

The Protection Shield generator card.

We are happy to introduce our Protection Shield generator card to you.

Introduction and background.

This card is the first one of a series of developments that we will bring to you. Based on ideas of an experienced medical doctor and a medical cellular research professional our research center developed a card that is the solution for a big issue at the moment.

With the introduction of new technology and new means of communication we are facing a new health challenge when we use the computer and mobile phone. Like the new 5G, smart meters and high frequency WIFI.

Nowadays we are surrounded with a high frequency. 30 to 300 Gigahertz, and at least 30.000 Watts of power.

24/7 we are bombarded with a strong, high frequency electromagnetic field, as if we were living in a microwave.

Why it works.

The effect of this card is multiple. It's a receiver that absorbs and transposes not natural electromagnetic waves into natural and empowering body-field energy.

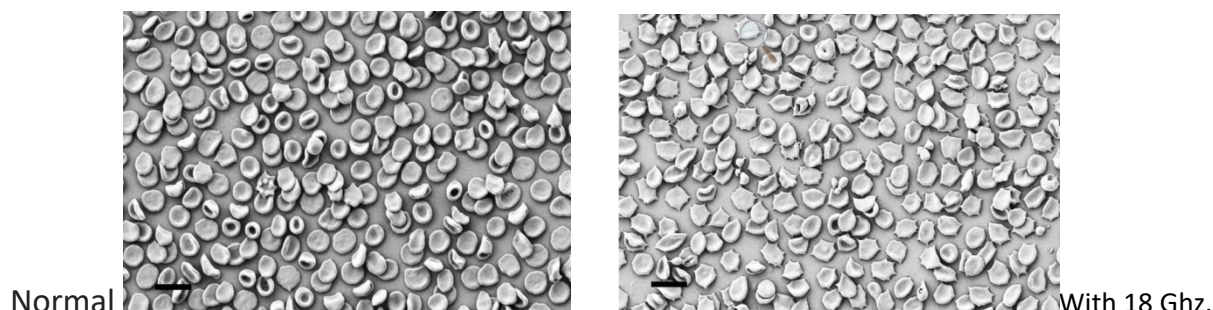
For the antenna we developed a special composition of metals, special with *Bismuth*.

Bismuth is a metal that helps us to adapt at high frequencies and earthing us at the same time.

Water and our card.

Red blood cells are very vulnerable for Electromagnetic Field (EMF) with Gigahertz frequencies, like 5G.

It is believed that EMF-induced **rotating water dipoles** (like tornados) cause disturbance of the membrane. See the spikes in the 18Ghz. treated picture below.



The effect of a high frequency electromagnetic field in the microwave range on red blood cells. *Scientific Reports* volume 7, Article number: 10798 (2017), [The Hong Phong Nguyen e.a.](#)

Our body is in volume for 95% water (Dr. Polak). That is why our card is primary protecting the natural properties of our body water and making our cell defense stronger against disharmonizing energies.

How it works?

Out of the electromagnetic field with disharmonious frequencies, the card transposes this field into a natural biofield energy that strengthens our body, without a frequency. A process that can be compared with transforming electricity from AC (alternating) to DC (Direct). For scientist : transforming ElectroMagnetic Field to Scalar field energy.

In the next pictures is shown the effect of a mobile phone on saltwater cristallisation in the left picture.

The harmonizing effect of our device in the right picture.



Mobile Phone



With Card

How to use?

-The card is as big as a credit card , so you can easily put it in your wallet, purse, pocket or phone.

-It's the best to put the card facing with the picture with circles to the body. This side is generating a right turned vortex.

-For bringing extra energy from the card to specific goals, you can hold the card between your fingers, touching at the left and right, on the side, the metal strips. These are special made, metal connection grips, for an enhancing effect. (stronger muscels, or more energie)

What this device can do for you.

Already in 2015, 215 scientists from 41 countries communicated their alarm to the United Nations (UN) and World Health Organization (WHO).^[9] They stated that “numerous recent scientific publications have shown that EMF [electromagnetic fields] affects living organisms at levels well below most international and national guidelines”. More than 10,000 peer-reviewed scientific studies demonstrate harm to human health from RF radiation.^{[10][11]} Effects include:

- Alteration of heart rhythm^[12]
- Altered gene expression^[13]
- Altered metabolism^[14]
- Altered stem cell development^[15]
- Cancers^[16]
- Cardiovascular disease^[17]
- Cognitive impairment^[18]
- DNA damage^[19]
- Impacts on general well-being^[20]
- Increased free radicals^[21]
- Learning and memory deficits^[22]
- Impaired sperm function and quality^[23]

- Miscarriage^[24]
- Neurological damage^[25]
- Obesity and diabetes^[26]
- Oxidative stress^[27]

The effective range of the card is about 1 foot in all directions.

Use the card well by taking it with you 24 hours a day, to get the benefit of the protection shield.

