic diseases such as cancer and neurodegenerative diseases. She has conducted epidemiological studies on residential and occupational ELF EMF exposure in relation to childhood leukemia and other cancers in children and adults. Her work has also aimed at improving exposure assessment in epidemiological studies. Dr. Feychting was a member of the 1998 NIEHS working group on the health assessment of health effects of ELF EMF exposure.

Prof. V. P. Gabel  
University Clinic of  
Regensburg, Germany

[gabel@eye-regensburg.de](mailto:gabel@eye-regensburg.de)

Veit-Peter Gabel received a MD from the Ludwig Maximilian University (LMU) at Munich, Germany in 1966. After a specialization in ophthalmology at the University Eye Hospital, Munich, he earned in 1974 a PhD in ophthalmology from the Faculty of Medicine at the LMU, Munich. From 1978 to 1991 he was the head of the medical group of the Hermann Wacker Laboratory for laser application in medicine. Since 1991 he is Professor for Ophthalmology at the University at Regensburg and Chairman of the University Eye Hospital, Regensburg. 1982 he was granted the Senator Hermann Wacker Award and received in 2000 the Award of the Retina Research Foundation. His scientific interests are: laser application in retinal diseases : intraocular tamponades : subretinal prosthesis.

Prof. P. Haggard  
Institute of Cognitive  
Neuroscience  
University College London  
United Kingdom

[p.haggard@ucl.ac.uk](mailto:p.haggard@ucl.ac.uk)

Patrick Haggard received his Ph.D. in Biomedical Sciences in 1991 from the MRC Applied Psychology Unit, Cambridge. In 1995 he joined the University College of London as a Lecturer. He is currently Professor of Cognitive Neuroscience and research group leader at the Institute of Cognitive Neuroscience. His research interests are: Human cognition and neural sensorimotor representation. He is also a member of numerous scientific associations and societies such as the Advisory Group on Non-Ionizing Radiation (AGNIR), and the MTHR Programme Committee.

Dr. A. Hirata  
Nagoya Institute of Technology  
Japan

[ahirata@nitech.ac.jp](mailto:ahirata@nitech.ac.jp)

Akimasa Hirata received his Ph. D. in Communications Engineering in 2000 from the Osaka University. He joined the same university as an Assistant Professor in 2001. He was a visiting research scientist from May to October 2000 at the University of Victoria in Canada. Since 2005, he works for Nagoya Institute of Technology as an associate professor. His research concerns are on dosimetry, computational electromagnetics, high-power microwave and millimeter-wave generation and design and analysis of waveguides, filters, and antennas. He published 45 papers in peer reviewed journals and 60 papers in proceedings of international conferences. He holds many academic honors, such as the TELECOM System Technology Award, Telecommunication Advancement Foundation, Japan (2004), the Young Scientist Award, URSI General Assembly (2002), the Young Scientist Award, Ericsson, Japan (2001) and the Young Scientist Award, International Symposium on Electromagnetic Theory (2001).

Dr. I. Lagroye  
ENSCPB,  
PIOM Laboratory,  
Bordeaux, France

[i.lagroye@enscpb.fr](mailto:i.lagroye@enscpb.fr)

Isabelle Lagroye (PharmD and PhD) received her PhD in Life Sciences from the Bordeaux II University, France, in 1997. Currently she is an associate professor at the Ecole Pratique des Hautes Etudes (EPHE), linked to the Sorbonne, France. She first studied the effect of 50 Hz magnetic fields on cellular transformation and oncoproteins expression. She has done research work at the Bioelectromagnetics / PIOM laboratory, University of Bordeaux I since 1999. Her research deals mainly with the toxicological effects of mobile telephone signals investigating genotoxicity (comet assay, micronucleus assay), apoptosis (flow cytometry), and protein expression in rat brain and cell cultures. She was a principal investigator and the coordinator of the « apoptosis » workgroup within the 5th FP-funded REFLEX programme and involved in the PERFORM-B European programme. She is now principal investigator of two research programmes (funded by French and German ministers for research and environment, respectively) investigating the effects of RFR in vivo (HSP expression, blood-brain barrier). Dr. Lagroye is author or co-author of seven peer-reviewed papers in the field of bioelectromagnetics, ten invited conferences and more than fifteen conference papers. She was a co-author of the recent ICNIRP ELF blue book. Since December 2004, she is part of the Static Fields EHC Task Group meeting at WHO and part of the EMF-NET Main Task 1 (scientific evaluation of the results of the studies on EMF health effects) as an expert of in vitro scientific approaches for the evaluation of the biological effects of electromagnetic fields. She is a co-author of the « mobile phones and health » report requested by the Environmental Safety and Health French Agency in 2003, that is currently being up-dated. She is a member of EBEA and BEMS and has been a reviewer for major journals in the field of bioelectromagnetics.

