

Appeal of the Scientists for Electromagnetic Safety

To the Italian Government, to the Parliament, to the Regions and to the Autonomous Provinces

We - the undersigned biologists, physicists, chemists and doctors - have been conducting research on the effects of electromagnetic fields for decades and we have never used industry funds of telecommunications, proving that we have always worked in the exclusive interest of public health.

The news that the Government is considering the possibility of increasing the attention value by 6 V/m for the living areas where people stay more than 4 hours is the cause for great concern.

Our studies, and more generally international research in the latest twenty years, have largely demonstrated that exposure to radiofrequency, even below the current ICNIRP/WHO safety standards, can cause damage to health and it can reduce the levels of well-being in the general population.

Groups of scientists, such as ICEMS and Bioinitiative Working Group, such as the Council of Europe (Recommendation n° 1815 of 2011) have issued appeals to request the immediate reduction of the safety exposure limits to 0.6 V/m, in order to ensure public health and, in particular, to guarantee the safety of the most vulnerable subjects such as children, pregnant women, the chronically ill patients, such as people with cancer and people with Electromagnetic Hyper Sensitivity (EHS).

Radiofrequency has been associated with several health problems including:

- cancer (RF was classified by IARC as a "possibly carcinogenic for Man" in 2011, but subsequent studies concluded that radiofrequency falls within the parameters of Class 2A,1 that is to say "probable carcinogen", and of Class 1 that is to say "certain carcinogen");
- neurodegenerative diseases, such as Alzheimer's;
- male and female infertility;
- increased oxidative stress (related to many chronic diseases);
- neurobehavioral changes in children born to mothers who used the mobile phone in pregnancy;
- immune dysfunction;
- alterations of insulin metabolism;
- increased cerebral permeability and alterations of cerebral metabolism.

We are already paying for the social and health costs of having released into the environment levels of artificial radiofrequency radiation which are not entirely compatible with life. A further increase of the exposure to radiofrequency in the population is ethically

unacceptable and not even economically viable. Rather, measures are needed to protect public health and the environment. Plants and animals, in fact, are affected by the chronic exposure to radiofrequency, with significant damages mostly to birds and bees populations.

A recent article by Professor James Lin in "IEEE Microwave Magazine" of 3 June 2023, the magazine of the World's most prestigious organization of engineers, concludes that the ICNIRP guidelines have serious limitations:

- they only protect against acute thermal effects for high-intensity and short-term exposure duration (30 minutes);
- they are not applicable to long-term and low-intensity exposures, such as it actually occurs in everyday life contexts;
- they are based on outdated information;
- they do not protect against the 5G radiation, which has strong characteristics of polarization, and it is very different from previous generations of mobile telephony, so they would require further studies.

The ICNIRP guidelines, therefore, are not suitable for protecting human health e they should be updated according to the latest scientific publications. Fortunately, the Italian legislation (Law 36/2001) provides for more precautionary limits because the decision-makers of the late '90s took into consideration two fundamental and indispensable principles:

- the Precautionary Principle, originally enshrined in international law of the environment within the Rio de Janeiro Declaration of 1992;
- the ALARA Minimization Principle (As Low As Reasonably Achievable), or the lowest level reasonably achievable without compromising development technological.

For the above reasons, the undersigned ask you:

1. to maintain the attention value of 6 V/m envisaged by the current Italian legislation (DPCM 8.07.2003);
2. to measure the aforementioned value on an average of 6-minutes which has a precise biological reason (it is the time necessary to the cells to dissipate the heat produced by the electromagnetic field) as required by the D.P.C.M. of 8.07.2003, and we required to repeal the article 14, paragraph 8 lett. d) of the Legislative Decree 179/2012, which established the measurement in the interval of 24 hours, which is a completely arbitrary time, whose aim is just to dilute the measured values;
3. to bring the quality objective value to 0.6 V/m as requested by the Council of Europe Recommendation n° 1815 of 2011;
4. to approve a law on conflict of interest, in order to oblige the experts engaged in providing scientific opinions in public institutional to declare publicly the funding sources of their research, their equity ownership and consulting contracts with companies of the industry sector in conflict with the public interest.

We ask you for a meeting and we are ready to provide further clarifications and documentation.

Signed by

Fiorenzo Marinelli

Former research biologist at the Institute of Molecular Genetics of the CNR in Bologna, Center for Interuniversity Studies and Research (CIRPS) of the Sapienza University of Rome, ICEMS affiliate, Italy

List of the most significant publications on EMF related subjects:

- Cappucci, U; Casale, A.M.; Proietti, M.; Marinelli, F.; Giuliani, L.; Piacentini, L. "WiFi Related Radiofrequency Electromagnetic Fields Promote Transposable Element Dysregulation and Genomic Instability in *Drosophila melanogaster*" in *Cells* 2022, 11, 4036. <https://doi.org/10.3390/cells11244036>
- Maurizio Brizzi and Fiorenzo Marinelli, "Increased risk of cancer and heart diseases due to the exposure to the radar EMF among the population of Potenza Picena, Italy (1986-91)" in *Eur. J. Oncology*, Vol. 23, n. 4, pp. 204-210, 2018.
- Coraddu M., Marinelli F et al. "A new trend on *Electromagnetic Fields (EMF) risk assessment*" in *Journal of Physics*, 2015.
- Barteri M, Marinelli F. at al. "Effects of Microwaves (900 MHz) on Peroxidase Systems: a Comparison Between Lactoperoxidase and Horseradish Peroxidase" in *Electromagn Biol Med*, Early Online: 1–7! 2015 Informa Healthcare USA, Inc. DOI: 10.3109/15368378.2014.1002135.
- Marinelli F, La Sala D, Ciccio G, et al. "Exposure to 900 MHz electromagnetic field induces an unbalance between pro-apoptotic and pro-survival signals in T-lymphoblastoid leukemia CCRF-CEM cells" in *Journal of Cellular Physiology*, Volume: 198 Issue: 3 Pages: 479-480. Published: Mar 2004 (*Impact Factor* 4.218)
- Marinelli F "Radizioni non ionizzanti" capitolo 20.2 nel libro AA.VV. "Scienze ambientali: manuale per prendere buone decisioni", edito dall'ENEA, 2014.

2. Livio Giuliani

Mathematician, former ISPESL Research Manager (later INAIL), President of the International Commission for Electromagnetic Safety (www.icems.eu), Rome, Italy

List of the most significant publications on EMF related subjects:

- Giuliani L. "Reasons for Disagreement Between European Council and Italy Concerning Protection Against Health Impacts from EMF/Unterschied zwischen der EU und Italien im Hinblick auf den Schutz der Bevölkerung vor elektromagnetischen Feldern". Proceedings of the Conference Celltower Siting Salzburg June 2000. Epub www.land-sbg.at/celltower 2000.
- Marinelli F, La Sala D, Ciccio G, Cattini L, Trimarchi C, Putti S, Zamparelli A, Giuliani L, Tomassetti G, Cinti C. Exposure to 900 MHz Electromagnetic fields induce an unbalance between proapoptotic and prosurvival signals in T-lymphoblastoid leukaemia CCRF-CEM cells. *J Cell Physiol* 2004, 198:324-332.
- Lisi A, Rieti S, Criceti A, Flori A, Generosi R, Luce M, Perfetti P, Foletti A, Ledda M, Rosola E, Giuliani L, D' Emilia E, Grimaldi S. ELF Non Ionizing Radiation Changes the Distribution of the Inner Chemical Functional Groups in Human Epithelial Cell (HaCaT) Culture. *Electrom Biol Med* 2006, 25(4): 281-289.
- Boella F, Giuliani L. Micro-Cells Coverage for Mobile Telephony: An Alternative Way to Reduce EMF Exposures. *Electrom Biol Med* 2006, 25(4): 325-337.