References

- [1] De Grasse M. AT&T outlines 5G network architecture. RCR Wireless News, Oct. 20, 2016. <https://www.rcrwireless.com/20161020/network-infrastructure/att-outlines-5g-network-architecture-tag4>. Accessed July 9, 2018.
- [2] Hong W, Jiang ZH, Yu C, et al. Multibeam antenna technologies for 5G wireless communications. IEEE Tr Ant Prop. 2017;65(12):6231-6249. doi: 10.1109/TAP.2017.2712819.
- [3] Chou H-T. Design Methodology for the Multi-Beam Phased Array of Antennas with Relatively Arbitrary Coverage Sector. Conference paper: 2017 11th European Conference on Antennas and Propagation; Paris, France. doi: 10.23919/EuCAP.2017.7928095.
- [4] 47 CFR § 30.202 — Power limits.
- [5] SpaceX, WorldVu, Boeing, Telesat Canada, and Iridium.
- [6] Federal Communications Commission. Pending Application for Satellite Space and Earth Station Authorization. Schedule S, Technical Report. Dated April 2016, filed March 1, 2017. http://licensing.fcc.gov/myibfs/download.do?attachment_key=1200245. Accessed June 17, 2018.
- [7] Governments and organizations that ban or warn against wireless technology. Cellular Phone Task Force website. <http://www.cellphonetaskforce.org/governments-and-organizations-that-ban-or-warn-against-wireless-technology/>. Accessed June 10, 2018. Continually updated.
- [8] The International Doctors' Appeal (Freiburger Appeal). <http://freiburger-appell-2012.info/en/home.php?lang=EN>. Published in 2012. Accessed June 10, 2018.
- [9] International appeal: scientists call for protection from non-ionizing electromagnetic field exposure. International EMF Scientist Appeal website. <https://emfscientist.org/index.php/emf-scientist-appeal>. Published May 11, 2015. Accessed June 10, 2018. As of March 2018, 237 EMF scientists from 41 nations had signed the Appeal.
- [10] Glaser Z. Cumulated index to the bibliography of reported biological phenomena ('effects') and clinical manifestations attributed to microwave and radio-frequency radiation: report, supplements (no. 1-9). BEMS newsletter (B-1 through B-464), 1971-1981. <http://www.cellphonetaskforce.org/wp-content/uploads/2018/06/Zory-Glasers-index.pdf>. Accessed June 26, 2018. Report and 9 supplements issued by Naval Medical Research Institute, Bethesda, MD; Research Division, Bureau of Medicine & Surgery, Dept. of the Navy, Washington, DC; Electromagnetic Radiation Project Office, Naval Medical Research & Development Command, Bethesda, MD; Naval Surface Weapons Center, Dahlgren, VA; and National Institute for Occupational Safety and Health, Rockville, MD. Index by Julie Moore and Associates, Riverside, CA, 1984. Lt. Zorach Glaser, PhD, catalogued 5,083 studies, books and conference reports for the US Navy through 1981.
- [11] Sage C, Carpenter D., eds. BioInitiative Report: A Rationale for a Biologically-Based Public Exposure Standard for Electromagnetic Radiation. Sage Associates; 2012. www.bioinitiative.org. Accessed June 10, 2018. The 1,470-page BioInitiative Report, authored by an international group of 29 experts, has reviewed more than 1,800 new studies and is continually updated.
- [12] Grigoriev Y. Bioeffects of modulated electromagnetic fields in the acute experiments (results of Russian researches). Annu Russ Natl Comm Non-Ionising Radiat Protect. 2004:16-