R. Landry  
FDA, USA

[robert.landry@fda.hhs.gov](mailto:robert.landry@fda.hhs.gov)

Robert Landry is a Senior Physicist and optical radiation safety expert with the United States Food and Drug Administration (FDA). He has been involved in health hazards from lasers and other high intensity optical sources of radiation for the past 35 years and has participated in the formation of the ISO and ANSI standards for the safe use of

lasers and non-coherent sources of optical radiation. His primary research interests include optical radiation safety of medical devices and radiologic products and optical radiation metrology. Mr. Landry served as Chief of the Electro-Optics Branch of the FDA from 1977 through 1991. He also served as Secretary of the International Electro-technical Committee TC 76 for laser products and the safe use of lasers, and is presently involved in the development of ISO standards for the optical radiation safety of ophthalmic instruments.

Prof. Dr. N. Leitgeb  
University of Graz,  
Austria

[leitgeb@bmt.tu-graz.ac.at](mailto:leitgeb@bmt.tu-graz.ac.at)

Norbert Leitgeb is educated in the interdisciplinary field of biomedical engineering with knowledge both in (electro)technical and medical subjects. He is professor of clinical engineering and head of the institute of clinical engineering and of the European testing institute of medical devices (notified body) both at the Graz University of Technology, Austria. His main research interests are clinical engineering, safety technology and biological effects of electromagnetic fields, in particular in respect to electromagnetic hypersensitivity. He is chairman of the committee for non-ionising radiation protection of the German Commission of Radiation Protection (SSK), member of Austrian bodies concerned with developing exposure limits for electromagnetic fields, chairman of the European Action COST 281 "Potential Health Implications from Mobile Communication Systems" and steering committee member of the European Project EMF-NET "Effects of the Exposure to Electromagnetic Fields".

Dr. J. Lund  
US Army Medical  
Research Detachment  
Brooks, USA

[Jack.Lund@brooks.af.mil](mailto:Jack.Lund@brooks.af.mil)

Jack Lund is an expert in laser biophysics and laser retinal injury threshold studies. He has thirty years of experience in performing animal studies in laser safety issues. He was a participant in several ICNIRP joint laser biophysics task-group meetings.

Prof. Dr. M.A. Mainster  
University of  
Kansas Medical  
Center, USA

[mmainste@kumc.edu](mailto:mmainste@kumc.edu)

Martin Mainster is the Luther Fry Professor of Ophthalmology at the University of Kansas where he specializes in macular and retinal vascular disorders. He received his Ph.D. in physics from North Carolina State University in 1968 and his M.D. from the University of Texas Medical Center in 1975. He completed an ophthalmology residency at Scott and White Hospital in 1979 and a retinal disease fellowship at Massachusetts Eye and Ear Infirmary in 1981. He is a fellow of the American Academy of Ophthalmology and the Royal College of Ophthalmologists. He has received the American Academy of Ophthalmology's Honor and Senior Achievement Awards. He has written over 100 peer-reviewed scientific publications and holds 6 patents. He is a consultant to the Physical Agents TLV Committee of the ACGIH, a member of ANSI's Subcommittee on Laser Bioeffects, a member of the Committee on Light and Retinal Disease of the CIE, and a media spokesperson for the American Academy of Ophthalmology. He was a member of the Standing Committee on Optics of ICNIRP from 1998 until 2003.

