



Benevento, Italy - 2006
Scientists from Italy, USA, Russia, China, Brazil, Sweden, Canada,
Germany, Austria, Taiwan, Israel, Turkey, and Poland

We, the undersigned scientists of the Benevento Resolution, agree to assist in the promotion of EMF research and the development of strategies to protect public health through the wise application of the Precautionary Principle.

Florella Belpoggi, European Fdn for Oncology & Environmental Sciences, Bologna, Italy
Carl F. Blackman, President, Bioelectromagnetics Society, Raleigh, NC, USA
Martin Blank, Department of Physiology, Columbia University, New York, USA
Natalia Bobkova, Institute of Cell Biophysics, Pushchino, Moscow Region, Russia
Francesco Boella, National Inst Prevention & Worker Safety, Venice, Italy
Zhaojin Cao, National Inst Environmental Health, Chinese CDC, China
Sandro D'Allessandro, Physician, Mayor of Benevento, Italy
Enrico D'Emilia, National Inst for Prevention and Worker Safety, Monteporzio, Italy
Emilio Del Giudice, National Institute for Nuclear Physics, Milan, Italy
Antonella De Ninno, Italian Nat Agency for Energy, Environment & Tech, Frascati, Italy
Alvaro A. De Sallas, Universidad Federal do Rio Grande do Sul, Porto Alegre, Brazil
Livio Giullani, National Inst Prevention & Worker Safety, Camerino University, Venice, Italy
Yury Grigoryev, Inst of Biophysics, Chairman, Russian National Comm, NIERP, Russia
Settimo Grimaldi, Inst Neurobiology & Molecular Medicine, National Research, Rome, Italy
Lennart Hardell, Department of Oncology, University Hospital, Orebro, Sweden
Magda Harvas, Environmental & Resources Studies, Trent University, Ontario Canada
Gerard Hyland, Warwick University, UK; International Inst Biophysics, Germany
Olle Johansson, Neuroscience Department, Karolinska Inst, Sweden
Michael Kundl, Head, Institute Environmental Health, Medical Univ of Vienna, Austria
Henry C. Lai, Department of Bioengineering, University of Washington, Seattle, USA
Mario Ledda, Inst Neurobiology & Molecular Medicine, NRC, Rome, Italy
Yi-Ping Lin, Ctr Health Risk Assessment & Policy, National Taiwan University, Taiwan
Antonella Lisi, Inst Neurobiology & Molecular Medicine, NRC, Rome, Italy
Fiorenzo Marinelli, Inst of Immunocytology, National Research Council, Bologna, Italy
Elihu Richter, Head Occupational & Env Medicine, Hebrew University-Hadassah, Israel
Emanuela Rosola, Inst Neurobiology & Molecular Medicine, NRC, Rome, Italy
Leif Salford, Chairman, Dept of Neurosurgery, Lund University, Sweden
Nesrin Seyhan, Head Dept of Biophysics, Director Gazi NIRP Ctr, Ankara, Turkey
Morando Soffritti, Scientific Director, European Fdn for Oncology & Env Sciences, Bologna, Italy
Stanislaw Szmigielski, Military Institute of Hygiene & Epidemiology, Warsaw, Poland
Mikhail Zhadin, Inst of Cell Biophysics, Pushchino, Moscow Region, Russia

Benevento Resolution

The International Commission for Electromagnetic Safety (ICEMS) held an international conference entitled “*The Precautionary EMF Approach: Rationale, Legislation and Implementation*”, hosted by the City of Benevento, Italy, on February 22, 23 and 24, 2006. The meeting was dedicated to W. Ross Adey, M.D. (1922-2004). The scientists at the conference endorsed and extended the 2002 Catania Resolution and resolved that:

1. More evidence has accumulated suggesting that there are adverse health effects from occupational and public exposures to electric, magnetic and electromagnetic fields, or EMF¹, at current exposure levels. What is needed, but not yet realized, is a comprehensive, independent and transparent examination of the evidence pointing to this emerging, potential public health issue.
2. Resources for such an assessment are grossly inadequate despite the explosive growth of technologies for wireless communications as well as the huge ongoing investment in power transmission.
3. There is evidence that present sources of funding bias the analysis and interpretation of research findings towards rejection of evidence of possible health risks.
4. Arguments that weak (low intensity) EMF cannot affect biological systems do not represent the current spectrum of scientific opinion.
5. Based on our review of the science, biological effects can occur from exposures to both extremely low frequency fields (ELF EMF) and radiation frequency fields (RF EMF). Epidemiological and *in vivo* as well as *in vitro* experimental evidence demonstrates that exposure to some ELF EMF can increase cancer risk in children and induce other health problems in both children and adults. Further, there is accumulating epidemiological evidence indicating an increased brain tumor risk from long term use of mobile phones, the first RF EMF that has started to be extensively studied. Epidemiological and laboratory studies that show increased risks for cancers and other diseases from occupational exposures to EMF cannot be ignored. Laboratory studies on cancers and other diseases have reported that hypersensitivity to EMF may be due in part to a genetic predisposition.
6. We encourage governments to adopt a framework of guidelines for public and occupational EMF exposure that reflect the Precautionary Principle² – as some nations have already done. Precautionary strategies should be based on design and performance standards and may not necessarily define numerical thresholds because such thresholds may erroneously be interpreted as levels below which no adverse effect can occur. These strategies should include:
 - 6.1 Promote alternatives to wireless communication systems, e.g. use of fiber optics and coaxial cables; design cellular phones that meet safer performance specifications, including radiating away from the head; preserve existing land line phone networks; place power lines underground in the vicinity of populated areas, only siting them in residential neighborhoods as a last resort.
 - 6.2 Inform the population of the potential risks of cell phone and cordless phone use. Advise consumers to limit wireless calls and use a land line for long conversations.

- 6.3 Limit cell phone and cordless phone use by young children and teenagers to the lowest possible level and urgently ban telecom companies from marketing to them.
- 6.4 Require manufacturers to supply hands-free kits (via speaker phones or ear phones) with each cell phone and cordless phone.
- 6.5 Protect workers from EMF generating equipment, through access restrictions and EMF shielding of both individuals and physical structures.
- 6.6 Plan communications antenna and tower locations to minimize human exposure. Register mobile phone base stations with local planning agencies and use computer mapping technology to inform the public on possible exposures. Proposals for city-wide wireless access systems (e.g. Wi-Fi, WIMAX, broadband over cable or power-line or equivalent technologies) should require public review of potential EMF exposure and, if installed, municipalities should ensure this information is available to all and updated on a timely basis.
- 6.7 Designate wireless-free zones in cities, in public buildings (schools, hospitals, residential areas) and, on public transit, to permit access by persons who are hypersensitive to EMF.
7. ICEMS³ is willing to assist authorities in the development of an EMF research agenda. ICEMS encourages the development of clinical and epidemiological protocols for investigations of geographical clusters of persons with reported allergic reactions and other diseases or sensitivities to EMF, and document the effectiveness of preventive interventions. ICEMS encourages scientific collaboration and reviews of research findings.

¹ EMF, in this resolution, refers to zero to 300 GHz

² The Precautionary Principle states when there are indications of possible adverse effects, though they remain uncertain, the risks from doing nothing may be far greater than the risks of taking action to control those exposures. The Precautionary Principle shifts the burden of proof from those suspecting a risk to those who discount it.

³ International Commission for Electromagnetic Safety. Go to www.icems.edu for more information.

Date of Release: September 19, 2006. For more information, contact Elizabeth Kelly, Managing Secretariat, International Commission for Electromagnetic Safety (ICEMS), Montepulciano, Italy. Email: info@icems.eu