73. <http://bemri.org/publications/biological-effects-of-non-ionizing-radiation/78-grigoriev-bioeffects07/file.html>. Accessed June 17, 2018.
- [13] Obajuluwa AO, Akinyemi AJ, Afolabi OB, et al. Exposure to radio-frequency electromagnetic waves alters acetylcholinesterase gene expression, exploratory and motor coordination-linked behaviour in male rats. *Toxicol Rep.* 2017;4:530-534. <https://www.sciencedirect.com/science/article/pii/S221475001730063X/pdf?md5=0af5af76124b1f89f6d23c90c5c7764f&pid=1-s2.0-S221475001730063X-main.pdf>. Accessed June 17, 2018.
- [14] Volkow ND, Tomasi D, Wang G-J, et al. Effects of cell phone radiofrequency signal exposure on brain glucose metabolism. *JAMA.* 2012;305(8):808-813. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3184892>. Accessed June 17, 2018.
- [15] Eghlidospour M, Ghanbari A, Mortazavi S, Azari H. Effects of radiofrequency exposure emitted from a GSM mobile phone on proliferation, differentiation, and apoptosis of neural stem cells. *Anat Cell Biol.* 2017;50(2):115-123. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5509895>. Accessed June 17, 2018.
- [16] Hardell L, Carlberg C. Mobile phones, cordless phones and the risk for brain tumors. *Int J Oncol.* 2009;35(1):5-17. <https://www.spandidos-publications.com/ijo/35/1/5/download>. Accessed June 17, 2018.
- [17] Bandara P, Weller S. Cardiovascular disease: Time to identify emerging environmental risk factors. *Eur J Prev Cardiol.* 2017;24(17):1819-1823. <http://journals.sagepub.com/doi/10.1177/2047487317734898>. Accessed June 17, 2018.
- [18] Deshmukh P et al. Cognitive impairment and neurogenotoxic effects in rats exposed to low-intensity microwave radiation. *Int J Toxicol.* 2015;34(3):284-290. doi: 10.1177/1091581815574348.
- [19] Zothansiana, Zosangzuali M, Lalramdinpui M, Jagetia GC. Impact of radiofrequency radiation on DNA damage and antioxidants in peripheral blood lymphocytes of humans residing in the vicinity of mobile phone base stations. *Electromag Biol Med.* 2017;36(3):295-305. doi: 10.1080/15368378.2017.1350584.
- [20] Zwamborn A, Vossen S, van Leersum B, Ouwens M, Mäkel W. Effects of Global Communication system radio-frequency fields on Well Being and Cognitive Functions of human subjects with and without subjective complaints. TNO Report FEL-03-C148. The Hague: TNO Physics and Electronics Laboratory; 2003. http://www.milieugezondheid.be/dossiers/gsm/TNO_rapport_Nederland_sept_2003.pdf. Accessed June 16, 2018.
- [21] Havas M. When theory and observation collide: Can non-ionizing radiation cause cancer? *Environ Pollut.* 2017;221:501-505. doi: 10.1016/j.envpol.2016.10.018.
- [22] Narayanan SN, Kumar RS, Potu BK, Nayak S, Mailankot M. Spatial memory performance of Wistar rats exposed to mobile phone. *Clinics.* 2009;64(3):231-234. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2666459>. Accessed June 17, 2018.
- [23] Houston BJ, Nixon B, King BV, De Luliis GN, Aitken RJ. The effects of radiofrequency electromagnetic radiation on sperm function. *Reproduction.* 2016;152(6):R263-R266. <http://www.reproduction-online.org/content/152/6/R263.long>. Accessed June 17, 2018.
- [24] Han J, Cao Z, Liu X, Zhang W, Zhang S. Effect of early pregnancy electromagnetic field exposure on embryo growth ceasing. *Wei Sheng Yan Jiu.* 2010;39(3):349-52 (in Chinese). <https://www.ncbi.nlm.nih.gov/pubmed/20568468>.
- [25] Salford LG, Brun AE, Eberhardt JL, Malmgren L, Persson BRR. Nerve cell damage in mammalian brain after exposure to microwaves from GSM mobile phones. *Environ Health Perspect.* 2003;111(7):881-883. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1241519/pdf/ehp0111-000881.pdf>. Accessed June 17, 2018.
- [26] Milham S. Evidence that dirty electricity is causing the worldwide epidemics of obesity and diabetes. *Electromagn Biol Med.* 2014;33(1):75-78. doi: 10.3109/15368378.2013.783853.

- [27] Yakymenko I, Tsybulin O, Sidorik E, Henshel D, Kyrylenko O, Kyrylenko S. Oxidative mechanisms of biological activity of low-intensity radiofrequency radiation. *Electromagn Biol Med*. 2016;35(2):186-202. doi: 10.3109/15368378.2015.1043557.
- [28] Herbert M, Sage C. Findings in autism (ASD) consistent with electromagnetic fields (EMF) and radiofrequency radiation (RFR). In: Sage C, Carpenter D., eds. *BioInitiative Report: A Rationale for a Biologically-Based Public Exposure Standard for Electromagnetic Radiation*. Sec. 20. Sage Associates; 2012. http://www.bioinitiative.org/report/wp-content/uploads/pdfs/sec20_2012_Findings_in_Autism.pdf. Accessed June 29, 2018.
- [29] Divan HA, Kheifets L, Obel C, Olsen J. Prenatal and postnatal exposure to cell phone use and behavioral problems in children. *Epidemiology* 2008;19: 523–529. http://www.wifiinschools.com/uploads/3/0/4/2/3042232/divan_08_prenatal_postnatal_cell_phone_use.pdf. Accessed June 29, 2018.
- [30] Divan HA, Kheifets L, Obel C, Olsen J. Cell phone use and behavioural problems in young children. *J Epidemiol Community Health*. 2010;66(6):524-529. doi: 10.1136/jech.2010.115402. Accessed July 16, 2018.
- [31] Li D-K, Chen H, Odouli R. Maternal exposure to magnetic fields during pregnancy in relation to the risk of asthma in offspring. *Arch Pediatr Adolesc Med*. 2011;165(10):945-950. <https://jamanetwork.com/journals/jamapediatrics/fullarticle/1107612>. Accessed June 29, 2018.
- [32] Warnke U. Bees, Birds and Mankind: Destroying Nature by ‘Electrosmog.’ Competence Initiative for the Protection of Humanity, Environment and Democracy; 2009. https://www.researchgate.net/publication/241538484_BEES_BIRDS_AND_MANKIND. Accessed June 10, 2018.
- [33] Balmori A. Electromagnetic pollution from phone masts. Effects on wildlife. *Pathophysiology*. 2009;16:191-199. doi:10.1016/j.pathophys.2009.01.007. Accessed June 10, 2018.
- [34] Cammaerts MC, Johansson O. Ants can be used as bio-indicators to reveal biological effects of electromagnetic waves from some wireless apparatus. *Electromagn Biol Med*. 2014;33(4):282-288. doi: 10.3109/15368378.2013.817336.
- [35] Broomhall M. Report detailing the exodus of species from the Mt. Nardi area of the Nightcap National Park World Heritage Area during a 15-year period (2000–2015). Report for the United Nations Educational Scientific and Cultural Organization (UNESCO). <https://ehtrust.org/wp-content/uploads/Mt-Nardi-Wildlife-Report-to-UNESCO-FINAL.pdf>. Accessed June 17, 2018.
- [36] Kordas D. Birds and Trees of Northern Greece: Changes since the Advent of 4G Wireless. 2017. <https://einarflydal.files.wordpress.com/2017/08/kordas-birds-and-trees-of-northern-greece-2017-final.pdf>. Accessed June 29, 2018.
- [37] Waldmann-Selsam C, Balmori-de la Puente A, Breunig H, Balmori A. Radiofrequency radiation injures trees around mobile phone base stations. *Sci Total Environ*. 2016;572:554-569. doi: 10.1016/j.scitotenv.2016.08.045.
- [38] Balmori A. Mobile phone mast effects on common frog (*Rana temporaria*) tadpoles: The city turned into a laboratory. *Electromagn Biol Med*. 2010(1-2):31-35. doi: 10.3109/15368371003685363.
- [39] Margaritis LH, Manta AK, Kokkiliaris KD, et al. *Drosophila* oogenesis as a bio-marker responding to EMF sources. *Electromagn Biol Med*. 2014;33(3):165-189. doi: 10.3109/15368378.2013.800102.
- [40] Kumar NR, Sangwan S, Badotra P. Exposure to cell phone radiations produces biochemical changes in worker honey bees. *Toxicol Int*. 2011;18(1):70-72. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3052591>. Accessed June 17, 2018.
- [41] Balmori A. Efectos de las radiaciones electromagnéticas de la telefonía móvil sobre los insectos. *Ecosistemas*. 2006;15(1):87-95. <https://www.revistaecosistemas.net/index.php/ecosistemas/article/download/520/495>. Accessed June 17, 2018.
- [42] Balmori A. The incidence of electromagnetic pollution on wild mammals: A new “poison” with a slow effect on nature? *Environmentalist*. 2010;30(1):90-97. doi: 10.1007/s10669-009-9248-y
- [43] Magras IN, Xenos TD. RF radiation-induced changes in the prenatal development of mice. *Bioelectromagnetics* 1997;18(6):455-

