

### **Inquiry Into The Deployment, Adoption And Application of 5g In Australia**

The Committee will inquire into the deployment, adoption and application of 5G in Australia

- i. Investigate the capability, capacity and deployment of 5G;
- ii. Understand the application of 5G, including use cases for enterprise and government.

Thank you for this opportunity to contribute to the Inquiry Into The Deployment, Adoption and Application of 5G in Australia. My submission addresses the first part of the second criteria (ii): ‘*Understand the application of 5G*, including use cases for enterprise and government’. I take ‘understand’ to also mean an understanding of consequences. A glaring omission in the terms of inquiry is an absence of the question of human rights and harms to human health. Upon investigation by Dariusz Leszczynski PhD, “the terms of reference” were clarified as, “relating to the deployment of 5G may include topics such as health and safety concerns”

### **Summary**

This submission will:

1. Outline briefly the structure of regulations governing non-ionising radiation in Australia.
2. Point to the vast archives of scientific published, peer reviewed, evidence that shows Australia’s radiation protection standards have for decades exposed an unsuspecting Australian population to high levels of radio frequency (RF), electromagnetic fields (EMF), extremely low electromagnetic fields (ELF), and electromagnetic radiation (EMR) to which the deployment of 5G represents yet another layer of electro-smog, detrimental without exception to all biological life forms.
3. Call upon those responsible to redress crimes against humanity – in this immediate instance, the Australian people.
4. Warn public officials that they are held personally accountable by law and by the Australian people that they are sworn into office to serve, for *malfeasance* if they continue to fail to act.
5. Crimes against humanity, which is what 5G and its predecessors 2, 3 and 4G represent, are punishable by law; crimes against humanity have no expiry date.
6. Finally, a case can be made for positive technology. Australia could be a world leader.

### **ARPANSA is the Australian Radiation and Nuclear Protection Agency**

The ARPANSA ‘standards’ or more accurately, guidelines, have jurisdiction over federal bodies such as the CSIRO, police force, military and the Lucas Heights nuclear facility, for example, with *no enforceable* jurisdiction over state regulators. ARPANSA sets the safety margin at 30 kilohertz (kHz) to 300 gigahertz (GHz). Yet bioactive effects have been shown to occur in these ranges as well as in the extremely low-frequency range or ELF’s (Pall, 2018).

The ARPANSA Standard, was set in 2002, it follows the International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines, set in 1998. These standards have failed to assess current scientific research that RF EMFs inducing Biological Effects (changes in the human body) impact on development and health. Australia, along with the US and UK have adopted a much higher acute shock and thermal limit based on an average exposure limit over six minutes<sup>1</sup>. (Ryan, 2019)

### **ACMA is the Australian Communications and Media Authority**

*Please see Appendix A. on page 38 of this document for further explanation.*

The ACMA is responsible for regulating radiofrequency (RF) electromagnetic energy (EME) for consumer devices (for example, mobile phones) and telecommunications facilities (for example, mobile phone towers). To make sure EME exposure is kept low, the ACMA applies the ARPANSA EME exposure limits contained in the Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields – 3 kHz to 300 GHz (2002), the ARPANSA Standard defined in RPS3, 2002.

Neither ARPANSA nor the ACMA possess authority to offer medical advice. A disclaimer states as much on the ARPANSA website, “Nothing contained in this site is intended to be used as medical advice and, in particular, it should not be used to diagnose, treat, cure or prevent any disease...ARPANSA does not accept any liability for any injury, loss or damage incurred by use of or reliance on the information provided on this website”:

<https://www.arpansa.gov.au/about-us/disclaimer>

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<sup>1</sup> The flawed logic of the six minute average is described by professor Martin Pall on page 7.

The General Assembly of the World Medical Association Declaration of Helsinki, *Ethical principles for medical research involving human subjects* (2009, p. 233), states unequivocally, “The dual role of the physician-researcher is acknowledged, but it is made clear that the role of healer takes precedence over that of a scientist.”

*5G is a brand name.* It stands for the deployment of fifth generation wireless technology in Australia and globally. 5G will operate in the 0.6 GHz to 3.7 GHz low – to mid 3.7 GHz, and high-band frequencies – 24 GHz and higher. 5G however differs from previous generations of wireless cellphone technology in that it operates in millimetre waves. Dariusz Leszczynski PhD, DSC, states that the biological effects of millimetre wave, pulsed electromagnetic signals on living beings has not been studied, therefore claims by ICNERP (International Commission for Non-Ionizing Radiation Protection) and the WHO (World Health Organisation) that they are safe amount to a major scientific scandal.

“Currently, it is clear that cell phone radiation causes biological effects. What is still unclear is whether these biological effects, when repeated over tens of years, will lead to health effects or not.” (Leszczynski, 2019). Since most human populations in developed countries are now exposed to EMF-EMR from 2, 3 and 4G, it is difficult to imagine how an unexposed control group could be assembled for research on 5G specifically.

### **Absence of Evidence is Not Evidence of Absence**

The absence of specific 5G research however is not a good reason to deploy 5G. A vast body of literature, in excess of 24,000 peer reviewed published scientific research attests to the fact that EMF-EMRs and ELF, do have biological effects, many of them extremely harmful. Studies show bioactive effects in relation to DNA cell line damage, sperm motility, leukemia in children, cognitive impairment, oxidative stress due to the flooding of cells with excess calcium via voltage gated calcium channels (VGCCs). Permeability and leakage of the blood brain barrier, elevated blood glucose levels, prevalence of acoustic neuromas, and rare cancers such as heart schwannomas, insomnia, fibromyalgia and chronic fatigue.

Professor of biochemistry Martin Pall’s paper, *Wi-Fi is an important threat to human health*, argues these points:

Repeated Wi-Fi studies show that Wi-Fi causes oxidative stress, sperm/testicular damage, neuropsychiatric effects including EEG changes, apoptosis, cellular DNA damage, endocrine changes, and calcium overload. Each of these effects are also caused by exposures to other microwave frequency EMFs, with each such effect being documented in from 10 to 16 reviews. Therefore, each of these seven EMF effects are established effects of Wi-Fi and of other microwave frequency EMFs. Each of these seven is also produced by downstream effects of the main action of such EMFs, voltage-gated calcium channel (VGCC) activation. While VGCC activation via EMF interaction with the VGCC voltage sensor seems to be the predominant mechanism of action of EMFs, other mechanisms appear to have minor roles. Minor roles include activation of other voltage-gated ion channels, calcium cyclotron resonance and the geomagnetic magnetoreception mechanism. Five properties of non-thermal EMF effects are discussed. These are that pulsed EMFs are, in most cases, more active than are non-pulsed EMFs; artificial EMFs are polarized and such polarized EMFs are much more active than non-polarized EMFs; dose-response curves are non-linear and non-monotone; EMF effects are often cumulative; and EMFs may impact young people more than adults. These general findings and data presented earlier on Wi-Fi effects were used to assess the Foster and Moulder (F&M) review of Wi-Fi. The F&M study claimed that there were seven important studies of Wi-Fi that each showed no effect. However, none of these were Wi-Fi studies, with each differing from genuine Wi-Fi in three distinct ways. F&M could, at most conclude that there was no statistically significant evidence of an effect. The tiny numbers studied in each of these seven F&M-linked studies show that each of them lack power to make any substantive conclusions. In conclusion, there are seven repeatedly found Wi-Fi effects which have also been shown to be caused by other similar EMF exposures. Each of the seven should be considered, therefore, as established effects of Wi-Fi.