Dr. S. Mann  
Health Protection Agency  
Centre for Radiation, Chemical and  
Environmental Hazards  
United Kingdom

[simon.mann@hpa-rp.org.uk](mailto:simon.mann@hpa-rp.org.uk)

Simon Mann is a chartered electrical engineer and a member of the EMF Dosimetry Group at the UK's Health Protection Agency (HPA). He received his BSc in Electronics and his DPhil in Electromagnetic Compatibility from the University of York in 1988 and 1993 respectively. His research interests are concerned with measurement and theoretical exposure assessments for guideline compliance, epidemiological studies and dosimetry. Simon was Secretary to the HPA's EMF Exposure Guidelines Group, which developed the UK's 2004 advice on limiting EMF exposures, and is Secretary to the independent Advisory Group on Non-ionising Radiation (AGNIR). He is also active in technical standardisation and is

Dr. C. Marino  
ENEA  
(ENEA), Italy  
[marino@casaccia.enea.it](mailto:marino@casaccia.enea.it)

Carmela Marino received her degree in Biology in 1982 from the University of Rome "La Sapienza". She is now working as a research scientist at the Department of Biotechnology, Health and Ecosystems protection of ENEA where she coordinates the bioelectromagnetic research activity. She is also a contract professor of "Radiobiology and Thermobiology" and "Biological effects of electromagnetic fields" in the Post-graduate School of Health Physics, Tor Vergata University, Rome, Italy. After previous experience in the studies of biological effect of ionizing and non ionizing radiation applied to the cancer therapy, in in vivo system in particular (especially as a Scientific research Fellow at the Gray Laboratory, Cancer Research Campaign, Mount Vernon Hospital, Nothwood, U.K), she has been involved in experimental studies on risk assessment of electromagnetic fields. In particular she was the coordinator of the research activity Subject 3 - Interaction between sources and biosystems on behalf of ENEA (MURST/ENEA-CNR program "Human and Environmental Protection from Electromagnetic Emissions"), and was involved in PERFORM B in vitro and in vivo replication studies related to mobile telephones and base stations; GUARD, Potential adverse effects of GSM cellular phones on hearing, RAMP 2001, Risk Evaluation of Potential Environmental Hazards from Low Energy EMF on Neuronal Systems from modeling to tissues. Currently, she is also involved in EMF-NET, Effects of the exposure to electromagnetic fields: from science to public health and safer workplace; and EMF-Near, Exposure at UMTS electromagnetic fields: study on potential adverse effects on hearing". She has also been a member of Working group 1 of Cost 244bis and is now a member of the EBFA and BEMS, and of the Italian Society for Radiation Research, SIRR. She is the author of about 35 Referred Papers and 140 National and International Conference Contributions.

Dr. G. Mariutti  
National Institute  
of Health (ISS), Italy  
[mariutti@iss.it](mailto:mariutti@iss.it)

Gianni Francesco Mariutti is the head of the "Non Ionizing Radiation Unit" of the Italian Institute of Health. The main areas of his research activity, in the last three decades, have been: effects of hyperthermia on eukaryotic cells, applications of dielectric spectroscopy to biological studies, risk assessment and risk management in the human exposure to electromagnetic fields and ultraviolet radiation. He is member of the Scientific Board of "Euroskin" and coordinator of the National Project of Prevention of Risks from ultraviolet radiation of the Italian Ministry of Health.

Prof. J. Marshall  
Department of Ophtalmology  
St Thomas' Hospital  
London, UK  
[june.spacey@kcl.ac.uk](mailto:june.spacey@kcl.ac.uk)

John Marshall is the Frost Professor of Ophthalmology at St Thomas' Hospital. He graduated from London University in 1965 and obtained his PhD in 1968 with a thesis entitled "Laser induced damage in the Retina". His research over the past thirty years has concentrated on the inter-relationships between light and ageing, the mechanisms underlying age-related, diabetic and inherited retinal disease, and the development of lasers for use in ophthalmic diagnosis and surgery. This work has resulted in over three hundred research papers and numerous book chapters and books. It has also resulted in the development of the Excimer laser for the correction of refractive disorders and the world's first Diode laser for treating eye problems of diabetes, glaucoma and ageing. He is editor and co-editor of a number of international journals. He has been awarded the Nettleship Medal of the Ophthalmological Society of the United Kingdom, the Mackenzie Medal, the Raynor Medal, the Ridley Medal and the Ashton Medal. He has been visiting professor at numerous universities on every continent. He sits on many national and international committees concerned with

protecting the public against the possible damaging effects of lasers and other artificial light sources. He is currently the Chairman of the Medical Advisory Board and Trustee of the British Retinitis Pigmentosa Society. He is also a Fellow of the Royal Society of Arts, and an Honorary Fellow of The College of Optometrists.