461. http://collectiveactionquebec.com/uploads/8/0/9/7/80976394/exhibit_r-62_magras_mice_study.pdf. Accessed June 17, 2018.
- [44] Otitolaju AA, Osunkalu VO, Oduware R, et al. Haematological effects of radiofrequency radiation from GSM base stations on four successive generations (F1 – F4) of albino mice, *Mus Musculus*. *J Environ Occup Sci*. 2012;1(1):17-22. <https://www.ejmanager.com/mnstemp/62/62-1332160631.pdf?t=1532966199>. Accessed July 30, 2018.
- [45] Magone I. The effect of electromagnetic radiation from the Skrunđa Radio Location Station on *Spirodela polyrhiza* (L.) Schleiden cultures. *Sci Total Environ*. 1996;180(1):75-80. doi: 0048-9697(95)04922-3.
- [46] Nittby H, Brun A, Strömbad S, et al. Nonthermal GSM RF and ELF EMF effects upon rat BBB permeability. *Environmentalist*. 2011;31(2):140-148. doi: 10.1007/s10669-011-9307-z.
- [47] Haggerty K. Adverse influence of radio frequency background on trembling aspen seedlings: Preliminary observations. *International Journal of Forestry Research*. 2010; Article ID 836278. <http://downloads.hindawi.com/journals/ijfr/2010/836278.pdf>. Accessed June 17, 2018.
- [48] Taheri M, Mortazavi SM, Moradi M, et al. Evaluation of the effect of radiofrequency radiation emitted from Wi-Fi router and mobile phone simulator on the antibacterial susceptibility of pathogenic bacteria *Listeria monocytogenes* and *Escherichia coli*. *Dose Response*. 2017;15(1):1559325816688527. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5298474>. Accessed June 18, 2018.
- [49] International Agency for Research on Cancer. Non-ionizing radiation, part 2: radiofrequency electromagnetic fields. In: *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans*. Vol 102. Lyon, France: WHO Press; 2013. <http://monographs.iarc.fr/ENG/Monographs/vol102/mono102.pdf>. Accessed July 2, 2018.
- [50] Carlberg M, Hardell L. Evaluation of mobile phone and cordless phone use and glioma risk using the Bradford Hill viewpoints from 1965 on association and causation. *Biomed Res Int*. 2017;9218486. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5376454>. Accessed June 17, 2018.
- [51] Blackman CF. Evidence for disruption by the modulating signal. In: Sage C, Carpenter D., eds. *BioInitiative Report: A Rationale for a Biologically-Based Public Exposure Standard for Electromagnetic Radiation*. Sec. 15. Sage Associates; 2012. http://www.bioinitiative.org/report/wp-content/uploads/pdfs/sec15_2007_Modulation_Blackman.pdf. Accessed June 19, 2018.
- [52] Williams ER. The global electrical circuit: a review. *Atmos Res*. 2009;91(2):140-152. doi:10.1016/j.atmosres.2008.05.018.
- [53] Wever R. Human circadian rhythms under the influence of weak electric fields and the different aspects of these studies. *Int J Biometeorol*. 1973;17(3):227-232. www.vitatec.com/docs/referenz-umgebungsstrahlung/wever-1973.pdf. Accessed June 10, 2018.
- [54] Wever R. ELF-effects on human circadian rhythms. In: *ELF and VLF Electromagnetic Field Effects*. (Persinger M, ed.) New York: Plenum; 1974:101-144.
- [55] Engels S, Schneider N-L, Lefeldt N, et al. Anthropogenic electromagnetic noise disrupts magnetic compass orientation in a migratory bird. *Nature*. 2014;509:353-356. doi:10.1038/nature13290.
- [56] Ludwig W, Mecke R. Wirkung künstlicher Atmosphärischer auf Säuger. *Archiv für Meteorologie, Geophysik und Bioklimatologie Serie B (Archives for Meteorology Geophysics and Bioclimatology Series B Theoretical and Applied Climatology)*. 1968;16(2-3):251-261. doi:10.1007/BF02243273.
- [57] Morley EL, Robert D. Electric fields elicit ballooning in spiders. *Current Biology*. 2018;28:1-7. [https://www.cell.com/current-biology/pdf/S0960-9822\(18\)30693-6.pdf](https://www.cell.com/current-biology/pdf/S0960-9822(18)30693-6.pdf). Accessed July 14, 2018.
- [58] Weber J. Die Spinnen sind Deuter des kommenden Wetters (Spiders Are Predictors of the Coming Weather). 1800; Landshut, Germany. "The electrical material works always in the atmosphere; no season can retard its action. Its effects on the weather are almost undisputed; spiders sense it, and alter their behaviour accordingly."
- [59] König H. Biological effects of extremely low frequency electrical phenomena in the atmosphere. *J Interdiscipl Cycle Res*. 2(3):317-323. www.tandfonline.com/doi/abs/10.1080/09291017109359276. Accessed June 10, 2018.