- Zhadin MN e Giuliani L. Some problems in Bioelectromagnetics. *Electrom Biol Med* 2006; 25(4)
- D'Emilia E, Giuliani L, Lisi A, Ledda M, Grimaldi S, Montagnier L, Liboff AR. Lorentz force in water: evidence that hydronium cyclotron resonance enhances polymorphism. *Electromagn Biol Med*. 2015;34(4):370-5. doi: 10.3109/15368378.2014.937873. Epub 2014 Jul 14. PMID: 25020009.
- Soffritti M, Belpoggi F, Lauriola M, Tibaldi E, Manservigi F, Accurso D, Chiozzotto D, Giuliani L. Mega-experiments on the carcinogenicity of Extremely Low Frequency Magnetic Fields (ELFMF) on Sprague-Dawley rats exposed from fetal life until spontaneous death: plan of the project and early results on mammary carcinogenesis, in Giuliani L and Soffritti M eds, *Non-Thermal Effects and Mechanisms of Interaction Between Electromagnetic Fields and Living Matter*. An ICEMS Monograph. *Eur. J. Oncol. Library* 2010 Oct ,Vol. 5, Fidenza 2010.
- Giuliani L, D'Emilia E, Ledda M, Grimaldi S, Lisi A. New Perspectives of Bioelectromagnetics in Biology and in Medicine: DNA Spectra for Diagnostic Purposes. *Journal of Physics: Conference Series* 329, 01 2011.
- Soffritti M., Giuliani L., The carcinogenic potential of non-ionizing radiations: the cases of S-50 Hz MF and 1.8 GHz GSM radiofrequency radiation, *Basic & Clinical Pharmacology & Toxicology* 2019 125 S3, pp. 58-69.
- Cappucci U, Casale AM, Proietti M, Marinelli F, Giuliani L, Piacentini L. WiFi Related Radiofrequency Electromagnetic Fields Promote Transposable Element Dysregulation and Genomic Instability in *Drosophila melanogaster*. *Cells*. 2022 Dec 13;11(24):4036. doi: 10.3390/cells11244036. PMID: 36552798; PMCID: PMC9776602.

3. Ernesto Burgio

MD, Pediatrician, ECERI – European Cancer and Environment Research Institute, Bruxelles

List of the most significant publications on EMF related subjects:

- Belpomme D, Carlo GL, Irigaray P, Carpenter DO, Hardell L, Kundi M, Belyaev I, Havas M, Adlkofer F, Heuser G, Miller AB, Caccamo D, De Luca C, von Klitzing L, Pall ML, Bandara P, Stein Y, Sage C, Soffritti M, Davis D, Moskowitz JM, Mortazavi SMJ, Herbert MR, Moshammer H, Ledoigt G, Turner R, Tweedale A, Muñoz-Calero P, Udasin I, Koppel T, Burgio E, Vorst AV. *The Critical Importance of Molecular Biomarkers and Imaging in the Study of Electrohypersensitivity*. A Scientific Consensus International Report. *Int J Mol Sci*. 2021 Jul 7;22(14):7321. doi: 10.3390/ijms22147321
- Belpomme D, Hardell L, Belyaev I, Burgio E, Carpenter DO. *Thermal and non-thermal health effects of low intensity non-ionizing radiation: An international perspective*. *Environ Pollut*. 2018 Nov;242(Pt A):643-658. doi: 10.1016/j.envpol.2018.07.019.
- Sage C, Burgio E. *Electromagnetic Fields, Pulsed Radiofrequency Radiation, and Epigenetics: How Wireless Technologies May Affect Childhood Development*. *Child Dev*. 2018 Jan;89(1):129-136. doi: 10.1111/cdev.12824. Epub 2017 May 15. PMID: 28504324.
- Burgio E. *Ambiente e Salute. Inquinamento, interferenze sul genoma umano e rischi per la salute* OMceO 2013 <http://www.omceoar.it/docs/cesalpino/AMBIENTE%20E%20SALUTE.pdf>

4. Massimo Coraddu

Environmental physicist, IIS Dionigi Scano, Cagliari, Italy

List of the most significant publications on EMF related subjects:

- M. Zucchetti, M. Coraddu, B. Littarru, and M. Cristaldi. Environmental pollution and health effects in the Quirra area, Sardinia (Italy) . *Fresenius Environmental Bulletin*. 20: 810-817, 2011.
- M. Coraddu, E. Cottone, A. Levis, A. Lombardo, F. Marinelli and M. Zucchetti. Electromagnetic Fields (EMF) biological and health effects and the MUOS case. *Fresenius Environmental Bulletin*. 24: 1896-1903, 2015.

5. Claudio Poggi

Electronic Engineer Independent researcher and ICEMS affiliate, Genova, Italy

List of the most significant publications on EMF related subjects:

- Rizzo A, Cardellini F, Poggi C, Borra E, Ciciani L, Narici L, Sperandio L, Vilardi I. Novel Algorithm for Radon Real-Time Measurements with a Pixelated Detector. *Sensors (Basel)*. 2022 Jan 10;22(2):516. doi: 10.3390/s22020516. PMID: 35062477; PMCID: PMC8780917.
- Rossi E, Corsetti MT, Sukkar S, Poggi C. Extremely low frequency electromagnetic fields prevent chemotherapy induced myelotoxicity. *Electromagn Biol Med*. 2007;26(4):277-81. doi: 10.1080/15368370701761984. PMID: 18097813.
- Liboff AR, Poggi C, Pratesi P. Weak low-frequency electromagnetic oscillations in water. *Electromagn Biol Med*. 2017;36(2):154-157. doi: 10.1080/15368378.2016.1227332. Epub 2016 Sep 29. PMID: 27687570.
- Bartolini L, De Dominicis L, de Collibus MF, Fornetti G, Guarneri M, Paglia E, Poggi C, Ricci R. Underwater three-dimensional imaging with an amplitude-modulated laser radar at a 405 nm wavelength. *Appl Opt*. 2005 Nov 20;44(33):7130-5. doi: 10.1364/ao.44.007130. PMID: 16318184.
- Liboff AR, Poggi C, Pratesi P. Helical water wires. *Electromagn Biol Med*. 2017;36(3):265-269. doi: 10.1080/15368378.2017.1322521. Epub 2017 May 19. PMID: 28524701.

Patents:

- Inventore di brev. GE2004A000063: "Metodo per incrementare l'efficacia biologica dei campi elettromagnetici usati per il trattamento di esseri umani animali o piante";
- Inventore di brev. GE2004A000064: "Metodo per l'applicazione di un campo elettromagnetico per il trattamento di esseri umani, animali o piante";
- Inventore di brev. GE2004A000081: "Dispositivo per l'ottenimento di effetti biologici tramite il controllo di flussi ionici con l'uso di campi elettromagnetici";
- Coinventore di brev. TO2006A000416: "Procedimento per la rilevazione di parametri fisici di cellule e relativo apparato di rilevazione";
- Coinventore di brev. TO2006A000597: " Procedimento per accelerare il differenziamento di cellule staminali in cellule derivate aventi fenotipo tessuto-specifico, relative cellule derivate e loro usi";
- Coinventore di brev. TO2006A000916: "Procedimento per accelerare il differenziamento di cellule staminali, la proliferazione di cellule con fenotipo tessuto-specifico, primarie o linee cellulari tumorali e la fusione di diversi stipiti cellulari ed il relativo dispositivo";
- Coinventore di brev. GB2494538: "Human stress detection system";
- Inventore di brev. n. 102016000056753: "Dispositivi per la generazione di Campi Elettromagnetici deboli con ricchezza spettrale controllata, particolarmente adatti anche ad essere implementati in apparecchi miniaturizzati, portatili, wearables o impiantabili";
- Inventore di brev. n. 102016000057037: "Metodo per l'applicazione di deboli Campi Elettromagnetici a uomini o animali";
- Coinventore di brev. n. 102016000065131: "Metodo e dispositivo per rendere più efficiente, rapido e ripetibile il processo di fermentazione, attraverso l'azione di microorganismi, in alimenti o bevande o altri liquidi ad uso umano, animale o agricolo";
- Coinventore di brev. n. 102018000006819: "Procedimento e relativo dispositivo basati sull'uso di Campo Elettromagnetico atti a rendere più efficiente, rapido e ripetibile il processo di crescita e sviluppo di ife, micelio e funghi, e a promuovere la micorrizzazione dell'apparato radicale, anche nelle colture orticole, al fine di ridurre l'utilizzo di pesticidi e fungicidi chimici, anche in agricoltura biologica";
- Coinventore di brev. n. 102021000003284: "Procedimento e relativo dispositivo basati sull'uso di Campo Elettromagnetico atti a contrastare la diffusione di virus di tipo "Corona" in un organismo".

6. Oriana Chisté

MD, Independent researcher and ICEMS affiliate, Trento, Italy

Patents:

- Coinventore di brev. n. 102016000065131: "Metodo e dispositivo per rendere più efficiente, rapido e ripetibile il processo di fermentazione, attraverso l'azione di microrganismi, in alimenti o bevande o altri liquidi ad uso umano, animale o agricolo";
- Coinventore di brev. n. 102018000006819: "Procedimento e relativo dispositivo basati sull'uso di Campo Elettromagnetico atti a rendere più efficiente, rapido e ripetibile il processo di crescita e sviluppo di ife, micelio e funghi, e a promuovere la micorrizzazione dell'apparato radicale, anche nelle colture orticole, al fine di ridurre l'utilizzo di pesticidi e fungicidi chimici, anche in agricoltura biologica";
- Coinventore di brev. n. 102021000003284: "Procedimento e relativo dispositivo basati sull'uso di Campo Elettromagnetico atti a contrastare la diffusione di virus di tipo "Corona" in un organismo".