<https://www.sciencedirect.com/science/article/pii/S0013935118300355>

References to a selection of research papers is supplied in the Bibliography of Harms on pages 9-13 of this submission. A further chronicle of illness can be accessed in the BioInitiative coloured charts: “Reported Biological Effects from Radiofrequency Radiation at Low-Intensity Exposure (Cell Tower, Wi-Fi, Wireless Laptop and 'Smart' Meter RF

Intensities”: <https://bioinitiative.org/rf-color-charts/> BioInitiative Report Bibliography of Research: <https://bioinitiative.org/bibliography/>

The BioInitiative 2012 Report (updated 2014-2019) has been prepared by 29 authors from ten countries, ten holding medical degrees (MDs), 21 PhDs, and three MsC, MA or MPHs. Among the authors are three former presidents of the Bioelectromagnetics Society, and five full members of BEMS. <https://bioinitiative.org/>

As a concerned citizen - who enjoys all the benefits of technology as much as anyone, I consider 5G to be an untested technology to which I *do not consent* and on which I *call for a moratorium* until it and two of its predecessors, 3 and 4G can be shown to be safe. That is, to begin with: unarmful to children, unarmful to vegetation, amphibia, vertebrates, microbial life and to insects, especially those we rely on for food survival such as pollinating bees. The reality is, to harm one aspect of the totality of life is to harm all.

### **Lack of Informed Consent: A Contravention of The Nuremberg Code**

Many concerned citizens, scientists and medical personnel have come forward to express their concern. The International Appeal Stop 5G on Earth and in Space have to date (29th, October 2019) amassed 171,933 signatories from 202 nations and territories.

Technology has obviously conferred great benefits, however, it would be ethically and morally reprehensible to support any industry, government agency or body, which caused the exponential increase of leukemia in children, exposed them to unsafe levels of microwave radiation via Wi-Fi at school and in the home while neural networks are rapidly developing or to ignore the fact that childhood leukemia, diabetes and Alzheimer’s disease, all increase while living in proximity (200 meters) of a cell tower, as does an estimated 40% of the population.

- We are all being affected by electro microwave radiation (EMR), electromagnetic frequencies (EMF’s) and extremely low frequency magnetic fields (ELF-EMF), whether we currently have symptoms or not. Those who have developed electro-hyper-sensitivity (EHS) are the proverbial canaries in the mine shaft, we should thank them for their early warning systems and take those warnings very seriously.

Microwave radiation and electro-smog – a silent, tasteless, invisible but deadly health threat, must be reduced as much as humanly possible.

- New technologies need to be developed and existing ones like fibre optics promoted.
- The deployment of 5G represents enormous potential for public health costs, litigation and personal liability for crimes against humanity.
- Current estimations of persons debilitated by EHS are forty million (40,000,000) worldwide. The rollout of 5G can only exacerbate suffering and exponentially increase their numbers.
- 5G utilises pulsed millimetre wave technology cycling at billions of times per second.
- These erratic pulsations are disruptive to our own natural bioelectrical rhythms through the law of resonance and other mechanisms.
- 5G will be an additional layer of electro-smog on top of 3 and 4G, which are not replaced by 5G.

5G is sold by the industry as a technological advance, but what of the price? Would you exchange lightning fast downloads of video at the cost of your health, your child's health; at the loss of microbes, birds, animals, plants and the health of the biosphere? Is there a safer, secure, after initial install - less expensive technology available and already in place? Fibre optics or as it is known in Australia the NBN or National Broadband Network fills that criteria. Fibre optics can carry vastly more data than 5G, has a projected failure rate of only once every 35 years, represents superior security compared to the highly vulnerable hackable wi-fi of 3, 4 and 5G, and is much more economical in terms of energy usage (Schoechele, 2018). It is no fault of the NBN that it has been effectively emasculated by subsequent government cut backs and is now a pale version of its former promise.

### **Techno-ethics**

- A moratorium must be immediately actioned on 5G with establishment by independently appointed researchers of safety parameters that reflect the research not the industry's clamour for trillions in profit.
- The health of the Australian people must not be sacrificed, even provisionally as it is now, for the benefit of industry.
- An inquiry must be actioned into ARPANSA the Australian Radiation Protection and Nuclear Safety Agency and the agencies justification for safety levels which far

exceed those shown to cause an increase in leukemia in children, among a multitude of harms to all life forms – see a partial list on pages 9 to 13.

### **Safe Solutions to The Current EMF, EMR Overload**

“One can still access the internet, using wired connections. And we can lower cell phone tower and cell phone radiation substantially”(Pall, 2018, p. 2):

<https://www.radiationresearch.org/wp-content/uploads/2018/06/EU-EMF2018-6-11US3.pdf>

5G is a gold rush, a marketing putsch, designed to benefit telecommunication industries and manufacturers of linked technologies such as 5G enabled mobile phones; the much touted Internet of Things (IOT), transmitters, sensors and small cell infrastructure. 5G paves the way for wireless electrical transfer and the Transhumanism A.I agenda. The consumer is only useful insofar as he or she abandons the last product to covet the next. Consideration of the consumer is ‘demand’, not safety driven. 5G is a corporate oligarchies wet dream.

### **Get Them Addicted: Shiny Happy People**

As any marketing guru will tell you, changing behaviour is one of the hardest and most desirable goals of marketing. It is useful for the industry that social media addiction is a real thing, known officially as Internet Addiction Disorder (IAD). Without our phones we now feel strangely naked, as if part of our essential persona is missing. This sensation betrays our identification with the object, or an external locus of control; over the ideal, which is an internal locus: a centred equilibrium of self, a capacity to down regulate and self sooth, relatively un-buffed by life’s rollercoasters.

### **Health Effects on Children**

Rapid growing brain tumours in children, like glioblastomas have tripled since the introduction of cell phones (Devra Davies, University of Melbourne lecture, 2015).

### **Flawed Logic: How Averaging Time Results in False ‘No Effect’ Intensities**

In a recent documentary series, *The 5G Crisis Summit*, Professor Martin Pall (31:24 video) reveals the effects from single nanosecond pulses and how EMF safety guidelines are so egregiously determined:

Single nanosecond pulses - pulses that last from between one nanosecond and one microsecond...they go up and down quickly and they produce effects. But the safety

guidelines and we haven't talked much about their structure, the safety guidelines use average intensities over a period of six minutes or thirty minutes to predict whether there will be biological effects or not. So six minutes - think about that, so if you take a typical nanosecond pulse, let's say one that's 40 nanoseconds long and you average that intensity over a period of six minutes, you are averaging the intensity over a period that is ten to the tenth times longer. Ten billion times longer. Now obviously what that does is that it lowers the average intensity by a factor of ten billion. And so what the safety guidelines do is that they predict there shouldn't be any effects, but there are. There are effects over and over again and the safety guidelines say there can't be any effects.