- [60] Sulman F. The Effect of Air Ionization, Electric Fields, Atmospherics, and Other Electric Phenomena On Man and Animal. American lecture series. Vol 1029. Springfield, Ill: Thomas; 1980.
- [61] König HL, Krüger, AP, Lang S, Sönning, W. Biologic Effects of Environmental Electromagnetism. New York: Springer-Verlag; 1981. doi: 10.1007/978-1-4612-5859-9.
- [62] Sazanova E, Sazanov A, Sergeenko N, Ionova V, Varakin Y. Influence of near earth electromagnetic resonances on human cerebrovascular system in time of heliogeophysical disturbances. Progress in Electromagnetics Research Symposium. August 2013:1661-1665.
- [63] Cherry N. Schumann resonances, a plausible biophysical mechanism for the human health effects of solar/geomagnetic activity. Natural Hazards. 2002;26(3):279-331. doi:10.1023/A:1015637127504.
- [64] Polk C. Schumann resonances. In Volland H, ed. CRC Handbook of Atmospherics. Vol. 1. Boca Raton, Fla: CRC Press; 1982:111-178. <https://archive.org/stream/in.ernet.dli.2015.132044/2015.132044.Crc-Handbook-Of-Atmospherics-Vol-1#page/n115/mode/2up/search/polk>. Accessed June 18, 2018.
- [65] Park C, Helliwell R. Magnetospheric effects of power line radiation. Science. 1978;200(4343):727-730. doi:10.1126/science.200.4343.727.
- [66] Bullough K, Kaiser TR, Strangeways HJ. Unintentional man-made modification effects in the magnetosphere. J Atm Terr Phys. 1985;47(12):1211-1223.
- [67] Luette JP, Park CG, Helliwell RA. The control of the magnetosphere by power line radiation. J Geophys Res. 1979;84:2657-2660.
- [68] Becker RO, Selden G. The Body Electric: Electromagnetism and the Foundation of Life. New York: Morrow; 1985:325-326.
- [69] Firstenberg A. Planetary Emergency. Cellular Phone Task Force website. <http://www.cellphonetaskforce.org/planetary-emergency>. Published 2018. Accessed June 10, 2018.
- [70] Becker RO. The basic biological data transmission and control system influenced by electrical forces. Ann NY Acad Sci. 1974;238:236-241. doi: 10.1111/j.1749-6632.1974.tb26793.x.
- [71] Maxey ES, Beal JB. The electrophysiology of acupuncture; How terrestrial electric and magnetic fields influence air ion energy exchanges through acupuncture points. International Journal of Biometeorology. 1975;19(Supp. 1):124. doi:10.1007/BF01737335.
- [72] Ćosić I, Cvetković D, Fang Q, Jovanov E, Lazoura H. Human electrophysiological signal responses to ELF Schumann resonance and artificial electromagnetic fields. FME Transactions. 2006;34:93-103. <http://scindeks-clanci.ceon.rs/data/pdf/1450-8230/2006/1450-82300602093C.pdf>. Accessed July 18, 2018.
- [73] Cohen M, Behrenbruch C, Ćosić I. Is there a link between acupuncture meridians, earth-ionosphere resonances and cerebral activity? Proceedings of the 2nd International Conference on Bioelectromagnetism, Melbourne, Australia. 1998:173-174. doi: 10.1109/ICBEM.1998.666451.
- [74] Chevalier G, Mori K, Oschman JL. The effect of earthing (grounding) on human physiology. European Biology and Bioelectromagnetics. January 2006:600-621. <http://162.214.7.219/~earthio0/wp-content/uploads/2016/07/Effects-of-Earthing-on-Human-Physiology-Part-1.pdf>. Accessed June 10, 2018. "Highly significant EEG, EMG and BVP results demonstrate that restoring the natural electrical potential of the earth to the human body (earthing) rapidly affects human electrophysiological and physiological parameters. The extreme rapidity of these changes indicates a physical/bioelectrical mechanism rather than a biochemical change."
- [75] Firstenberg A. Earth's Electric Envelope. In: The Invisible Rainbow: A History of Electricity and Life. Santa Fe, NM: AGB Press; 2017: 113-131.
- [76] Cannon PS, Rycroft MJ. Schumann resonance frequency variations during sudden ionospheric disturbances. J Atmos Sol Terr Phys. 1982;44(2):201-206. doi:10.1016/0021-9169(82)90124-6.
- [77] Technical Report. European Telecommunications Standards Institute; 2007:7. http://www.etsi.org/deliver/etsi_tr/125900_125999/125914/07.00.00_60/tr_125914v070000p.pdf. Accessed June 10, 2018. "The Specific Anthropomorphic Mannequin (SAM) is used for radiated performance measurements [and is] filled with tissue simulating liquid."