7. Dott. Morando Soffritti

MD, Honorary President of the Ramazzini Foundation, Bologna, Italy

List of the most significant publications on EMF related subjects:

- Soffritti M, Belpoggi F, Tibaldi E, Esposti DD, Lauriola M. Life-span exposure to low doses of aspartame beginning during prenatal life increases cancer effects in rats. *Environ Health Perspect.* 2007 Sep;115(9):1293-7. doi: 10.1289/ehp.10271. PMID: 17805418; PMCID: PMC1964906.
- Soffritti M, Belpoggi F, Esposti DD, Falcioni L, Bua L. Consequences of exposure to carcinogens beginning during developmental life. *Basic Clin Pharmacol Toxicol.* 2008 Feb;102(2):118-24. doi: 10.1111/j.1742-7843.2007.00200.x. PMID: 18226064.
- Soffritti M, Tibaldi E, Bua L, Padovani M, Falcioni L, Lauriola M, Manservigi M, Manservisi F, Belpoggi F. Life-span carcinogenicity studies on Sprague-Dawley rats exposed to γ -radiation: design of the project and report on the tumor occurrence after post-natal radiation exposure (6 weeks of age) delivered in a single acute exposure. *Am J Ind Med.* 2015 Jan;58(1):46-60. doi: 10.1002/ajim.22391. Epub 2014 Oct 28. PMID: 25351660.
- Soffritti M, Tibaldi E, Padovani M, Hoel DG, Giuliani L, Bua L, Lauriola M, Falcioni L, Manservigi M, Manservisi F, Panzacchi S, Belpoggi F. Life-span exposure to sinusoidal-50 Hz magnetic field and acute low-dose γ radiation induce carcinogenic effects in Sprague-Dawley rats. *Int J Radiat Biol.* 2016;92(4):202-14. doi: 10.3109/09553002.2016.1144942. Epub 2016 Feb 19. PMID: 26894944.
- Soffritti M, Tibaldi E, Padovani M, Hoel DG, Giuliani L, Bua L, Lauriola M, Falcioni L, Manservigi M, Manservisi F, Belpoggi F. Synergism between sinusoidal-50 Hz magnetic field and formaldehyde in triggering carcinogenic effects in male Sprague-Dawley rats. *Am J Ind Med.* 2016 Jul;59(7):509-21. doi: 10.1002/ajim.22598. Epub 2016 May 24. PMID: 27219869.
- Maltoni C, Soffritti M, Belpoggi F. The scientific and methodological bases of experimental studies for detecting and quantifying carcinogenic risks. *Ann N Y Acad Sci.* 1999;895:10-26. doi: 10.1111/j.1749-6632.1999.tb08074.x. PMID: 10676406.
- Soffritti M, Giuliani L. The carcinogenic potential of non-ionizing radiations: The cases of S-50 Hz MF and 1.8 GHz GSM radiofrequency radiation. *Basic Clin Pharmacol Toxicol.* 2019 Aug;125 Suppl 3:58-69. doi: 10.1111/bcpt.13215. Epub 2019 Mar 25. PMID: 30801980.

8. Mario Barteri

Professor Emeritus of Physical Chemistry, Sapienza University of Rome

List of the most significant publications on EMF related subjects:

- Barteri M, Pala A, Rotella S. Structural and kinetic effects of mobile phone microwaves on acetylcholinesterase activity. *Biophys Chem.* 2005 Mar 1;113(3):245-53. doi: 10.1016/j.bpc.2004.09.010. PMID: 15620509.
- Barteri M, De Carolis R, Marinelli F, Tomassetti G, Montemiglio LC. Effects of microwaves (900 MHz) on peroxidase systems: A comparison between lactoperoxidase and horseradish peroxidase. *Electromagn Biol Med.* 2016;35(2):126-33. doi: 10.3109/15368378.2014.1002135. Epub 2015 Jan 12. PMID: 25577980.

9. Massimo Scalia

Professor Emeritus of Mathematical Physics at Sapienza University of Rome, BEM Section Coordinator of CIRPS

List of the most significant publications on EMF related subjects:

- Scalia M., Sperini M., Guidi F. The Johnson noise in biological matter. *Math. Probl Eng.* 2012:582126. doi: 10.1155/2012/582126.
- Massimo Scalia, Tonella Doro, Lorenzo Uhl. Measuring electro-physiological response to a tibetan bell as stimulating agent_September 2021 IOP Conference Series Earth and Environmental Science.
- M. Scalia, Francesca Pulcini, Massimo Sperini. Electromagnetic characterization of the environment. An Italian experience and the "mapping" method. September 2021_IOP Conference Series Earth and Environmental Science.
- M. Scalia, M. Sperini, Maria Teresa Di Genova, Fiorenzo Marinelli. Electromagnetic characterization of the environment. An Italian experience and the "mapping" method. Preprint_May 2021.
- M. Scalia et al. Air ions: measures_Preprint_May 2021.
- M. Scalia, Carlo Cattani. A generalized logistic model for Covid-19 spreading_Culture of Sustainability/Culture della Sostenibilità_February 2021.
- M. Scalia et al. An Ecology and Economy Coupling Model. A global stationary state model for a sustainable economy in the Hamiltonian formalism_April 2020_Ecological Economics 172(June 2020):1 – 9.
- M. Scalia, A. Angelini. The Sentinel. The MUOS. Environment, Society and High Frequency Electromagnetic Fields_Oct. 2019_(Book) Lambert Academic Publishing.
- M. Scalia, Pasquale Avino, M. Sperini, Vincenzo I. Valenzi. Some Observations on the Role of Water States for Biological and Therapeutical Effects_Sept. 2018_Innovative Biosystems and Bioengineering.

10. Bianca Gustavino

Professor of Cytogenetics and Environmental Mutagenesis, University of Rome Tor Vergata - Department of Biology

List of the most significant publications on EMF related subjects:

- Gustavino B, et al. Exposure to 915 MHz radiation induces micronuclei in Vicia faba root tips. *Mutagenesis.* 2016 Mar;31(2):187-92. doi: 10.1093/mutage/gev071. Epub 2015 Oct 17.PMID: 26476436
- B. Gustavino et al. DNA-damage induced in human lymphocytes by exposure to 915 MHz mobile-phone radiation: Does smoking habit modulate its genotoxicity? 7th International Conference on Radiation in Various Fields of Research (RAD 2019) 10–14.06.2019 | HERCEG NOVI, MONTENEGRO. www.rad-conference.org (Book of Abstracts)
- B. Gustavino et al. Induction of DNA damage by UVB radiation in erythrocytes of scaly reptiles and protective role of skin pigmentation. 7th International Conference on Radiation in Various Fields of Research (RAD 2019) 10–14.06.2019 | HERCEG NOVI, MONTENEGRO. www.rad-conference.org (Book of Abstracts).

- Gonfloni S, Jodice C, Gustavino B, Valentini E. DNA Damage Stress Response and Follicle Activation: Signaling Routes of Mammalian Ovarian Reserve. Int J Mol Sci. 2022 Nov 19;23: 14379. doi: 10.3390/ijms232214379.PMID: 36430860.

11. Massimo Sperini

Physicist, associate member of the BEM Section of CIRPS

List of the most significant publications on EMF related subjects:

- Scalia M., Sperini M., Guidi F. The Johnson noise in biological matter. *Math. Probl Eng.* 2012:582126. doi: 10.1155/2012/582126.
- M. Scalia, Francesca Pulcini, Massimo Sperini. Electromagnetic characterization of the environment. An Italian experience and the "mapping" method. September 2021_IOP Conference Series Earth and Environmental Science.
- Massimo Scalia, Massimo Sperini, Maria Teresa Di Genova¹, Francesca Pulcini and Fiorenzo Marinelli et al. May 2021 IOP Conf. Ser.: Earth Environ. Sci. 853 012004.

12. Dott.ssa Francesca Pulcini

Science communicator, associate member of the BEM Section of CIRPS

List of the most significant publications on EMF related subjects:

- Massimo Scalia, Massimo Sperini, Maria Teresa Di Genova¹, Francesca Pulcini and Fiorenzo Marinelli et al. May 2021 IOP Conf. Ser.: Earth Environ. Sci. 853 012004.

13. Dott. Massimo Santilli

Electronic Technician, Associate Member of the BEM section of CIRPS

List of the most significant publications on EMF related subjects:

- M. Scalia, M. Sperini, F. Marinelli, Mauro Santilli, Air ions: measures. Preprint, May 2021.
- Massimo SCALIA, Massimo Sperini, Francesca Pulcini, Agata Fantauzzi, Lorenzo Uhl, Albina Pisani, Mauro Santilli. The evolution of Physics of Coherence from Giuliano Preparata to Allan Widom: some applications. COHERENCE 2022, 16 March 2022, Rome
- Massimo SCALIA, Massimo Sperini, Francesca Pulcini, Agata Fantauzzi, Lorenzo Uhl, Albina Pisani, Mauro Santilli. Electromagnetic Fields Virus And Bacteria. COHERENCE 2021, 26 November 2021, Rome.