Prof. Dr. K.J. McLeod  
Binghamton University  
Watson School of Engineering  
and Applied Sciences  
Binghamton, NY, USA

[kmcleod@binghamton.edu](mailto:kmcleod@binghamton.edu)

Kenneth McLeod received his BS degree in Electrical from Kettering University and his M.S. and PhD degrees in Electrical Engineering from the Massachusetts Institute of Technology. He undertook post-doctoral studies at Tufts University in the area of anatomy and cell biology and then joined the medical school at State University of New York at Stony Brook. In that capacity, Dr. McLeod conducted research investigating the interactions between non-ionizing radiation in the extremely low frequency (ELF) range, and biological systems, including in-vitro, in-vivo and clinical investigations. His research has focused on the potential medical benefits of EMF fields, and more specifically, on understanding the physical mechanisms by which EMF affect biological tissue, in particular in connective and skeletal tissue. He is currently Professor and Chairman of the Bioengineering Department at Binghamton University, where his work focuses on understanding physiologic responses as non-linear coupled systems and the emergent behavior possible in such complex systems. He was President of the Bioelectrical Repair and Growth Society in 1994-1995, President of the Bioelectromagnetics Society in 1999-2000, and has been a member of numerous national and international organizations and committees concerned with NIR and health, including: the National Research Council (NRC) and the NIEHS Working Group on EMF and Health.

Prof. J. Mellerio  
University of Westminster  
School of Biosciences  
United Kingdom

[J.Mellerio@westminster.ac.uk](mailto:J.Mellerio@westminster.ac.uk)

John Mellerio's research interests have centred on the hazards of light to the eye and in the 1960's he worked with one of the first lasers intended for ophthalmic surgery. He has worked on the way Nd:YAG lasers formed plasmas and lesions in ophthalmic surgery and on various light activated damaging mechanisms. The need for ocular protection from non-ionising radiation has led him to become involved with sunglasses, their design, specification and performance testing. Because sunglasses are often coloured and may thus distort colour recognition of signals he subsequently became involved with the way coloured signal lights from Light Emitting Diodes (LED's) are perceived as colours. LED's and his interest in the effects of light have combined into ways of measuring macular pigment, a protective antioxidant present in the central retina. He is now concerned with developing ways of measuring this so that a person's tendency to develop age-related macular degeneration in the eye might be predicted. He is currently a staff physiologist and teaches at the University of Westminster, London.

Dr. T. Okuno  
National Institute of Industrial Health  
Kawasaki, Japan

[okuno@niih.go.jp](mailto:okuno@niih.go.jp)

Tsutomu Okuno received his B.S. and M.S. in Physics and his Ph.D in Applied Physics from Tohoku University. He is now a senior researcher of the National Institute of Industrial Health, Japan. His research interests focus on optical radiation hazards. He is a councilor of Japan Occupational Hygiene Association, an associate editor of the Journal "Industrial Health", a member of Safety and Health Division, the Japan Welding Engineering Society and a drafting member of the Committee for Recommendation of Occupational Exposure Limits, Japan Society for Occupational Health. He has served as a member or chairman in numerous committees related to optical radiation hazards. He has been serving ICNIRP SCIV from 1998 until 2004.

Dr. J-K Pack  
Chungnam National University,  
Yuseong-Kul, South Korea

[jkpack@cnu.ac.kr](mailto:jkpack@cnu.ac.kr)

Jeong-Ki Pack received his B.S. in Electronics Engineering from the Seoul National University, his M.S. and his PhD. on Wave Propagation, from the Virginia Polytechnic Institute & State University, USA. The title of his dissertation was "Numerical Simulation of Optical Wave Propagation through Random Media". Currently he is teaching as Professor at the Chungnam National University, Korea and heading the Department of Radio-Science & Engineering. His areas of interest and specialization are bio-electromagnetics, electromagnetic wave propagation and scattering. He is a member of several national and international public organizations and working groups on EMF, including the WHO EMF programme in South Korea.