- [78] Research on technology to evaluate compliance with RF protection guidelines. Electromagnetic Compatibility Laboratory, Tokyo. http://emc.nict.go.jp/bio/phantom/index_e.html. Accessed July 18, 2018. "SAR is measured by filling phantom liquid that has the same electrical properties as those of the human body in a container made in the shape of the human body, and scanning the inside using an SAR probe."
- [79] Becker RO, Marino AA. Electromagnetism and Life. Albany: State University of New York Press; 1982:39. "The evidence seems to be quite conclusive that there are steady DC electric currents flowing outside of the neurones proper in the entire nervous system."
- [80] Nordenström B. Biologically Closed Electric Circuits. Stockholm: Nordic Medical Publications; 1983.
- [81] Nordenström B. Impact of biologically closed electric circuits (BCEC) on structure and function. *Integr Physiol Behav Sci*. 1992;27(4):285-303. doi:10.1007/BF02691165.
- [82] Devyatkov ND, ed. Non-Thermal Effects of Millimeter Radiation. Moscow: USSR Acad. Sci.; 1981 (Russian).
- [83] Devyatkov ND, Golant MB, Betskiy OV. Millimeter Waves and Their Role in the Processes of Life. (Millimetrovye volny i ikh rol' v protsessakh zhiznedeyatel'nosti). Moscow: Radio i svyaz' (Radio and Communication); 1991 (Russian).
- [84] Betskii OV. Biological effects of low-intensity millimetre waves (Review). *Journal of Biomedical Electronics*. 2015(1):31-47. <http://www.radiotec.ru/article/15678>. Accessed July 31, 2018.
- [85] Albanese R, Blaschak J, Medina R, Penn J. Ultrashort electromagnetic signals: Biophysical questions, safety issues and medical opportunities," *Aviat Space Environ Med*. 1994;65(5 Supp):A116-A120. <http://www.dtic.mil/dtic/tr/fulltext/u2/a282990.pdf>. Accessed June 18, 2018.
- [86] Pepe D, Aluigi L, Zito D. Sub-100 ps monocycle pulses for 5G UWB communications. 10th European Conference on Antennas and Propagation (EuCAP). 2016;1-4. doi: 10.1109/EuCAP.2016.7481123.
- [87] Nasim I, Kim S. Human exposure to RF fields in 5G downlink. arXiv:1711.03683v1. <https://arxiv.org/pdf/1711.03683>. Accessed June 17, 2018.
- [88] Thielens A, Bell D, Mortimore DB. Exposure of insects to radio-frequency electromagnetic fields from 2 to 120 GHz. *Nature/Scientific Reports*. 2018;8:3924. <https://www.nature.com/articles/s41598-018-22271-3.pdf>. Accessed June 17, 2018.
- [89] Hallmann CA, Sorg M, Jongejans E. More than 75 per cent decline over 27 years in total flying insect biomass in protected areas. *PLOS One*. 2017;12(10):e0185809. <http://journals.plos.org/plosone/article/file?id=10.1371/journal.pone.0185809&type=printable>. Accessed June 17, 2018.
- [90] Gandhi O, Riaz A. Absorption of millimeter waves by human beings and its biological implications. *IEEE Trans Microw Theory Tech*. 1986;34(2):228-235. doi:10.1109/TMTT.1986.1133316.
- [91] Russell CL. 5G wireless telecommunications expansion: Public health and environmental implications. *Environ Res* 2018;165:484-495. <https://zero5g.com/wp-content/uploads/2018/07/5-G-wireless-telecommunications-expansion-Public-health-and-environmental-implications-Cindy-L.-russell.pdf>. Accessed November 1, 2018.
- [92] Hardell L. World Health Organization, radiofrequency radiation and health—a hard nut to crack (review). *Int J Oncol*. 2017;51:405-413. doi:10.3892/ijo.2017.4046.
- [93] Pall M. 5G: Great risk for EU, U.S. and international health: Compelling evidence for eight distinct types of great harm caused by electromagnetic field (EMF) exposures and the mechanism that causes them. *European Academy for Environmental Medicine*. http://www.5gappeal.eu/wp-content/uploads/2018/06/pall_2018.pdf. Published May 2018. Accessed June 22, 2018.
- [94] Markov M, Grigoriev Y. Wi-Fi technology: An uncontrolled global experiment on the health of mankind, *Electromagn Biol Med*. 2013;32(2):200-208. http://www.avaate.org/IMG/pdf/Wi-fi_Technology_-_An_Uncontrolled_Global_Experiment_on_the_Health_of_Mankind_-_Marko_Markov_Yuri_G._Grigoriev.pdf. Accessed June 23, 2018.