14. Ing. Francesca Mattia

Electronic Engineer with specialization in Bioelectromagnetism

List of the most significant publications on EMF related subjects:

- Ramundo-Orlando A, Mattia F, Palombo A e D'Inzeo G (2000). Effect of low- frequency, low-amplitude magnetic fields on the permeability of cationic liposomes entrapping carbonic anhydrase ii. no evidence for surface enzyme involvement. *Bioelectromagnetics* 21:499-507 (2000).
- Mattia F, Ramundo-Orlando A e D'Inzeo G (1999): A mechanism of interaction between elf magnetic field and cationic liposomes entrapping carbonic anhydrase. 21 th annual meeting 20-24 June.
- Ramundo-Orlando A, Mattia F e D'Inzeo G (1998). Evidence for charged lipid involvement in the interaction between elf-emfs and liposome membrane. Attestato di partecipazione al 20th Annual Meeting of Bioelectromagnetism, 7-11 June, St. Petersburg Beach Florida per la presentazione dello studio e vincita del terzo posto come miglior giovane ricercatore.

15. Dott. Settimio Grimaldi

Biophysicist, former Researcher of the Institute of Translational Pharmacology, CNR, Tor Vergata, Rome, Italy

List of the most significant publications on EMF related subjects:

- Alberto F, Mario L, Sara P, Settimio G, Antonella L. Electromagnetic information delivery as a new tool in translational medicine. *Int J Clin Exp Med*. 2014 Sep 15;7(9):2550-6. PMID: 25356108; PMCID: PMC4211758.
- Foletti A, Ledda M, De Carlo F, Grimaldi S, Lisi A. Calcium ion cyclotron resonance (ICR), 7.0 Hz, 9.2 microT magnetic field exposure initiates differentiation of pituitary corticotrope-derived AtT20 D16V cells. *Electromagn Biol Med*. 2010 Aug;29(3):63-71. doi: 10.3109/15368378.2010.482480. PMID: 20707641.
- Lisi A, Rieti S, Cricenti A, Flori A, Generosi R, Luce M, Perfetti P, Foletti A, Ledda M, Rosola E, Giuliani L, Grimaldi S. ELF non ionizing radiation changes the distribution of the inner chemical functional groups in human epithelial cell (HaCaT) culture. *Electromagn Biol Med*. 2006;25(4):281-9. doi: 10.1080/15368370601044598. PMID: 17178587.
- Trivino Pardo JC, Grimaldi S, Taranta M, Naldi I, Cinti C. Microwave electromagnetic field regulates gene expression in T-lymphoblastoid leukemia CCRF-CEM cell line exposed to 900 MHz. *Electromagn Biol Med*. 2012 Mar;31(1):1-18. doi: 10.3109/15368378.2011.596251. PMID: 22332889.
- Foletti A, Lisi A, Ledda M, de Carlo F, Grimaldi S. Cellular ELF signals as a possible tool in informative medicine. *Electromagn Biol Med*. 2009;28(1):71-9. doi: 10.1080/15368370802708801. PMID: 19337897.

16 Lucia Piacentini

Geneticist, Sapienza University of Rome, Italy

List of the most significant publications on EMF related subjects:

- Cappucci U et al. "WiFi Related Radiofrequency Electromagnetic Fields Promote Transposable Element Dysregulation and Genomic Instability in *Drosophila melanogaster*." *Cells* vol. 11,24 4036. 13 Dec. 2022, doi:10.3390/cells11244036
- Casale A M et al. "Transposable element activation promotes neurodegeneration in a *Drosophila* model of Huntington's disease." *iScience* vol. 25,1 103702. 28 Dec. 2021, doi:10.1016/j.isci.2021.103702
- Maggiore A et al. "Neuroprotective Effects of PARP Inhibitors in *Drosophila* Models of Alzheimer's Disease." *Cells* vol. 11,8 1284. 9 Apr. 2022, doi:10.3390/cells11081284

17 Ugo Cappucci

Geneticist, Sapienza University of Rome, Italy

List of the most significant publications on EMF related subjects:

- Cappucci, Ugo et al. "WiFi Related Radiofrequency Electromagnetic Fields Promote Transposable Element Dysregulation and Genomic Instability in *Drosophila melanogaster*." *Cells* vol. 11,24 4036. 13 Dec. 2022, doi:10.3390/cells11244036
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- Cappucci, Ugo et al. "Stress-induced strain and brain region-specific activation of LINE-1 transposons in adult mice." *Stress (Amsterdam, Netherlands)* vol. 21,6 (2018): 575-579. doi:10.1080/10253890.2018.1485647

18. Assunta Maria Casale **Geneticist, Sapienza University of Rome, Italy**

List of the most significant publications on EMF related subjects:

- Cappucci U et al. "WiFi Related Radiofrequency Electromagnetic Fields Promote Transposable Element Dysregulation and Genomic Instability in *Drosophila melanogaster*." *Cells* vol. 11,24 4036. 13 Dec. 2022, doi:10.3390/cells11244036
- Casale A M et al. "Transposable element activation promotes neurodegeneration in a *Drosophila* model of Huntington's disease." *iScience* vol. 25,1 103702. 28 Dec. 2021, doi:10.1016/j.isci.2021.103702
- Maggiore A, Casale A M et al. "Neuroprotective Effects of PARP Inhibitors in *Drosophila* Models of Alzheimer's Disease." *Cells* vol. 11,8 1284. 9 Apr. 2022, doi:10.3390/cells11081284

19. Dott. Paolo Orio **Veterinarian, Italy**

List of the most significant publications on EMF related subjects:

- Angelo Levis, Laura Masiero, Paolo Orio, Susan Biggin, Spiridione Garbisa. Health Effects of Mobile Phone Usage. *Encyclopedia of Mobile Phone Behavior*, Zheng Yan, University at Albany, State University of New York, USA 2015.

20. Arch. Laura Masiero **Architect, Padova, Italy**

List of the most significant publications on EMF related subjects:

- Angelo Levis, Laura Masiero, Paolo Orio, Susan Biggin, Spiridione Garbisa. Health Effects of Mobile Phone Usage. *Encyclopedia of Mobile Phone Behavior*, Zheng Yan, University at Albany, State University of New York, USA 2015.

21. Dott. Cristiano Foschi **Biologist specialized in Ecology, PhD in Industrial and Environmental Hygiene, Rome, Italy**

List of the most significant publications on EMF related subjects:

- Cristaldi M, Foschi C, Szpunar G, Brini C, Marinelli F, Triolo L. Toxic Emissions from Military Test in Sardinia Territory. *International Journal of Environmental Research and Public Health*, 2013, 10, 1631-1646.
- Triolo L, Brini C, Cristaldi M, Foschi C, Marinelli F. Cap 20. Inquinamento elettromagnetico da radiazioni ionizzanti, non ionizzanti e da rumore LA SOSTENIBILITA AMBIENTALE un manuale per prendere buone decisioni. ENEA 2015 - ISBN 978-88-8286-313-5.
- Foschi C, Orta ML, Radicchi L, Szpunar G, Cristaldi M. Genotoxic effects in mice exposed to Radon emissions in indoor conditions. Comparison between in utero and neonatal exposures. *Journal of Life Sciences*, 10(2): 66-76 - doi: 10.17265/1934-7391/2016.02.002.