Professor Martin Pall goes on to comment on the, "super-additive effects of pairs of nanosecond pulses" (video at 35:00 and the Standards document [Pall, 2019]).

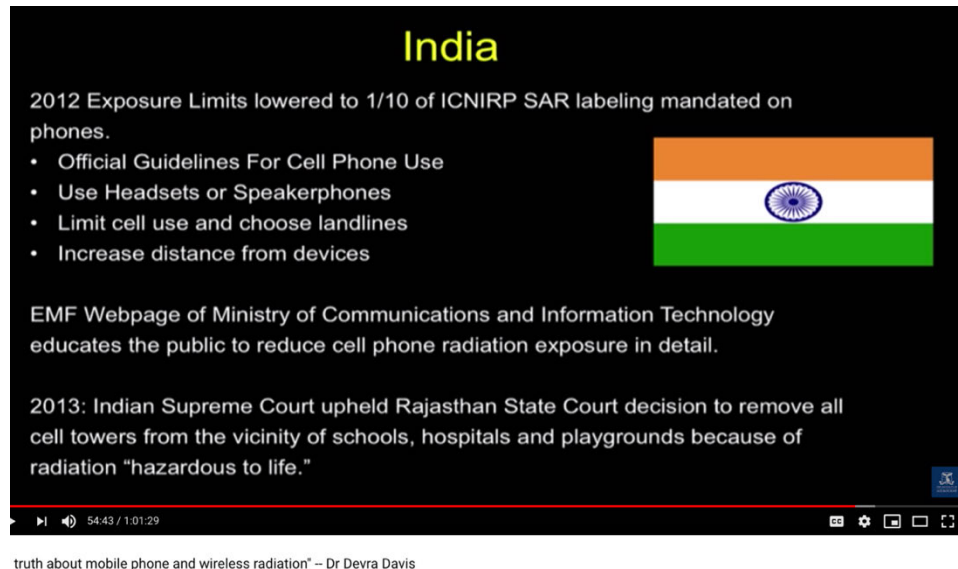
It has been known for about 200 years that EMFs are vectors not scalar, they have a directionality... The basic structure of the safety guidelines are completely bogus. They are assuming that EMF's are scalar not vectors and not vectors with polarity and we know that assumption is false. The physics here is false. ...the physics in the safety guidelines is deeply deeply flawed.

The whole structure of the safety guidelines is bogus, it's not just that it doesn't make good predictions, the whole structure of it is just ridiculous.

Dr Pall continues (video at 103:00):

There are two main pathways of action by which EMFs produce pathophysiological effects, one is through excessive calcium signaling, the other is that you get - from the increases in intracellular calcium, increases in both nitric oxide and super oxide, Those are two free radicals...are relatively non-reactive, but when they react with each other which they do very readily, they form peroxy-nitrate, which is a potent oxidant. Peroxy-nitrate is not a free radical but it breaks down into a form of highly reactive free radicals including hydroxy nitrate... the DNA effects that are produced are through this free radical attacks on the DNA...those can then produce single strand and double strand breaks in the cellular DNA..." (Pall, 2019).



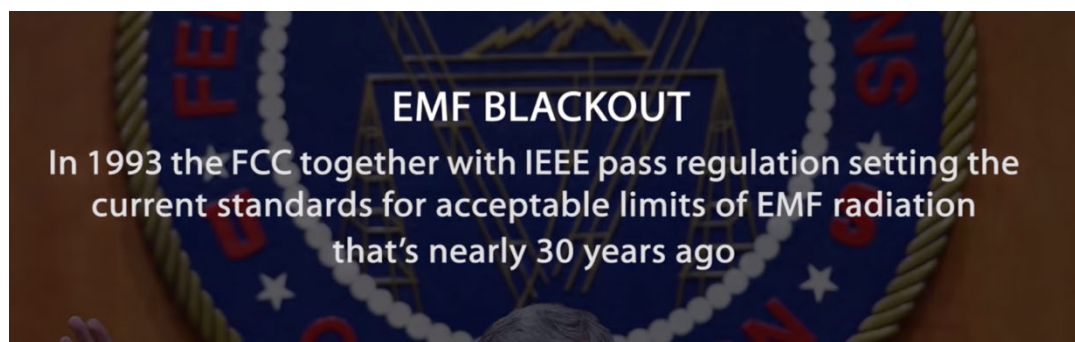


Until 2013 India adopted the International commission on non-ionizing radiation protection's (ICNERP), 1998 guidelines for safe power density. In 2013 norms in India were revised, and India adopted strict limits for radiation: 1/10th of norms defined by ICNERP. The new norm set was  $0.92 \text{ W/m}^2$  (Singh, Mahajan, & Bagai, 2017, p. 198).

#### The Immediate Need For A Moratorium on 5G

2009: Porto Alegre Resolution, Brazil. Scientists and doctors recognize electro-hypersensitivity and are concerned that exposure to electromagnetic fields may increase the risk of cancer and chronic diseases; that exposure levels established by international agencies (IEEE, ICNIRP, ICES) are obsolete; and that wireless technology places at risk the health of children, teens, pregnant women and others who are vulnerable (Pall, 2009, p. 4).

#### The Standards: The FCC Federal Communications Commission



### **Human Health – Ecosphere and Biosphere Collapse**

The following is a list of harms to humans, animals, insects, and plants, published in peer reviewed journals. It is by no means comprehensive. As already stated, in excess of 24,000 such papers documenting the bioactive effects of electromagnetic and microwave energy fields have been published to date.

#### **Bibliography Of Harms**

**DNA cell line damage** Aitken R. J., Bennetts L. E., Sawyer D., Wiklendt A.M., King B.V. (2005) Impact of radio frequency electromagnetic radiation on DNA integrity in the male germline 28:171-179. **gene expression** Czyz, J. et al, (2004). High frequency electromagnetic fields (GSM signals) affect gene expression levels in tumor suppressor p53-deficient embryonic stem cells. *Bioelectromagnetics* 25: 296-307). **DNA single strand breaks** Fairbairn, D.W., O'Neill, K. L. The effect of electromagnetic field exposure on the formation of DNA single strand breaks in human cells. *Cellular and Molecular Biology* (Noisy-le-grand). 40(4):561-567, (1994).

**depression** – neuropsychosocial effects, Pall, M. L. (2016). Microwave frequency electromagnetic fields (EMFs) produce widespread neuropsychiatric effects including depression. *Journal of Chemical Neuroanatomy*, 75, 43-51)

**sperm motility** Avendano, C., Mata, A., Sanchez Sarmiento, C. A., Doncei, G. F. (2012). Use of laptop computers connected to internet through Wi-Fi decreases human sperm motility and increases sperm DNA fragmentation. *Fertility and Sterility. American Society for Reproductive Medicine*, Published by Elsevier Inc. doi:10.1016/j.fertnstert.2011.10.012).