- [95] Belyaev I, Alipov Y, Shcheglov V, Polunin V, Aizenberg O. Cooperative response of Escherichia coli cells to the resonance effect of millimeter waves at super low intensity. *Electromagn Biol Med*. 1994;13(1):53-66. doi:10.3109/15368379409030698.
- [96] Belyaev I. Nonthermal biological effects of microwaves: Current knowledge, further perspective, and urgent needs. *Electromagn Biol Med*. 2005;24(3):375-403. doi:10.1080/15368370500381844.
- [97] Bise W. Low power radio-frequency and microwave effects on human electroencephalogram and behavior. *Physiol Chem Phys*. 1978;10(5):387-398.
- [98] Brauer I. Experimentelle Untersuchungen über die Wirkung von Meterwellen verschiedener Feldstärke auf das Teilungswachstum der Pflanzen. *Chromosoma*. 1950;3(1):483-509. doi:10.1007/BF00319492.
- [99] Kondra P, Smith W, Hodgson G, Bragg D, Gavora J, Hamid M. Growth and reproduction of chickens subjected to microwave radiation. *Can J Anim Sci*. 1970;50(3):639-644. doi:10.4141/cjas70-087.
- [100] Frey AH, Seifert E. Pulse modulated UHF energy illumination of the heart associated with change in heart rate. *Life Sciences*. 1968;7(10 Part 2):505-512. doi: 10.1016/0024-3205(68)90068-4.
- [101] Mann K, Röschke J. Effects of pulsed high-frequency electromagnetic fields on human sleep. *Neuropsychobiology*. 1996;33(1):41-47. doi: 10.1159/000119247.
- [102] Tiagin NV. Clinical aspects of exposure to microwave radiation. Moscow: Meditsina; 1971 (Russian).
- [103] Belpomme D, Campagnac C, Irigaray P. Reliable disease biomarkers characterizing and identifying electrohypersensitivity and multiple chemical sensitivity as two etiopathogenic aspects of a unique pathological disorder. *Rev Environ Health* 2015;30(4):251–271. <https://www.jrseco.com/wp-content/uploads/Belpomme-Environmental-health-2015.pdf>. Accessed June 18, 2018.
- [104] Hecht K. Health Implications of Long-term Exposure to Electrosmog. Competence Initiative for the Protection of Humanity, the Environment and Democracy. 2016: 16, 42-46. http://kompetenzinitiative.net/KIT/wp-content/uploads/2016/07/KI_Brochure-6_K_Hecht_web.pdf. Accessed June 20, 2018.
- [105] Belyaev I, Dean A, Eger H, et al. EUROPAEM EMF Guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems and illnesses. *Rev Environ Health*. 2016;31(3):363-397. doi:10.1515/reveh-2016-0011.
- [106] Schreier N, Huss A, Rösli M. The prevalence of symptoms attributed to electromagnetic field exposure: A cross-sectional representative survey in Switzerland. *Soz Präventivmed*. 2006;51(4):202-209. doi:10.1007/s00038-006-5061-2. Accessed July 16, 2018.
- [107] Schroeder E. Stakeholder-Perspektiven zur Novellierung der 26. BImSchV: Ergebnisse der bundesweiten Telefonumfrage im Auftrag des Bundesamtes für Strahlenschutz (Report on stakeholder perspectives on amending the 26th Federal Emission Control Ordinance: Results of the nationwide telephone survey ordered by the Federal Office for Radiation Protection). Schr/bba 04.02.26536.020. Munich, Germany. 2002 (German). https://www.bfs.de/SharedDocs/Downloads/BfS/DE/berichte/emf/befuerchtungen.pdf?__blob=publicationFile&v=3. Accessed July 19, 2018.
- [108] Hallberg Ö, Oberfeld G. Letter to the editor: Will we all become electrosensitive? *Electromagn Biol Med*. 2006;25:189-191. https://www.criirem.org/wp-content/uploads/2006/03/ehs2006_hallbergoberfeld.pdf. Accessed June 22, 2018.
- [109] Brussels International Scientific Declaration on Electromagnetic Hypersensitivity and Multiple Chemical Sensitivity. ECRI Institute. http://eceri-institute.org/fichiers/1441982765_Statement_EN_DEFINITIF.pdf. Published 2015. Accessed June 10, 2018.
- [110] Removal of barriers to entry, 47 U.S.C. § 253. <https://www.gpo.gov/fdsys/pkg/USCODE-2015-title47/pdf/USCODE-2015-title47-chap5-subchapII-partII-sec253.pdf>; 5G For Europe: An Action Plan. European Commission; 2016. http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=17131. Accessed June 10, 2018.