22. Antonella De Ninno **Physics, specialized in the interaction of electromagnetic fields with biological systems, ENEA, Rome, Italy**

List of the most significant publications on EMF related subjects:

- De Ninno A & Pregnotato M. Electromagnetic homeostasis and the role of low-amplitude electromagnetic fields on life organization, (2016): *Electromagnetic Biology and Medicine*, DOI: 10.1080/15368378.2016.1194293
- De Ninno A and Congiu Castellano A. Influence of magnetic fields on the hydration process of amino acids: Vibrational spectroscopy study of L-phenylalanine and L-glutamine, (2014) *Bioelectromagnetics*, 35:129-135 doi: 10.1002/bem.21823
- De Ninno A., Congiu Castellano A. Deprotonation of glutamic acid Induced by weak electromagnetic Field: an FTIR – ATR study - (2011) *Bioelectromagnetics*, 32(3), 218-225, doi:10.1002/bem.20631
- Effects of electromagnetic fields of low frequency and low intensity on rat metabolism - Gerardi G, De Ninno A, Prosdocimi M, Ferrari V, Barbaro F, Mazzariol S, Bernardini D and Talpo G, *BioMagnetic Research and Technology*, (2008), 6:3, doi: 10.1186/1477-044X-6-3
- Comisso N., Del Giudice E., De Ninno A., Fleischmann M., Giuliani L., Mengoli G., Merlo F., Talpo G. Dynamics of the ion cyclotron resonance effect on Amino acids adsorbed at the interfaces, (2006) *Bioelectromagnetics*, 27(1), 16-25.
- Del Giudice E., De Ninno A., Fleischmann M., Mengoli G., Milani M., Talpo G., Vitiello G. Coherent Quantum Electrodynamics in Living Matter - (2005) *Electromagnetic Biology and Medicine* 24(3), 199-210

23. Daniela Caccamo

Professor of Clinical Biochemistry, University of Messina, Italy

List of the most significant publications on EMF related subjects:

- Belpomme D, Carlo GL, Irigaray P, Carpenter DO, Hardell L, Kundi M, Belyaev I, Havas M, Adlkofer F, Heuser G, Miller AB, Caccamo D, De Luca C, von Klitzing L, Pall ML, Bandara P, Stein Y, Sage C, Soffritti M, Davis D, Moskowitz JM, Mortazavi SMJ, Herbert MR, Moshhammer H, Ledoigt G, Turner R, Tweedale A, Muñoz-Calero P, Udasin I, Koppel T, Burgio E, Vorst AV *The Critical Importance of Molecular Biomarkers and Imaging in the Study of Electrohypersensitivity. A Scientific Consensus International Report.* *Int J Mol Sci.* 2021 Jul 7;22(14):7321. doi: 10.3390/ijms22147321.
- Irigaray P, Caccamo D, Belpomme D. Oxidative stress in electrohypersensitivity self-reporting patients: Results of a prospective in vivo investigation with comprehensive molecular analysis. *Int J Mol Med.* 2018 Oct;42(4):1885-1898. doi: 10.3892/ijmm.2018.3774.
- De Luca C, Thai JC, Raskovic D, Cesareo E, Caccamo D, Trukhanov A, Korkina L. Metabolic and genetic screening of electromagnetic hypersensitive subjects as a feasible tool for diagnostics and intervention. *Mediators Inflamm.* 2014; 2014:924184. doi: 10.1155/2014/924184.
- Calabrò E, Condello S, Currò M, Ferlazzo N, Caccamo D, Magazù S, Ientile R. Effects of low intensity static magnetic field on FTIR spectra and ROS production in SH-SY5Y neuronal-like cells. *Bioelectromagnetics.* 2013 Dec;34(8):618-29. doi: 10.1002/bem.21815.
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24. Prof. Dr. Stella Conte

Doctor and PhD, University of Cagliari, Italy

List of the most significant publications on EMF related subjects:

- Piras C., Conte S., Pibiri M., Rao G., Muntoni S., Leoni V.P., Finco G., Atzori L. (2020). Metabolomic and Psychological Features in Fibromyalgia and Electromagnetic Sensitivity. *Scientific Report*, 10, 20418. DOI: 10.1038/541598-020-76876-8.
- Piras C, Conte S, et al: Metabolomics and psychological features in fibromyalgia and electromagnetic sensitivity. *Scientific Reports* | (2020) 10:20418.

**25. Dr. Ing. Massimo Rogante, B.Eng.(Mech), Nucl. Eng. Ph.D.
Director of the Rogante Engineering Studio, Italy**

List of the most significant publications on EMF related subjects:

- Giuliani L, Rogante M, Putti P.M., Saggini R, Campi elettromagnetici ed impatto ambientale: aspetti normativi, limiti di esposizione e principio di precauzione, *Ambiente & Sicurezza sul Lavoro*, EPC Editore, Vol. 2 (2022), pp. 61-69.
- Giuliani L, Putti P M, Rogante M, Saggini R, Oncogenesi e oncoterapia da campi elettromagnetici, *e-Health*, Vol. 78 (2020), pp. 8-26.
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- Giuliani L, Rogante M, Wadhams P, Zavan B, Research on electromagnetic field (EMF) and related biological hazards: state-of-the-art, *Proc. 8th International Conference "Mechanical Technologies and Structural Materials" MTSM 2018*, Split, Croatia, 27-28/09/2018, S. Jozić, N. Gjeldum, Eds., Croatian Society for Mechanical Technologies, Split, Croatia (2018), ISSN 1847-7917, pp. 45-51.

**26. Prof. Henry Lai
Professor emeritus, Department of Bioengineering, University of Washington, Seattle,
WA 98195, USA**

List of the most significant publications on EMF related subjects:

- Lai, H., Levitt, B.B. Cellular and molecular effects of non-ionizing electromagnetic fields. Submitted to [Reviews on Environmental Health](#) 2023 Apr 7. doi: 10.1515/reveh-2023-0023. Online ahead of print
- Levitt, B.B., Lai, H.C., Manville, A.M. II. Low-level EMF effects on wildlife and plants: what research tells us about: an ecosystem approach. [Frontiers in Public Health](#) 10:1000840, 2022.
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- Lai, H. Neurological effects of static and extremely-low frequency electromagnetic fields. [Electromagnetic Biology and Medicine](#). 41:201-221, 2022.

**27. Wilfried Kühling
Prof. Dr.-Ing, Martin-Luther-Universität Halle-Wittenberg, Germany**

List of the most significant publications on EMF related subjects:

- Kühling, W. (2023): Bewertungsdilemma Mobilfunk – Wie wir das Unvermögen staatlicher Risikobewertung endlich überwinden. *Metropolis*, Marburg. [ISBN 978-3-7316-1544-6]
- Kühling, W. (2022): Funkwende – Eine Denkschrift. In: *umwelt · medizin · gesellschaft* 35, 4/2022, 34-37. [ISSN 1437-2606].

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- Kühling, W. (2020): Wissenschaft verkehrt, oder: Wie Gesetzgebung und Vollzug wissenschaftliche Erkenntnisse missbrauchen. Dargestellt am Beispiel elektromagnetischer Felder. In: umwelt · medizin · gesellschaft | 33 | 1/2020, 11-18. [ISSN 1437-2606]
- Kühling, W. (2019): Mobilfunk im Kinderzimmer. In: internistische praxis 60/3, S. 543-547, Kulmbach: Mediengruppe Oberfranken
- Budzinski, B. I.; Kühling, W. (2018): „Weiße Zone Rhön“: Weniger Mobilfunk = weniger Krankheiten, Baumschäden und Insektensterben? in: Natur und Recht 40, S. 514-526 [ISSN 0172-1631]
- Kühling, W. & Germann, P. (2016): Gesundheitliche Effekte durch hoch- und niederfrequente Felder Teil 2: Niederfrequente Felder (Haushaltsstrom). In: pädiatrische praxis 86/3, Kulmbach: Mediengruppe Oberfranken. 543–551.
- Kühling, W.; Hornberg, C. (2014): Nichtionisierende Strahlung. In: UVP-Gesellschaft e.V., AG Menschliche Gesundheit (Hrsg.): Leitlinien Schutzgut Menschliche Gesundheit, Hamm. 137-152.

28. Arzu Firlarer

Dr. (PhD), Başkent University Department of Occupational Health and Safety - Türkiye

List of the most significant publications on EMF related subjects:

- R. Hamid et al., "Measurement of electromagnetic radiation from GSM base stations," 2003 IEEE International Symposium on Electromagnetic Compatibility, 2003. EMC '03., Istanbul, Turkey, 2003, pp. 1211-1214 Vol.2, doi: 10.1109/ICSMC2.2003.1429136
- Seyhan N, Canseven AG, Guler G, Tomruk A, Firlarer A. Cellular enzymatic activity and free radical formation in various tissues under static and ELF electric and magnetic field exposure. In: Non-thermal Effects and Mechanisms of Interaction between EMFs and Living Matter. Giuliani L, Soffritti M (Eds). Mattioli 1885, Bologna, Italy, 379-386 (2010).
- Seyhan N, Firlarer A, Canseven AG, Özden S, Tepe Çam S Occupational EMF exposure measurements in different work environments. In: Non-thermal Effects and Mechanisms of Interaction between EMFs and Living Matter. Giuliani L, Soffritti M (Eds). Mattioli 1885, Bologna, Italy, 157–176 (2010).
- Levitt, B. Blake, Lai, Henry C. and Manville, Albert M.. "Effects of non-ionizing electromagnetic fields on flora and fauna, Part 2 impacts: how species interact with natural and man-made EMF" Reviews on Environmental Health, vol. 37, no. 3, 2022, pp. 327-406. <https://doi.org/10.1515/reveh-2021-0050>
- Levitt, B., Lai, H. & Manville, A. (2022). Effects of non-ionizing electromagnetic fields on flora and fauna, part 1. Rising ambient EMF levels in the environment. Reviews on Environmental Health, 37(1), 81-122. <https://doi.org/10.1515/reveh-2021-0026>

29. Susan Foster

Medical Writer, Fire & Utility Consultant, Honorary Firefighter San Diego Fire Department, USA

List of the most significant publications on EMF related subjects:

- Organizer, SPECT brain scan study (2004) of California firefighters exposed to 2G tower. Study used as foundation for first ever health exemption (2015, 2018, 2021) for California firefighters.