**leukemia in children**, Hocking, B., Gordon, I. R., Grain, H. L., & Hatfield, G. E. (1996). Cancer incidence and mortality and proximity to TV towers. *Medical Journal of Australia*, 165(11-12), 601-605).

**cognitive impairment**, Belokrinitsky, V. S, (1982). Destructive and reparative processes in hippocampus with long-term exposure to nonionizing radiation. In:

*U.S.S.R. Report, Effects of Nonionizing Microwave Radiation, No. 7, JPRS 81865, pp. 15-20)*

**oxidative stress** due to the flooding of cells with excess calcium via voltage gated **calcium channels** (VGCCs); Pall, M. L. (2015). Scientific evidence contradicts findings and assumptions of Canadian Safety Panel 6: microwaves act through voltage-gated calcium channel activation to induce biological impacts at non-thermal levels, supporting a paradigm shift for microwave/lower frequency electromagnetic field action. *Reviews on environmental health*, 30(2), 99-116.

**permeability and leakage** of the blood brain barrier (Animal study) Salford, L. G., Brun, A. E., Eberhardt, J. L., Malmgren, L., & Persson, B. R. (2003). Nerve cell damage in mammalian brain after exposure to microwaves from GSM mobile phones. *Environmental health perspectives*, 111(7), 881-883.

Latency <sup>2</sup>: Dr Devra Davis has noted that ‘after the bombs fell’ in WWII, it was forty years before an increase in brain cancer from nuclear radiation became apparent.

**prevalence of brain cancers** Hardell, L., Carlberg, M., Söderqvist, F., & Hansson Mild, K. (2008). Meta-analysis of long-term mobile phone use and the association with brain tumours. *International journal of oncology*, 32(5), 1097-1103). **prevalence of brain cancers** Thomas, T. L., Stolley, P. D., Stemhagen, A., Fontham, E. T., Bleecker, M. L., Stewart, P. A., & Hoover, R. N. (1987). Brain tumor mortality risk among men with electrical and electronics jobs: a case-control study. *Journal of the National Cancer Institute*, 79(2), 233-238.

**elevated blood glucose levels** Meo, S., Alsubaie, Y., Almubarak, Z., Almutawa, H., AlQasem, Y., & Hasanato, R. (2015). Association of exposure to radio-frequency electromagnetic field radiation (RF-EMFR) generated by mobile phone base stations

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<sup>2</sup> Brain tumours have a long latency warns Dr Devra Davis<sup>2</sup>. We would not expect to see an increase of brain tumours in older populations, however when sections of community incidence of neuropathology are examined we find “an increase in brain tumours of fifty percent to eightfold (ABC Catalyst Wi Fried: <https://youtu.be/z5ZOJZQbkml>). These are rare fast growing malignancies such as gliomas. “When people begin to use phones, heavily and regularly as teenagers, (they) have four to eight times more malignant glioma<sup>2</sup>...ten years later” (Davis, 2016).

with glycated hemoglobin (HbA1c) and risk of type 2 diabetes mellitus. *International journal of environmental research and public health*, 12(11), 14519-14528.

Environmental Health Perspectives report: twenty four studies (26,846 cases, 50,013 controls) were included in a meta-analysis and found:

A significantly higher risk of an **intracranial tumor** (all types) was noted for the period of mobile phone use over 10 years: Bortkiewicz, A., Gadzicka, E., & Szymczak, W. (2017). Mobile phone use and risk for intracranial tumors and salivary gland tumors-A meta-analysis). In the October 2006 issue of the *World Journal of Surgical Oncology*, the investigators (Hardell et al) reported a 70% increased risk of grade III–IV astrocytomas (highly aggressive brain tumors) for analog cell phone users. This same study found a nearly 4-fold increase in risk for acoustic neuromas after 15 years of exposure to analog cell phones. Notably, there was no increased risk for testicular cancer, B-cell lymphoma, or salivary gland tumors, suggesting that the findings were not due to observational or recall bias, as such bias should have existed for all tumor types. <https://ehp.niehs.nih.gov/doi/full/10.1289/ehp.1116-a422>

**acoustic neuromas (AN)** The meta-analysis, which included 3 case-control studies, found that subjects who used cell phones for at least 10 years had a 2.4-fold greater risk of developing ipsilateral AN. (Han, Y. Y., Kano, H., Davis, D. L., Niranjan, A., & Lunsford, L. D. (2009). Cell phone use and acoustic neuroma: the need for standardized questionnaires and access to industry data. *Surgical Neurology*, 72(3), 216-222. “We found that cell phone use is linked to gliomas [malignant brain tumors] and acoustic neuromas [benign tumors of the brain’s auditory nerve] and are showing up after only ten years,” says lead author Lennart Hardell, an oncologist and cancer epidemiologist at University Hospital in Örebro, Sweden.

**schwannomas** (animal study) Feldman, B. J. (2018). Comments on the National Toxicology Program Report on Cancer, Rats and Cell Phone Radiation. *arXiv preprint arXiv:1805.09143*. Wyde, M., Cesta, M., Blystone, C., Elmore, S., Foster, P., Hooth, M., ... & Walker, N. (2018). **schwannomas** Report of partial findings from the national toxicology program carcinogenesis studies of cell phone radiofrequency

radiation in Hsd: Sprague Dawley® SD rats (Whole Body Exposure). *BioRxiv*, 055699.

**insomnia** Exposure to pulsed high-frequency electromagnetic field during waking affects human sleep EEG. Huber, R., Treyer, V., Borbely, A. A., Schuderer, J., Gottselig, J. M., Landolt, H. P., ... & Achermann, P. (2002). Electromagnetic fields, such as those from mobile phones, alter regional cerebral blood flow and sleep and waking EEG. *Journal of sleep research*, 11(4), 289-295.

Based on haemoglobin A1c measurements, “The closer you live to a cell tower, the higher your blood glucose” Dr Sharon Goldberg MD (2019) giving testimony at a United States Congressional Hearing into 5G.

**diabetes** “Another health crisis emerging onto the global stage is type 2 diabetes, which is justly titled a pandemic [Hu, 2015]. The number of people worldwide projected to have type 2 diabetes by 2035 is almost 600 million” (GreenMedInfo Research Group citing Hu, 2015). **diabetes** Association of Exposure to Radio-Frequency Electromagnetic Field Radiation (RF-EMFR) Generated by Mobile Phone Base Stations with Glycated Hemoglobin (HbA1c) and Risk of Type 2 Diabetes Mellitus. Meo, S., Alsubaie, Y., Almubarak, Z., Almutawa, H., AlQasem, Y., & Hasanato, R. (2015). *International journal of environmental research and public health*, 12(11), 14519-14528.