Prof. S. Pisa  
University of Rome  
Department of Electronic  
Engineering  
Italy

[pisa@die.uniroma1.it](mailto:pisa@die.uniroma1.it)

Stefano Pisa received the Electronic Engineering and Ph.D. degrees from the University of Rome "La Sapienza," Rome, Italy, in 1985 and 1988, respectively. In 1989, he joined the Department of Electronic Engineering, University of Rome "La Sapienza," as a Researcher. Since 2001, he has been an Associate Professor with the same university. His research interests are the interaction between electromagnetic fields and biological systems, therapeutic and diagnostic applications of electromagnetic fields, and the modeling and design of MW circuits. He was the editor of the Disk of Complete References 1993–1995 for the Commission K (Electromagnetics in Biology and Medicine) of the International Union of Radio Science (URSI), published at the 25th URSI General Assembly. From 1995 to 1996, he was the coordinator of a "working package" on "Electromagnetic Environment Impact and Safety Issues" of the Italian project on "Wide Band Wireless Local Area Networks–WWLAN" of the Italian Research Council (CNR). From 1995 to 1999, he was a member of the Joint Working Group (JWG) 15 on "Measurement Techniques and Procedures for High-Frequency Electromagnetic Fields With Regard to Human Exposure in the Frequency Range 10 kHz–300 GHz" created by International Electrotechnical Commission (IEC). From 1997 to 1999, he was the coordinator of the working package "Survey on Existing Dosimetric Work and Development of a Database" in the framework of the European project "Cellular Phones Standard" (CEPHOS). From 1995 to 2002, he was secretary of the IEEE Microwave Theory and Techniques Society (MTT-S)/Antennas and Propagation Society (AP-S) Central and South Italy Section Joint Chapter. He is currently the coordinator of the activity "Development and Optimization of Dedicated Software for the Evaluation of SAR in Subjects Exposed to Mobile Telecommunication Systems" of the Italian National Project (2001–2004) funded by the Ministry for Education, University, and Research, and devoted to the protection of people and environment from EM emissions.

Dr. P. Reilly  
Metatec Associates,  
USA

[jpreilly@ieee.org](mailto:jpreilly@ieee.org)

Patrick Reilly conducts research and consults on subjects related to bioelectric phenomena, bioelectric devices, and electromagnetic safety.

Dr. E. van Rongen  
Health Council of the  
Netherlands

[E.van.rongen@gr.nl](mailto:E.van.rongen@gr.nl)

Eric van Rongen is a radiobiologist who was a researcher at the Dutch Research Institute, TNO, where he performed studies in experimental radiotherapy. He is currently Scientific Secretary with the Health Council of the Netherlands. His main focus is on the biological and health effects of non-ionizing radiation, primarily electromagnetic fields. He has coordinated and reported on the work of various ad hoc committees of the Council on non-ionizing radiation (ELF, RF EM fields and UV radiation) and drafted the reports of those committees. This work has provided him with a broad expertise and knowledge on various practical implications of the protection of public health. Presently, he is secretary to the semi-permanent Electromagnetic Fields Committee and



of the Standing Committee on Radiation Hygiene. He has been part-time seconded to WHO to work on the Environmental Health Criteria on Static Fields. He is Vice-president of the European Bioelectromagnetics Society, member of the International Advisory Committee of the WHO EMF Project, national representative for the Netherlands in COST 281 and member of subcommittees 3 and 4 of the International Committee on Electromagnetic Safety (ICES) of the IEEE.

Dr. M. R. Scarfi  
Institute for Electromagnetic  
Sensing of Environment  
  
Italy  
  
[scarfi.mr@irea.cnr.it](mailto:scarfi.mr@irea.cnr.it)

Maria Rosaria Scarfi received her degree in Biology, cum laude, in 1981 from the University of Naples. Since 1984 she is a research scientist at the Institute of Research for Electromagnetism and Electronic Components (IRECE) of the Italian National Research Council, and in 2000 she was appointed Senior Researcher at the Institute for Electromagnetic Sensing of Environment (IREA). Since 1997 she is responsible for the Bioelectromagnetic Unit. In 1987-88 she was a visiting researcher, at the Western General Hospital, Clinical and Population Cytogenetics Unit, (MRC, Edinburgh, Scotland) working at a research project on the micronucleus technique in human lymphocytes. Her main research concerns the evaluation of biological effects induced by electromagnetic fields (ELF electric and magnetic fields; continuous wave and modulated microwaves; THz radiation). In particular, she is involved in the study of: a) genotoxic effects and effects on cell proliferation on human and animal lymphocytes and on mammalian cell lines; b) effects on the activity, stability and renaturation of mesophilic and thermophilic enzymes; c) effects on redox state of mammalian cells. She is a member of national and international scientific councils and committees. She is the author of about 50 articles on international journals and more than 90 presentations at international and national conferences.