30. Prof. David O. Carpenter

MD, Director and Professor, University at Albany, USA

List of the most significant publications on EMF related subjects:

- Bandara P and Carpenter DO (2019) Causes of cancer: Perceptions vs scientific evidence. *Eur J Cancer* <https://doi.org/10.1016/j.ejca.2029.08.016>
- Carpenter DO (2019) Extremely low frequency electromagnetic fields and cancer: How source of funding affects results. *Environ Res* 178:108688
- Belpomme D, Hardell L, Belyaev I, Burgio E and Carpenter DO (2018) Thermal and non-thermal health effects of non-ionizing radiation: an international perspective. *Environ Poll* 242: 643-658
- Carpenter DO (2015) The microwave syndrome or electrohypersensitivity: Historical background. *Rev Environ Health* 30: 217-222.

31. Prof. Christos D. Georgiou, Ph.D., Professor Emeritus of Biochemistry, Biology Department, University of Patras, Greece

List of the most significant publications on EMF related subjects:

- Georgiou, C. D. (2010). Oxidative stress-induced biological damage by low-level EMFs: Mechanism of free radical pair electron spin polarization and biochemical amplification. *European Journal of Oncology* 5: 63-113 (In: *Non-thermal effects and mechanisms of interaction between electromagnetic fields and living matter*, Giuliani, L., Soffritti, M. Eds, *Ramazzini Institute European J. Oncology Library* 5, ISBN: 978-88-6261-166-4).
- Georgiou, C.D., Margaritis, L.H. (2021). Oxidative stress and NADPH oxidase: Connecting electromagnetic fields, cation channels and biological effects. *International Journal of Molecular Sciences* 22(18): 10041.
- Georgiou, C.D., Kalaitzopoulou, E., Skipitari, M., Papadea, P., Varemменou, A., Gavriil, V., Sarantopoulou, E., Kollia, Z., Cefalas, A.-C. (2022). Physical differences between man-made and cosmic microwave electromagnetic radiation and their exposure limits, and radiofrequencies as generators of biotoxic free radicals. *Radiation* 2: 285-302.

32. Lucio Triolo

Volunteer researcher at the Institute of Comparative Anatomy of the University of Rome, La Sapienza; former researcher on Environmental impact assessment of energy systems in the Casaccia research center (Rome) of ENEA, Rome

List of the most significant publications on EMF related subjects:

1. Cristaldi M., Foschi C., Szpunar G., Brini C., Marinelli F., Triolo L. Toxic Emissions from Military Test in Sardinia Territory. *International Journal of Environmental Research and Public Health*, 2013, 10, 1631-1646.
2. Triolo L., Brini C., Cristaldi M., Foschi C., Marinelli F.. Cap 20. Inquinamento elettromagnetico da radiazioni ionizzanti, non ionizzanti e da rumore LA SOSTENIBILITA AMBIENTALE un manuale per prendere buone decisioni. ENEA 2015 - ISBN 978-88-8286-313-5.
3. Cristaldi M., Foschi C., Triolo L. Ambiente e salute nel territorio del poligono interforze Salto di Quirra. 2021- Editori Riuniti -Roma

33. Tarmo Koppel

EMF occupational safety, Tallinn University of Technology, Estonia

List of the most significant publications on EMF related subjects:

- 2022 Electromagnetic hypersensitivity close to mobile phone base stations—a case study in Stockholm, Sweden L Hardell, T Koppel *Reviews on Environmental Health* 38 (2), 219-228.
- 2022 Limiting exposure to radiofrequency radiation: the principles and possible criteria for health protection H Hinrikus, T Koppel, J Lass, P Roosipuu, M Bachmann *International Journal of Radiation Biology*, 1-11
- 2022 Possible health effects on the human brain by various generations of mobile telecommunication: a review based estimation of 5G impact H Hinrikus, T Koppel, J Lass, H Orru, P Roosipuu, M Bachmann *International Journal of Radiation Biology* 98 (7), 1210-1221
- 2022 Very high radiofrequency radiation at Skeppsbron in Stockholm, Sweden from mobile phone base station antennas positioned close to pedestrians' heads T Koppel, M Ahonen, M Carlberg, L Hardell *Environmental research* 208, 112627
- 2022 Measurements of radiofrequency electromagnetic fields, including 5G, in the city of Columbia, SC, USA T Koppel, L Hardell *World Academy of Sciences Journal* 4 (3), 1-12
- 2021 The critical importance of molecular biomarkers and imaging in the study of electrohypersensitivity. A scientific consensus international report D Belpomme, GL Carlo, P Irigaray, DO Carpenter, L Hardell, M Kundi, ... *International journal of molecular sciences* 22 (14), 7321
- 2021 Aspects on the international commission on non-ionizing radiation protection (ICNIRP) 2020 guidelines on radiofrequency radiation L Hardell, M Nilsson, T Koppel, M Carlberg *Journal of Cancer Science and Clinical Therapeutics* 5 (2), 250-285

34. Klaus Buchner

Prof. Dr. Dr.habil, Technische Universität München and ex-MEP of the European Parliament, Germany

List of the most significant publications on EMF related subjects:

- Klaus Buchner und Horst Eger: Veränderung klinisch bedeutsamer Neurotransmitter unter dem Einfluss modulierter hochfrequenter Felder – Eine Langzeitstudie unter lebensnahen Bedingungen. *umwelt • medizin • gesellschaft* [24] 1/2011, S. 44 – 57 (Change of clinically important neurotransmitters by high frequency fields, a long-time study)
- Klaus Buchner und Martin Schwab: Die Grenzwerte der 26. BImSchV: Naturwissenschaftliche und juristische Defizite. *Zeitschrift für Umweltrecht* 4/2013, 212 – 220 (The limits on high frequency radiation (26. BImSchG): Scientific and legal deficits)
- Klaus Buchner, Horst Eger und Josef Hopper: Reduzierte Fruchtbarkeit und vermehrte Missbildungen unter Mobilfunkstrahlung. Dokumentation aus einem landwirtschaftlichen Nutzbetrieb. *umwelt • medizin • gesellschaft* [27] 3/2014, S. 182 – 190 (Reduced fertility and pig malformation with statistics of 27.700 piglets)
- K.B. und M. Krout: 5G Wahn[sinn]. Die Risiken des Mobilfunks Das gefährliche Spiel mit den Grenzwerten. Die strahlungsarmen Alternativen. Mankau Verlag 2021, ISBN 978-3-86374-608-7 (5G delusion and madness)
- Michèle Rivasi und Klaus Buchner: Die Internationale Kommission zum Schutz vor nicht-ionisierender Strahlung: Interessenskonflikte, „Corporate Capture“ & der Vorstoß zum Ausbau des 5G-Netzes. Broschürenreihe „Wirkungen des Mobil- und Kommunikationsfunks“ Heft 14, 2021. ISBN 978-3-98 20 686-2-6 (ICNIRP: Conflicts of interest, corporate capture and advance to expansion of the 5G-net). Available also in French and in electronic form also in English)

35. Paul Héroux

Professor of Toxicologist and Health Effects of Electromagnetic Radiation, Faculty of Medicine, McGill University, Montreal, Canada

List of the most significant publications on EMF related subjects:

- Michèle Rivasi und Klaus Buchner: Die Internationale Kommission zum Schutz vor nicht-ionisierender Strahlung: Interessenskonflikte, „Corporate Capture“ & der Vorstoß zum Ausbau des 5G-Netzes. Broschürenreihe „Wirkungen des Mobil- und Kommunikationsfunks“ Heft 14, 2021. ISBN 978-3-98 20 686-2-6 (ICNIRP: Conflicts of interest, corporate capture and advance to expansion of the 5G-net). Available also in French and in electronic form also in English).
- Héroux, P.; Belyaev, I.; Chamberlin, K.; Dasdag, S.; De Salles, A.A.A.; Rodriguez, C.E.F.; Hardell, L.; Kelley, E.; Kesari, K.K.; Mallery-Blythe, E.; et al. Cell Phone Radiation Exposure Limits and Engineering Solutions. *Int. J. Environ. Res. Public Health* 2023, 20, 5398. <https://doi.org/10.3390/ijerph20075398>
- ICBE-EMF 2022. Scientific Evidence Invalidates Assumptions Underlying the FCC and ICNIRP Exposure Limits for Radiofrequency Radiation: Implications for 5G. *International Commission on the Biological Effects of Electromagnetic Fields (ICBE-EMF) Environmental Health* (2022) 21:92. <https://doi.org/10.1186/s12940-022-00900-9>.
- Ronald N. Kostoff, Paul Heroux, Michael Aschner, Aristides Tsatsakis: Adverse Health Effects of 5Gg Mobile Networking Technology under Real-Life Conditions. *Toxicology Letters*. <https://doi.org/10.1016/j.toxlet.2020.01.020>.
- Ying Li, Paul Héroux: Magnetic Fields Trump Oxygen in Controlling the Death of Erythro-Leukemia Cells, *Appl. Sci.* 2019, Volume 9, Issue 24, 5318. <https://www.mdpi.com/2076-3417/9/24/5318/pdf>
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- Paul Héroux and Ying Li. Plausible Genetic and Metabolic Mechanisms for Bioeffects of Very Weak ELF Magnetic Fields on Living Tissues. *BioInitiative 2012 Working Group Report*, Chapter 16. <http://www.bioinitiative.org/report/wp-content/uploads/pdfs/BioInitiativeReport2012.pdf>
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36. Olle Johansson