**diabetes** Installation of mobile phone base stations in residential areas has initiated public debate about possible adverse effects on human health. This study aimed to determine the association of exposure to radio frequency electromagnetic field radiation (RF-EMFR) generated by mobile phone base stations with glycated hemoglobin (HbA1c) and occurrence of type 2 diabetes mellitus. For this study, two different elementary schools (school-1 and school-2) were selected. We recruited 159 students in total; 96 male students from school-1, with age range 12–16 years, and 63 male students with age range 12–17 years from school-2. Mobile phone base stations with towers existed about 200 m away from the school buildings. RF-EMFR was measured inside both schools. In school-1, RF-EMFR was 9.601 nW/cm<sup>2</sup> at frequency of 925 MHz, and students had been exposed to RF-EMFR for a duration of

6 h daily, five days in a week. In school-2, RF-EMFR was 1.909 nW/cm<sup>2</sup> at frequency of 925 MHz and students had been exposed for 6 h daily, five days in a week. 5–6 mL blood was collected from all the students and HbA1c was measured by using a Dimension Xpand Plus Integrated Chemistry System, Siemens. The mean HbA1c for the students who were exposed to high RF-EMFR was significantly higher ( $5.44 \pm 0.22$ ) than the mean HbA1c for the students who were exposed to low RF-EMFR ( $5.32 \pm 0.34$ ) ( $p = 0.007$ ). Moreover, students who were exposed to high RF-EMFR generated by MPBS had a significantly higher risk of type 2 diabetes mellitus ( $p = 0.016$ ) relative to their counterparts who were exposed to low RF-EMFR. It is concluded that exposure to high RF-EMFR generated by MPBS is associated with elevated levels of HbA1c and risk of type 2 diabetes mellitus. Meo, S., Alsubaie, Y., Almubarak, Z., Almutawa, H., AlQasem, Y., & Hasanato, R. (2015). Association of exposure to radio-frequency electromagnetic field radiation (RF-EMFR) generated by mobile phone base stations with glycated hemoglobin (HbA1c) and risk of type 2 diabetes mellitus. *International journal of environmental research and public health*, 12(11), 14519-14528.

**prenatal cell phone use** Birks, L., Guxens, M., Papadopoulou, E., Alexander, J., Ballester, F., Estarlich, M., ... & Kheifets, L. (2017). Maternal cell phone use during pregnancy and child behavioral problems in five birth cohorts. *Environment international*, 104, 122-131.

In an analysis of 97 studies by the EU-funded review body EKLIPSE concluded that electromagnetic radiation from power lines, wi-fi, phone masts and broadcast transmitters poses a ‘credible’ threat to **wildlife** – in particular to **insect and bird** orientation and **plant health**. Goudeseune, L., Balian, E., Ventocilla, J. (2018). *The impacts of artificial Electromagnetic Radiation on wildlife (flora and fauna). Report of the web conference*. A report of the EKLIPSE project.

ICD-10 <sup>3</sup> International Statistical Classification of Diseases and Related Health Problems, 10th Revision and Nordic Council of Ministers: [El-allergy or Electrosensitivity](#)

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<sup>3</sup> ICD is the foundation for the identification of health trends and statistics globally, and the international standard for reporting diseases and health conditions. It is the diagnostic classification standard for all clinical

(2000: ICD-10. R68.8) recognises Elecrosensitivity (EH) and Electrohypersensitivity (EHS)  
<https://icd10coded.com/search/?q=exposure+to+nonionizing+radiation+>) see Appendix B.

### Outdated Safety Standards

Complying with international standards does not guarantee the actual safety of cell towers. Existing safety standards for cell towers are thousands of times above levels found in scientific research to cause biological effects. The current widely adopted international standard is that of ICNIRP (1998), which specifies power densities of 9000 mW/m<sup>2</sup> for 1800 MHz and 4500 mW/m<sup>2</sup> for 900 MHz. In contrast, recommendations based on scientific evidence from a decade ago, are thousands of times lower. Only a few countries have been moving towards these stricter limits, e.g., Liechtenstein (1 mW/m<sup>2</sup>) in 2008.

<http://emfwise.com/doc/CellPhoneTowerEffects.pdf>

Building Biology<sup>4</sup>Guidelines range from exposure levels of no concern to ‘extreme concern’ requiring immediate action. The extreme concern level is within allowable Australian (2019).

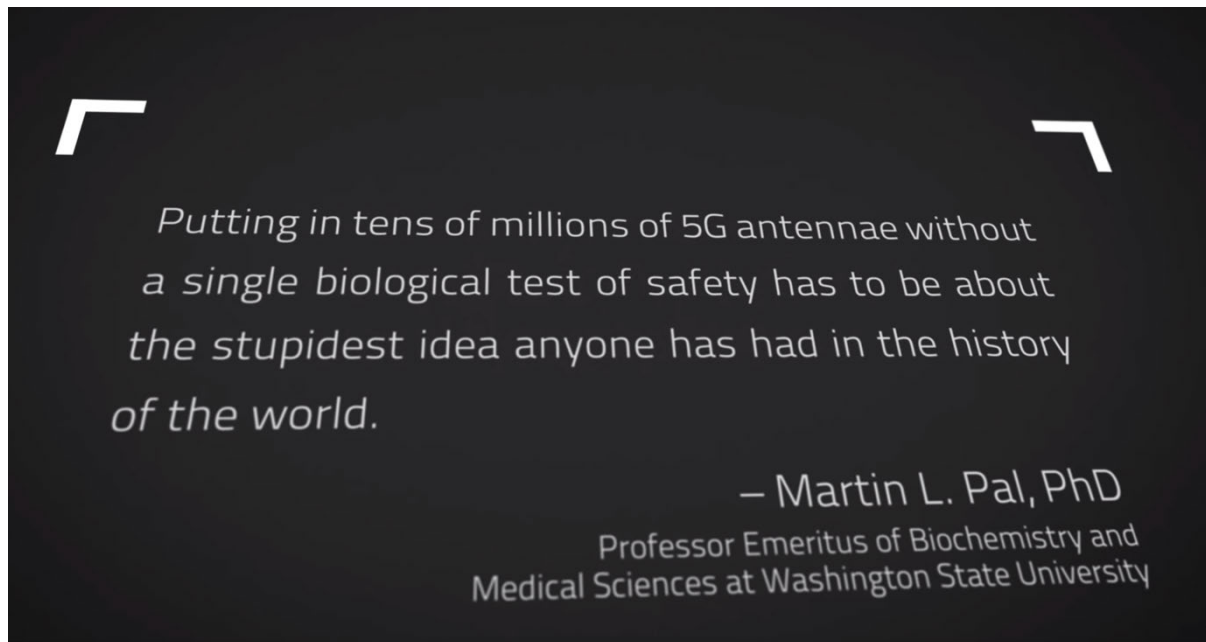
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and research purposes. The **ICD-10 code** is the standard diagnostic tool for epidemiology, health management & clinical purposes. It is used for medical code lookups by physicians, nurses, researchers, health information managers, medical billing coders, health information technology workers, insurers & patient organizations to classify diseases and other health problems recorded on many types of health records, including death certificates. ICD 10 codes are also used by medical billers & payers for reimbursement purposes.

