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 & 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 EMF[1], 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 public 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 comprehensively 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 Principle[2] -- 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.**

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[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 these exposures. The Precautionary Principle shifts the burden of proof from those suspecting a risk to those who discount it.

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. ICEMS[3] 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.

We, the undersigned scientists, 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.

Signed:

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Carl F. Blackman, President, Bioelectromagnetics Society (1990-91), Raleigh, NC, USA
Martin Blank, Department of Physiology, Columbia University, New York, USA
Natalia Bobkova, Institute of Cell Biophysics, Pushchino, Moscow Region
Francesco Boella, National Inst. Prevention & Worker Safety, Venice, Italy
Zhaojin Cao, National Institute Environmental Health, Chinese Center for Disease Control, China
Sandro D'Allessandro, Physician, Mayor of Benevento, Italy, (2001-2006)
Enrico D'Emilia, National Institute for Prevention and Worker Safety, Monteporzio, Italy
Emilio Del Giuduice, National Institute for Nuclear Physics, Milan, Italy
Antonella De Ninno,Italian National Agency For Energy, Environment & Technology, Frascati, Italy
Alvaro A. De Sallas, Universidade Federal do Rio Grande do Sul, Porto Alegre, Brazil
Livio Giuliani, East Veneto&South Triol, National Inst. Prevention & Worker Safety, Camerino University
Yury Grigoryev, Institute of Biophysics; Chairman, Russian National Committee NIERP
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Lennart Hardell, Department of Oncology, University Hospital, Orebro, Sweden
Magda Havas, Environmental & Resource Studies, Trent University, Ontario, Canada
Gerard Hyland, Warwick University, UK; International Inst. Biophysics, Germany; EM Radiation Trust, UK
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[3] International Commission For Electromagnetic Safety. For information, link to www.icoms.eu.

CATANIA RESOLUTION
September 2002

The Scientists at the International Conference
"State of the Research on Electromagnetic Fields – Scientific and Legal Issues",
organized by ISPESL*, the University of Vienna and the City of Catania,
held in Catania (Italy) on September 13th – 14th, 2002, agree to the following:

1. **Epidemiological and *in vivo* and *in vitro* experimental evidence demonstrates the existence of electromagnetic field (EMF) induced effects, some of which can be adverse to health.**
2. **We take exception to arguments suggesting that weak (low intensity) EMF cannot interact with tissue.**
3. **There are plausible mechanistic explanations for EMF-induced effects which occur below present ICNIRP and IEEE guidelines and exposure recommendations by the EU.**
4. **The weight of evidence calls for preventive strategies based on the precautionary principle. At times the precautionary principle may involve prudent avoidance and prudent use.**
5. **We are aware that there are gaps in knowledge on biological and physical effects, and health risks related to EMF, which require additional independent research.**
6. **The undersigned scientists agree to establish an international scientific commission to promote research for the protection of public health from EMF and to develop the scientific basis and strategies for assessment, prevention, management and communication of risk, based on the precautionary principle.**

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