Dr. Z. Sienkiewicz  
Health Protection Agency  
Radiation Protection Division  
Didcot, United Kingdom  
  
[zenon.sienkiewicz@hpa-rp.org.uk](mailto:zenon.sienkiewicz@hpa-rp.org.uk)

Zenon Sienkiewicz graduated from Chelsea College, University of London with a BSc in Physiology and then received a PhD from Queen Mary College, University of London for research into learning and memory mechanisms in goldfish. Subsequently, he researched the neurophysiology of feeding and satiety in non-human primates in the Department of Experimental Psychology, University of Oxford. In 1995 he joined the National Radiological Protection Board (NRPB). Currently he is Principal Scientific Officer, and Deputy Group Leader of the NIR Group of the Radiation Effects Department at the Health Protection Agency (formerly NRPB). His particular interest is in the physiological and behavioural effects of power frequency and radiofrequency fields and the effects of prenatal exposure to ionising radiation on behaviour.

Prof. Dr. J. Stolwijk  
USA  
  
[Stolwijk@prodigy.net](mailto:Stolwijk@prodigy.net)

Jan A.J. Stolwijk is a generalist in all questions of health effects, risk perception and risk assessment of NIR exposure and has special expertise in thermophysiological problems.

Dr. E. Vogel  
Bavarian State Ministry for  
Environment, Public Health &  
Consumer Protection  
Germany  
  
[evi.vogel@stmugv.bayern.de](mailto:evi.vogel@stmugv.bayern.de)

Evi Vogel received her diploma in physics with a minor in physiology and her PhD in radiation biophysics from the University at Erlangen, Germany. In 1994 she started working for the German Federal Office of Radiation Hygiene on non-ionising radiation and its application in medicine. Since 1998 she works with the Bavarian State Ministry of the Environment, Public Health and Consumer Protection. Her main tasks within non-ionising radiation/mobile telephony are the design of communication programmes and measurement campaigns as well as the engagement of the public in decision making. She has been seconded to WHO/Geneva from 10/2000 to 3/2001, where she worked for the International EMF Project and is co-author of the WHO book

on "Establishing a dialogue on risks from electromagnetic fields". She is a member of many national and international working groups on EMF.

Dr. J. Wang  
Nagoya Institute of Technology  
Japan

[wang@nitech.ac.jp](mailto:wang@nitech.ac.jp)

Jianqing Wang holds a Bachelor of Engineering, Beijing Institute of Technology, China, in 1984, a Master of Engineering, Tohoku University, Japan, 1988 and a Doctor of Engineering, Tohoku University, Japan, 1991. Currently he works as a professor at the Nagoya Institute of Technology, Japan. His research interests are on microwave dosimetry for portable telephones, base station antennas, in vivo / in vitro exposure systems as well as biological cells; electromagnetic compatibility in wireless communication systems; numerical techniques, especially the finite-difference time-domain (FDTD) method. He is a member of many technical and professional societies, such as IEEE, URSI and IEICE.

Dr. J. Wiart  
France Telecom  
Research & Development  
Issy-les-Moulineaux, France

[joe.wiart@francetelecom.fr](mailto:joe.wiart@francetelecom.fr)

Joe Wiart received his Diploma in Engineering from the "Ecole Nationale Supérieure des Télécommunications" in 1992 and his Ph.D. in Physics, grade "very good", from the ENST and the University Paris VI in 1995. Currently he is the Head of the R&D unit IOP (interaction of electromagnetic wave with humans) in the research centre of France Telecom (former CNET, National Research Centre in Telecommunication). His research interests are mainly focussed on numerical methods (FDTD, FVTD, ADI, FEM) applied to dosimetry (eg adult and children head exposure, rat system exposure, SAR and temperature calculations, statistics in electromagnetism and dosimetry, numerical analysis of exposure linked to base stations (asymptotic methods,...) as well as exposure assessment method and system design (in situ measurement protocol, influence of power control in GSM or UMTS, personal dosimeter design).

Prof. M.L. Wolbarsht  
Department of Psychology,  
Duke University  
Durham, NC, USA

[deryag@psych.duke.edu](mailto:deryag@psych.duke.edu)

He is an expert in laser-tissue interactions, the editor of "Lasers in the Life Sciences," and the chairman of US ANSI Z136 Sub-committee on laser bioeffects.

Dr. A. R. Young  
St. Thomas's Hospital  
United Kingdom

[antony.r.young@kcl.ac.uk](mailto:antony.r.young@kcl.ac.uk)

Antony Young is a leading photodermatological research worker.