<https://icd10coded.com/>

<sup>4</sup> The Institute of Building Biology + Sustainability or IBN (*Institut für Baubiologie + Nachhaltigkeit*) was founded in 1983 by Prof. Dr. Anton Schneider, Ph.D., to provide consumers with objective information and to offer educational programs that promote a holistic, sustainable, and building biology-ecological approach to building. In Australia they are a registered training institute (RTI). The IBN train Certified environmental consultants (BBEC), electromagnetic radiation specialists (EMRS), and healthy building design consultants (BBNC). Building Biology is the study of the interaction between people, their health and the building in which they live and work. It includes the study of the relationship between the building and the environment. Building Biology identifies the health hazards that exist in the built environment, and provide ways to eliminate or reduce our exposure to these hazards. Building Biology Standards, evaluation guidelines and testing conditions have been developed in consultation with physics, chemistry, biology and architecture, as well as experts from analytical laboratories, environmental health care professionals and other independent experts.

<https://buildingbiology.com/>



Below are examples of European recommendations.

Measurements shown are milliwatts per meter squared  $\text{mW/m}^2$

2001 Salzburg Resolution	<b>1 <math>\text{mW/m}^2</math></b> (or 0.06 V/m)	<a href="http://www.salzburg.gv.at/celltower_e">http://www.salzburg.gv.at/celltower_e</a>
2001 EU Parliament STOA 2001	0.100 $\text{mW/m}^2$ (10 $\text{nW/cm}^2$ )	
2002 Updated Salzburg Outdoor Limit	<b>0.010 <math>\text{mW/m}^2</math></b> (0.06 V/m)	
2007 BioInitiative Report	1 $\text{mW/m}^2$	
2008 Building Biology (SBM-2008)	>1 $\text{mW/m}^2$ is of extreme risk	<a href="http://www.baubiologie.de/downloads/english/richtwerte_2008_englisch.pdf">http://www.baubiologie.de/downloads/english/richtwerte_2008_englisch.pdf</a>

Further information: <http://www.emfwise.com/emf-safety-standards.php>

Table of Effects by SAR (Specific Absorption Rate) <http://www.emfwise.com/tableofeffects.php>

In the Australian Building Biology charts below, measurement are in microwatts per square meter ( $\mu\text{W/m}^2$ ), 1 milliwatt per square meter equals 1,000 microwatts per square meter.

ARPANSA allow public exposure up to 10,000,000, ten million  $\mu\text{W/m}^2$  (microwatts per square meter). Severe concern by Building Biology guidelines is 10-1000  $\mu\text{W/m}^2$ . The highest level of concern is anything above 1000  $\mu\text{W/m}^2$ . Building Biologists undergo rigorous training in several fields to promote healthy living environments, including specialization in EMF-EMR.



### Radiofrequency / Microwave Exposure Guidelines (High Frequency Electromagnetic Waves) 1> Building Biology Precautionary Guidelines (SBM-2015) For Sleeping Areas

Power Density	No Concern	Slight Concern	Severe Concern	Extreme Concern
microWatts per square meter $\mu\text{W}/\text{m}^2$	< 0.1	0.1 - 10	10 - 1000	> 1000
microWatts per square meter $\mu\text{W}/\text{cm}^2$	<0.000,01	0.000,01 – 0.001	0.001-0.1	>0.1
milliwatts per square meter	<0.000,1	0.000,1 – 0.001	0.01-1	>1
Signal Strength				
Volts per Meter V/m	<0.006,14	<0.006,14 -0.061,4	0.061,4 – 0.614	>0.614

#### Readings from the RFNSA - Radio Frequency National Site Archive

Environmental EME Report <https://www.rfnsa.com.au/>

Location	The Regal Apartments 149 Fitzroy St, ST KILDA VIC 3182		
Date	14/08/2019	RFNSA No.	3182007

#### Maximum cumulative EME level for the existing configuration

Location	Height range	Electric field (V/m)	Power density (mW/m <sup>2</sup> )	Percentage of the public exposure limit
St Kilda Primary School	0-9 m	5.38	76.74	1.027%
Eildon Rd Childrens Centre	0-6 m	0.51	0.7	0.0092%

Compare the milliwatts per square meter (pink sections) for extreme concern to the RF-EME readings for the St Kilda Primary School 0-9 meters (height range). The Melbourne primary school is approximately 150 meters from the Regal Apartments cell tower site on Fitzroy street. Power density is 76.74, Building Biology reason for extreme concern is anything above 1. The volts per meter (V/m) at this location are 5.38, Building Biology reason for extreme concern is anything above >0.614.

These guidelines follow the precautionary principle for maximum regenerative opportunity during sleep. However, who would want to expose their child, at any time to demonstrably

excessive levels of EMRs? Children are particularly vulnerable due to their rapidly growing neural networks, thinner – smaller skulls and larger skin surface to body-mass ratio.

**Building Biology Evaluation  
Guidelines for Sleeping Areas**

	No Concern	Slight Concern	Severe Concern	Extreme Concern
AC Magnetic Fields mG	<0.2	0.2-1	1-5	>5
nT	<20	20-100	100-500	>500
Radio Frequency Radiation $\mu\text{W}/\text{m}^2$	<0.1	0.1-10	10-1000	>1000

**No Concern:** highest degree of precaution. Reflecting the unexposed natural conditions or the common background level in a modern living environment.

**Slight Concern:** Precautions should be taken with regards to sensitive or ill people; remediation should be carried out where possible.

**Severe Concern:** Not acceptable in Building Biology point of view, call for action. Remediation should be carried out soon. Numerous scientific studies indicate biological effects health problems in this range.

**Extreme Concern:** Immediate and rigorous action.

**Building Biology Charts, East Coast Building Biology. 2019, p. 4-5.**

Comparison of Health Based Exposure Limits	Building Biology Guidelines (no concern)	Australian College of Environmental Studies (2017)
Sleeping Areas Radio Frequencies Magnetic fields	< 0.1 $\mu\text{W}/\text{m}^2$	<5 $\mu\text{W}/\text{m}^2$ 0.2mG (20nT) 0.02 $\mu\text{T}$
Living Areas Radio Frequencies Magnetic fields	No exposure limit given	<10 $\mu\text{W}/\text{m}^2$ 2mG (200nT) 0.2 $\mu\text{T}$

**ARPANSA'S Exposure Guidelines For Radiofrequencies**

Public Exposure Limits	Occupational Exposure Limits
Up to 10 000 000 $\mu\text{W}/\text{m}^2$ (10 million)	Up to 50 000 000 $\mu\text{W}/\text{m}^2$ (50 million)
Up to 10 000 mW/m <sup>2</sup>	Up to 50 000 mW/m <sup>2</sup>

Child psychiatrist Victoria Dunckley reports,

A finding of particular concern was damage to an area known as the insula, which is involved in our capacity to develop empathy and compassion for others and our ability to integrate physical signals with emotion. Aside from the obvious link to violent behavior, these skills dictate the depth and quality of personal relationships. (Dunckley, 2014)

### **Legal Implications**

Litigation could cripple the telecommunications industry. Communities in Wilsons Creek, Coogee, Currumbin, Lilly Pilly and private individuals have already shut down cell towers - in the case of TPG in Sydney, an entire existing and proposed network of 5G enabled 'small cells' was abandoned. As public awareness increases, this can only mean more 'spot fire' actions, however the real focus of culpability for a criminal level of negligence in *failure to protect* the Australian people lies with ARPANSA. Irradiating a person against their will or without consent, constitutes in the eyes of the Law, assault (Broomhall, 2019<sup>5</sup>).