Associate Professor (retired, but still active), Basic and Applied Neuroscience, The Karolinska Institute, Stockholm, Sweden

List of the most significant publications on EMF related subjects:

- Gangi S, Johansson O, "Skin changes in "screen dermatitis" versus classical UV- and ionizing irradiation-related damage--similarities and differences. Two neuroscientists' speculative review", *Exp Dermatol* 1997; 6: 283-291
- Gangi S, Johansson O, "A theoretical model based upon mast cells and histamine to explain the recently proclaimed sensitivity to electric and/or magnetic fields in humans", *Med Hypotheses* 2000; 54: 663-671
- Johansson O, Gangi S, Liang Y, Yoshimura K, Jing C, Liu P-Y, "Cutaneous mast cells are altered in normal healthy volunteers sitting in front of ordinary TVs/PCs - results from open-field provocation experiments", *J Cutan Pathol* 2001; 28: 513-519.
- Johansson O, "Health effects of artificial electromagnetic fields: A wake-up call from a neuroscientist... But is anyone in power picking up? Hello...?", In: *2016 Environmental Sensitivities Symposium: TextBook* (ed. L Curran), Building Vitality, Carlton North, 2016, pp 73-94, ISBN 13:978-

1539094227

- Johansson O, "To understand adverse health effects of artificial electromagnetic fields... ..is "rocket science" needed or just common sense?", In: Essays on Consciousness – Towards a New Paradigm (ed. I. Fredriksson), Balboa Press, Bloomington, IN, USA, 2018, pp 1-38, ISBN 978-1-9822-0811-0
- Bandara P, Johansson O, "Comment on exposure to radiofrequency electromagnetic fields from Wi-Fi in Australian schools", *Radiat Prot Dosimetry* 2018; 178: 288-291
- Johansson O, "The Stockholm Declaration about "Life EMC"", *Bee Culture Magazine* 2022a; May issue: 56-61

37. Joel M. Moskowitz, Ph.D.

**Director, Center for Family and Community Health, Affiliation or Former Affiliation:
School of Public Health, University of California, Berkeley, USA**

List of the most significant publications on EMF related subjects:

- Choi, Y.-J., Moskowitz, J.M., Myung, S.K., Lee, Y.-R., Hong, Y.-C. Cellular phone use and risk of tumors: Systematic review and meta-analysis. *International Journal of Environmental Research and Public Health*. 2020, 17(21), 8079. DOI: 10.3390/ijerph17218079
- Sagar, S., Adem, S.M., Struchen, B., Loughran, S.P., Brunjes, M.E., Arangua, L., Dalvie, M.A., Croft, R.J., Jerrett, M., Moskowitz, J.M., Kuo, T., Rösli, M. Comparison of radiofrequency electromagnetic field exposure levels in different everyday microenvironments in an international context. *Environment International*. 114:297-306. 2018. DOI: 10.1016/j.envint.2018.02.036.
- Belpomme, D., Carlo, G.L., Irigaray, P., Carpenter, D.O., Hardell, L., Kundi, M., Belyaev, I., Havas, M., Adlkofer, F., Heuser, G., Miller, A.B., Caccamo, D., De Luca, C., von Klitzing, L., Pall, M.L., Bandara, P., Stein, Y., Sage, C., Soffritti, M., Davis, D., Moskowitz, J.M., Mortazavi, S.M.J., Herbert, M.R., Moshhammer, H., Ledoigt, G., Turner, R., Tweedale, A., Muñoz-Calero, P., Udasin, I., Koppel, T., Burgio, E., Vander Vorst, A. 2021. The critical importance of molecular biomarkers and imaging in the study of electrohypersensitivity. A scientific consensus international report. *International Journal of Molecular Sciences* 22, no. 14: 7321. DOI: 10.3390/ijms22147321.
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- Moskowitz, J.M. RE: Cellular Telephone Use and the Risk of Brain Tumors: Update of the UK Million Women Study. *JNCI: Journal of the National Cancer Institute*, 2022. Djac109. DOI:10.1093/jnci/djac109
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38. Linda S. Birnbaum, Ph.D., D.A.B.T., A.T.S.

Scientist Emeritus and Former Director, National Institute of Environmental Health Sciences and National Toxicology Program, Scholar in Residence, Nicholas School of the Environment, Duke University, USA

List of the most significant publications on EMF related subjects:

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- Lichtveld M, Birnbaum L. Advances in Environmental Health and Disaster Research 15 Years After Hurricane Katrina. *Am J Public Health*. 2020 Oct;110(10):1478-1479. doi: 10.2105/AJPH.2020.305739. PMID: 32903076; PMCID: PMC7483094.
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39. Susan Pockett

MSc Cell Biology; PhD Neurophysiology, University of Auckland (retired), New Zealand

List of the most significant publications on EMF related subjects:

- Electrosmog: the health effects of microwave pollution <https://bit.ly/ElectrosmogPockett> *Stråletåka : Helse og miljøforurensningen fra mikrobølgerne* (Z-Forlag, Norge – Norwegian translation of *Electrosmog*); *lledaagse Stralings Overlast de gevolgen van elektrosmog voor de gezondheid* (Visser – Dutch translation of *Electrosmog*)
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40. Magda Havas

Professor Emerita, School of the Environment, Trent University, Canada

List of the most significant publications on EMF related subjects:

- Havas, M. and J. Marrongelle. 2021. Original Findings Confirmed in Replication Study: Provocation with 2.4 GHz Cordless Phone affects the Autonomic Nervous System (ANS) as measured by Heart Rate Variability (HRV). *Medical Research Archives* 9(11): 17 pages
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41. David Gee,

Visiting Fellow, Centre for Pollution Research and Policy, Brunel University, London, UK

List of the most significant publications on EMF related subjects:

- Statement on Mobile Phones and the Potential Head cancer risk for the EMF Hearing on EMF, Council of Europe, Paris, February 25th 2011. Professor Jacqueline McGlade, Director, European Environment Agency, and David Gee, Senior Adviser, Science, Policy and Emerging issues.

42. Paul Ben Ishai

Senior Lecturer, Department of Physics, Ariel University, Israele

List of the most significant publications on EMF related subjects:

- Wireless technologies, non-ionizing electromagnetic fields and children: Identifying and reducing health risks, *Current problems in Pediatric and Adolescent Health Care*, 53(2) 101374 (2023).
- Problems in evaluating the health impacts of radio frequency radiation, *Environmental Research*, (2023) In Press, doi.org/10.1016/j.envres.2022.115038, (2023).
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43. Florian M. König

Dipl.-Ing (FH), D.Sc. (US-Dr. 2004), Independent researcher, Germany

List of the most significant publications on EMF related subjects:

- Florian M. König, Christian B. König. Investigations in Meteorosensitivity- Human Statistics and Parallel Impact Tests by Emitted Atmospheric Weather-Related Electromagnetic Fields. *Japan Journal of Medicine* 2019; 2(4): 382 - 388 . doi: 10.31488/jjm.1000146
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44. Elihu D Richter MD MPH

Professor of Occupational and Environmental Medicine, Hebrew University-Hadassah School of Public Health and Community Medicine, Israel

List of the most significant publications on EMF related subjects:

- Peleg M, Nativ O, Richter ED. Radio frequency radiation-related cancer: assessing causation in the occupational/military setting. *Environ Res.* 2018;163:123–33.
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45. Ing. Michael Peleg

Communication systems engineer, Msc, Technion, Israel

List of the most significant publications on EMF related subjects:

1. M. Peleg, E. M. Berry, M. Deitch, O. Nativ, E. Richter: On radar and radio exposure and cancer in the military setting, *Environmental Research*, Volume 216, Part 2, Jan 2023, 114610, ISSN 0013-9351, <https://doi.org/10.1016/j.envres.2022.114610>
2. Michael Peleg, Or Nativ, Elihu D. Richter: Radio frequency radiation related cancer: assessing causation in the occupational/military setting, *Environmental Research*, Volume 163, May 2018, Pages 123-133, ISSN 0013-9351, <https://doi.org/10.1016/j.envres.2018.01.003>.
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46. Nasr Radwan

Professor at the Faculty of Science, Department of Zoology, Cairo University, Egypt

List of the most significant publications on EMF related subjects:

- Mohammed HS, Fahmy HM, Radwan NM, Elsayed AA. Non-thermal continuous and modulated electromagnetic radiation fields effects on sleep EEG of rats. *J Adv Res*. 2013 Mar;4(2):181-7. doi: [10.1016/j.jare.2012.05.005](https://doi.org/10.1016/j.jare.2012.05.005). Epub 2012 Jun 25. PMID: 25685416; PMCID: PMC4195462.
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47. Lennart Hardell

MD, PhD, Professor (retired). Oncology, Cancer Epidemiology, Department of Oncology, University Hospital, Örebro, Sweden (retired) The Environment and Cancer Research Foundation, Örebro, Sweden (present)

List of the most significant publications on EMF related subjects:

- Hardell L, Näsman Å, Pålsson A, Hallquist A, Hansson Mild K. Use of cellular telephones and the risk for brain tumours: A case-control study. *Int J Oncology* 1999;15:113-116.
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- Nilsson M, Hardell L. 5G Radiofrequency radiation caused the microwave syndrome in a family living close to the base stations. *J Cancer Sci Clin Ther*. 2023;7: 127-134

48. Devra L. Davis, PhD, MPH

Fellow American College of Epidemiology, Visiting Prof., Ondokuz Mayıs Univ. Medical School; Samsun, Turkey, Associate Editor, Frontiers in Radiation and Health

List of the most significant publications on EMF related subjects:

- Belpomme D, Carlo GL, Irigaray P, Carpenter DO, Hardell L, Kundi M, Belyaev I, Havas M, Adlkofer F, Heuser G, Miller AB, Caccamo D, De Luca C, von Klitzing L, Pall ML, Bandara P, Stein Y, Sage C, Soffritti M, Davis D, Moskowitz JM, Mortazavi SMJ, Herbert MR, Moshhammer H, Ledoigt G, Turner R, Tweedale A, Muñoz-Calero P, Udasin I, Koppel T, Burgio E, Vorst AV. *The Critical Importance of Molecular Biomarkers and Imaging in the Study of Electrohypersensitivity*. A Scientific Consensus International Report. *Int J Mol Sci*. 2021 Jul 7;22(14):7321. doi: 10.3390/ijms22147321.
- Davis D, Birnbaum L, Ben-Ishai P, Taylor H, Sears M, Butler T, Scarato T. Wireless technologies, non-ionizing electromagnetic fields and children: Identifying and reducing health risks. *Curr Probl Pediatr Adolesc Health Care*. 2023 Feb;53(2):101374. doi: 10.1016/j.cppeds.2023.101374. Epub 2023 Mar 17. PMID: 36935315.
- Miller AB, Sears ME, Morgan LL, Davis DL, Hardell L, Oremus M, Soskolne CL. Risks to Health and Well-Being From Radio-Frequency Radiation Emitted by Cell Phones and Other Wireless Devices. *Front Public Health*. 2019 Aug 13;7:223. doi: 10.3389/fpubh.2019.00223. PMID: 31457001; PMCID: PMC6701402.
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- Altun G, Kaplan S, Deniz OG, Kocacan SE, Canan S, Davis D, Marangoz C. Protective effects of melatonin and omega-3 on the hippocampus and the cerebellum of adult Wistar albino rats exposed to electromagnetic fields. *J Microsc Ultrastruct*. 2017 Oct-Dec;5(4):230-241. doi: 10.1016/j.jmau.2017.05.006. Epub 2017 Jun 1. PMID: 30023259; PMCID: PMC6025784.
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- Deniz OG, Kaplan S, Selçuk MB, Terzi M, Altun G, Yurt KK, Aslan K, Davis D. Effects of short and long term electromagnetic fields exposure on the human hippocampus. *J Microsc Ultrastruct*. 2017 Oct-Dec;5(4):191-197. doi: 10.1016/j.jmau.2017.07.001. Epub 2017 Jul 13. PMID: 30023254; PMCID: PMC6025790.
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- Fernández C, de Salles AA, Sears ME, Morris RD, Davis DL. Absorption of wireless radiation in the child versus adult brain and eye from cell phone conversation or virtual reality. *Environ Res*. 2018 Nov;167:694-699. doi: 10.1016/j.envres.2018.05.013. Epub 2018 Jun 5. PMID: 29884550.
- Ben Ishai P, Davis D, Taylor H, Birnbaum L. Problems in evaluating the health impacts of radio frequency radiation. *Environ Res*. 2022 Dec 15:115038. doi: 10.1016/j.envres.2022.115038. Epub ahead of print. PMID: 36863648.
- Davis D, Birnbaum L, Ben-Ishai P, Taylor H, Sears M, Butler T, Scarato T. Wireless technologies, non-ionizing electromagnetic fields and children: Identifying and reducing health risks. *Curr Probl Pediatr Adolesc Health Care*. 2023 Feb;53(2):101374. doi: 10.1016/j.cppeds.2023.101374. Epub 2023 Mar 17. PMID: 36935315.

49. Dott. Alkiviadis-Constantinos Cefalas

Physics, Interaction of radiation with matter, Biophysics. National Hellenic Research Foundation, 48 Vassileos Constantinou Avenue, Athens, 11635, Greece

List of the most significant publications on EMF related subjects:

- Physical Differences between Man-Made and Cosmic Microwave Electromagnetic Radiation and Their Exposure Limits, and Radiofrequencies as Generators of Biotoxic Free Radicals. *Radiation*, 2, 4, 285–302 (2022).
- Dynamics and Physics of Integrin Activation in Tumor Cells by Nano-Sized Extracellular Ligands and Electromagnetic Fields. "The Integrin Interactome." Editors: Vicente-Manzanares, Miguel (Ed.), Springer Science+Business Media, LLC, part of Springer Nature, pp.199-233, (2021).
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- THz-bridge: a European project for the study of the interaction of Terahertz radiation with biological systems. *Proc. Conference Digest of the 2004 Joint 29th International Conference on infrared and millimeter waves and 12th International Conference on Terahertz Electronics*, pp. 817-818 (2004).
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- Nucleation and Crystallization of CaCO₃ in Applied magnetic fields. *Cryst. Eng.* 5, 243 (2002).

50. Dott Evangelia Sarantopoulou

Physics, Interaction of radiation with matter, Biophysics, National Hellenic Research Foundation, 48 Vassileos Constantinou Avenue, Athens, 11635, Greece

List of the most significant publications on EMF related subjects:

- Physical Differences between Man-Made and Cosmic Microwave Electromagnetic Radiation and Their Exposure Limits, and Radiofrequencies as Generators of Biotoxic Free Radicals. *Radiation*, 2, 4, 285–302 (2022).
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51. Hanns Moshhammer

**Doz. Dr., Environmental Health, Medical University of Vienna,
ZPH, Department of Environmental Health, Austria**

List of the most significant publications on EMF related subjects:

- Belyaev I, Dean A, Eger H, Hubmann G, Jandrisovits R, Johansson O, Kern M, Kundi M, Lercher P, Mosgöller W, Moshhammer H, Müller K, Oberfeld G, Ohnsorge P, Pelzmann P, Scheingraber C, Thill R. EUROPAEM EMF Guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems and illnesses. *Reviews on Environmental Health* 2016 31 (3), 363-397
- Hutter H-P, Moshhammer H, Wallner P, Kundi M. Subjective symptoms, sleeping problems, and cognitive performance in subjects living near mobile phone base stations. *Occupational and Environmental Medicine* 2006;63:307-313.

52. SM Javad Mortazavi

**Professor of Medical Physics, Founding Director of Ionizing and Non-ionizing
Radiation Protection Research Center, Tehran University of Medical Sciences, Iran**

List of the most significant publications on EMF related subjects:

- Jooyan N, Mortazavi SM. Evidence Base on the Potential Carcinogenicity of Radiofrequency Radiation. *JAMA Oncol.* 2022;8(6):948. doi:10.1001/jamaoncol.2022.0931.
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- Mortazavi SMJ, Paknahad M, Khaleghi I, Eghlidospour M. Effect of radiofrequency electromagnetic fields (RF-EMFS) from mobile phones on nickel release from orthodontic brackets: An in vitro study. *Int Orthod.* 2018;16(3):562-70. doi: 10.1016/j.ortho.2018.06.013
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