- [111] Federal Register – Rules and Regulations. 47 CFR Part 1 [WT Docket No 17–79; FCC 18–30] [Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment](#). 2018;83(86). Accessed June 10, 2018.
- [112] 5G For Europe: An Action Plan. European Commission; 2016. http://ec.europa.eu/newsroom/dae/document.cfm?doc_id=17131. Accessed June 10, 2018.
- [113] PCIA – The Wireless Infrastructure Association. Model wireless telecommunications facility siting ordinance. 2012. https://wia.org/wp-content/uploads/Advocacy_Docs/PCIA_Model_Zoning_Ordinance_June_2012.pdf. Accessed June 29, 2018.
- [114] Mobile services, 47 U.S.C. § 332(c)(7)(B)(iv). <https://www.gpo.gov/fdsys/pkg/USCODE-2016-title47/pdf/USCODE-2016-title47-chap5-subchapIII-partI-sec332.pdf>: “No state or local government or instrumentality thereof may regulate personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the [Federal Communications] Commission’s regulations concerning such emissions.” Courts have reversed regulatory decisions about cell tower placement simply because most of the public testimony was about health.
- [115] Cellular Telephone Company v. Town of Oyster Bay, 166 F.3d 490, 495 (2nd Cir. 1999). <https://openjurist.org/166/f3d/490/cellular-telephone-company-at-v-town-of-oyster-bay>. Accessed June 10, 2018.; T-Mobile Northeast LLC v. Loudoun County Bd. of Sup’rs, 903 F.Supp.2d 385, 407 (E.D.Va. 2012). <https://caselaw.findlaw.com/us-4th-circuit/1662394.html>. Accessed June 10, 2018.
- [116] Vogel G. A Coming Storm For Wireless? TalkMarkets. July 2017. <http://talkmarkets.com/content/stocks--equities/a-coming-storm-for-wireless?post=143501&page=2>. Accessed September 13, 2018.
- [117] Swiss Re: SONAR - New emerging risk insights. July 2014:22. http://media.swissre.com/documents/SONAR_2014.pdf. Accessed June 10, 2018. “[A]n increasing level of interconnectivity and the growing prevalence of digital steering and feedback systems also give rise to new vulnerabilities. These could involve cascading effects with multiple damages as well as long-lasting interruptions if the problems turned out to be complex and/or difficult to repair. Interconnectivity and permanent data generation give rise to concerns about data privacy, and exposure to electromagnetic fields may also increase.”
- [118] Albert Einstein, letter to Max Born, Dec. 4, 1926.
- [119] Active Denial Technology. Non-Lethal Weapons Program. <https://jnlwp.defense.gov/Press-Room/Fact-Sheets/Article-View-Fact-sheets/Article/577989/active-denial-technology/>. Published May 11, 2016. Accessed June 10, 2018.
- [120] Conflicts of interest have frequently arisen in the past. For example, the [EU Commission \(2008/721/EC\)](#) appointed [industry-supportive members for SCENIHR](#) who submitted to the EU a [misleading SCENIHR report](#) on health risks, which gave the [telecommunications industry carte blanche to irradiate](#) EU citizens. The report is now quoted by radiation safety agencies in the EU. Another example is the US National Toxicology Program contracting with the IT’IS Foundation, which is [funded by the entire telecommunications industry](#), to design, build and monitor the exposure facility for a two-year, 25-million-US-dollar study of cell phones. It subsequently produced a [misleading report](#) that is now quoted by industry officials in the US.
- [121] Ross M, Mills M, Toohey D. Potential climate impact of black carbon emitted by rockets. *Geophys Res Lett*. 2010;37:L24810. <https://agupubs.onlinelibrary.wiley.com/doi/pdf/10.1029/2010GL044548>. Accessed June 17, 2018.
- [122] Ross MN, Schaeffer PM. Radiative forcing caused by rocket engine emissions. *Earth’s Future*. 2014;2:177-196. <https://agupubs.onlinelibrary.wiley.com/doi/epdf/10.1002/2013EF000160>. Accessed June 17, 2018.

[123] Callicott JB, Mumford K. Ecological sustainability as a conservation concept. *Conservation Biology*. 1997;11(1):32-40. https://www.sierraforestlegacy.org/Resources/Community/Sustainability/SY_CallicottMumford1997.pdf. Accessed June 20, 2018.