International Law. Crimes against humanity do not have a limitation period.

### **Insurance**

Lloyds of London, refuse to insure the industry. Insuring or underwriting microwave radiation is to become an accessory to a crime of genocide. The money and the public liability and public image is the telecommunications industry's Achilles heel. No insurer will indemnify an institution with in house secrets – because failure of disclosure nullifies an insurance contract <sup>6</sup>. Lloyds are obviously aware of this.

### **Safe Technologies - Research**

The opportunity to create and research safe technologies exists now. This is where the focus needs to be relocated. It is the responsibility of far sighted elected officials as well as industry investors to grasp the positive economic implications of this opportunity. An example of innovative technology and mega data transfer is exemplified in the multi-billion dollar

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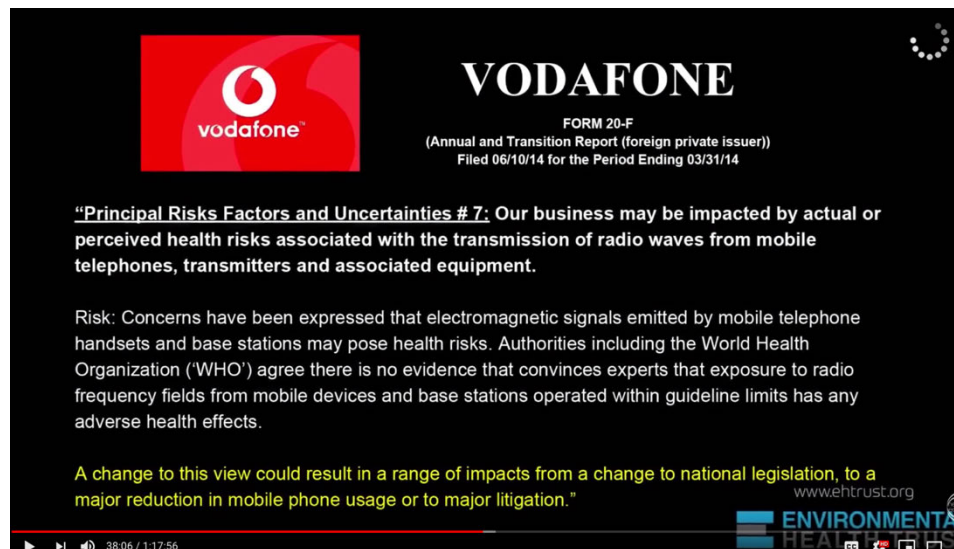
<sup>5</sup> Raymond Broomhall, Barrister at Law, Michael Kirby Chambers, Hobart, Tasmania.

<sup>6</sup> Failure to disclose in this case is constituted in a conspicuous absence of evidential studies that demonstrate the status of 5G, safe or not. United States Senator Blumenthal found out as much, to his apparent disgust, at a Congressional Hearing into the deployment of 5G in 2018.

international Square Kilometre Array (SKA) project in Western Australia. In a signal test conducted by AARNet and CISCO, data was transferred through optic fibres at speeds of up to 600 Gbs or gigabytes per second. The most optimistic download speed for 5G is 1Gbs or 1 gigabyte per second.

### Caveats by the Telecommunications Industry

Vodafone: acknowledges, “Our business may be impacted by actual or perceived health risks” and the possibility of “major litigation”. AT&T and Verizon have similar warnings. In May 2011 the IARC (International Agency For Research on Cancer) classified cellphone radiation as a Class 2B possible carcinogen (Baan et al, 2011). The overwhelming evidence suggests that the classification is long overdue for reassessment.



**VODAFONE**  
FORM 20-F  
(Annual and Transition Report (foreign private issuer))  
Filed 06/10/14 for the Period Ending 03/31/14

**“Principal Risks Factors and Uncertainties # 7: Our business may be impacted by actual or perceived health risks associated with the transmission of radio waves from mobile telephones, transmitters and associated equipment.**

Risk: Concerns have been expressed that electromagnetic signals emitted by mobile telephone handsets and base stations may pose health risks. Authorities including the World Health Organization (‘WHO’) agree there is no evidence that convinces experts that exposure to radio frequency fields from mobile devices and base stations operated within guideline limits has any adverse health effects.

A change to this view could result in a range of impacts from a change to national legislation, to a major reduction in mobile phone usage or to major litigation.”

www.ehtrust.org  
**ENVIRONMENTAL HEALTH TRUST**

Source: Environmental Health Trust – Dr Devra Davies



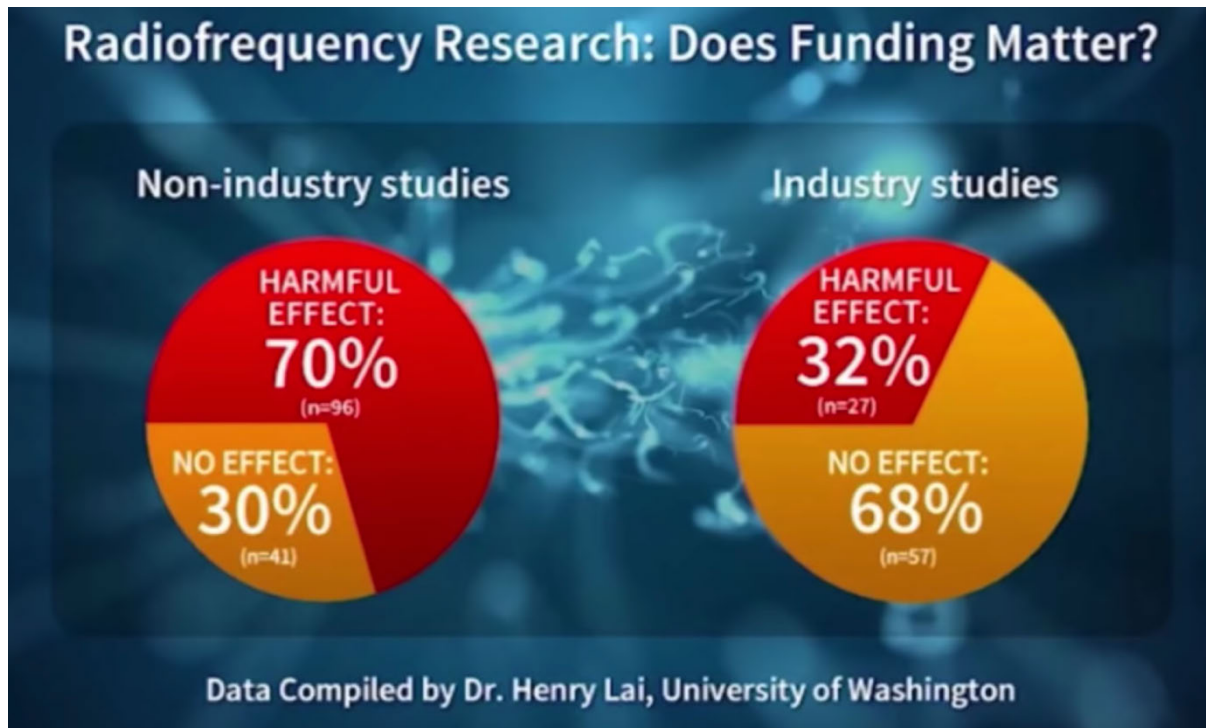
**Verizon Communications Inc.**  
UNITED STATES SECURITIES AND EXCHANGE COMMISSION  
FORM 10-K  
ANNUAL REPORT fiscal year ended December 31, 2014

**“We are subject to a significant amount of litigation, which could require us to pay significant damages or settlements.”**

“...our wireless business also faces personal injury and consumer class action lawsuits relating to alleged health effects of wireless phones or radio frequency transmitters, and class action lawsuits that challenge marketing practices and disclosures relating to alleged adverse health effects of handheld wireless phones. We may incur significant expenses in defending these lawsuits. In addition, we may be required to pay significant awards or settlements.”

www.ehtrust.org  
**ENVIRONMENTAL HEALTH TRUST**

Non-Industry studies show 70 percent harmful affects compared to 32 percent of industry studies.



Dr Henry Lai, The BioInitiative Report

### How Clean is Your Cloud? (Cook, Greenpeace, 2012)

In the 2012 CEET<sup>7</sup> Report from Bell Labs and the University of Melbourne: “*The Power Of Wireless Cloud*. An analysis of the impact on energy consumption of the growing popularity of accessing cloud services via wireless devices”, it was predicted that,

(E)nergy calculations show that by 2015, wireless cloud will consume up to 43 TWh, compared to only 9.2 TWh in 2012, an increase of 460%. This is an increase in carbon footprint from 6 megatonnes of CO<sub>2</sub> in 2012 to up to 30 megatonnes of CO<sub>2</sub> in 2015, the equivalent of adding 4.9 million cars to the roads. Up to 90% of this consumption is attributable to wireless access network technologies, data centres account for only 9%.

<sup>7</sup> Centre for Energy-Efficient Telecommunications (CEET). <https://ceet.unimelb.edu.au/publications/ceet-white-paper-wireless-cloud.pdf>

## **Health, The Cost Of EMF-EMR Radiation Left Unchecked**

### **International Scientists Petition U.N. to Protect Humans and Wildlife from Electromagnetic Fields and Wireless Technology**

New York, NY, May 11, 2015. An Appeal has been submitted today by 190 scientists from 39 nations to the United Nations, requesting the World Health Organization (WHO) adopt more protective exposure guidelines for non-ionizing electromagnetic fields (EMF) in the face of increasing exposures from many sources. Called the International EMF Scientist Appeal, the petition calls on the United Nations and its organizations to encourage precautionary measures and conduct an environmental assessment; for the WHO to educate the public about health risks, particularly to children and pregnant women; and for the United Nations Environmental Programme (UNEP) to assess the potential impact of EMF exposure on all living organisms (Press Release: EMFscientist.org)

On July 22 of this year, an update on this appeal represented the urgent concerns and warnings from 228 scientists from 42 nations see link below. As of October 15<sup>th</sup> 2019, 252 EMF scientists from 43 nations have signed:

### **U.N. Environment Programme Urged to Protect Nature and Humankind from Electromagnetic Fields (EMF) 4G/5G antenna densification is escalating health risks - a global crisis New York, NY, July 22, 2019.**

The Advisors to the International EMF Scientist Appeal, representing 248 scientists from 42 nations, have resubmitted ***The Appeal*** to the United Nations Environment Programme (UNEP) Executive Director, Inger Andersen, requesting the UNEP reassess the potential biological impacts of next generation 4G and 5G telecommunication technologies to plants, animals and humans.

There is particular urgency at this time as new antennas will be densely located throughout residential neighborhoods using much higher frequencies, with greater biologically disruptive pulsations, more dangerous signaling characteristics, plus transmitting equipment on, and inside, homes and buildings. The Advisors to ***The Appeal*** recommend UNEP seriously weigh heavily the findings of the independent, non-industry associated EMF science



The Advisors to the International EMF Scientist Appeal - Annie Sasco, MD, Dr.PH., Henry Lai, Ph.D., Joel Moskowitz, PhD., Ronald Melnick, Ph.D. and Magda Havas, Ph.D., call upon the UNEP to be a strong voice for the total environment of the planet, and an effective catalyst within the United Nations with regards to the biological and health effects of electromagnetic pollution. <https://emfscientist.org/>

### **The Harms to Children, Foetal Development, Human Adults, and all Living Organisms**

Martin Pall PhD, Professor Emeritus of Biochemistry and Basic Medical Sciences, Washington State University states,

(T)he telecommunications industry argues that 5G radiation will be mostly absorbed in the outer 1 or 2 mm of the body, such that they claim that we don't have to worry about the effects. There is some truth to that, but there are also some caveats that make any conclusions made from that, much more suspect. In any case, these surface effects of 5G will have especially strong impact on organisms with much higher surface to volume ratios. Consequently, I predict that many organisms will be much more impacted than we will. This includes insects and other arthropods, birds and small mammals and amphibia. It includes plants including even large trees, because trees have leaves and reproductive organs that are highly exposed. I predict there will be major ecological disasters as a consequence of 5G.

This will include vast conflagrations because EMF exposures make plants much more flammable.

Israeli researchers found that the helical nature of the sweat glands constituted a means for EMR to enter deeply into the body. "The sweat duct is regarded as a helical antenna in the sub-THz band, reflectance depends on perspiration" (Betzael, Ishai, & Feldman, 2018).

The new 5G wireless technology involves millimeter waves (extremely high frequencies) producing photons of much greater energy than even 4G and WiFi. Allowing this technology to be used without proving its safety is reckless in the extreme, as the millimeter waves are known to have a profound effect on all parts of the human body." Professor Trevor Marshall, Director Autoimmunity Research Foundation, California

"The plans to beam highly penetrative 5G milliwave radiation at us from space must surely be one of the greatest follies ever conceived of by mankind. There will be nowhere safe to live." Olga Sheean former WHO employee and author of 'No Safe Place'

"It would irradiate everyone, including the most vulnerable to harm from radiofrequency radiation: pregnant women, unborn children, young children, teenagers, men of reproductive age, the elderly, the disabled, and the chronically ill."  
Ronald Powell, PhD, Letter to FCC on 5G expansion

### **International Appeal**

#### **Stop 5G on Earth and in Space**

In 2015, [215 scientists from 41 countries](#) communicated their alarm to the United Nations (UN) and World Health Organization (WHO).<sup>[9]</sup> 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.<sup>[10] [11]</sup> Effects include:

- [Alteration of heart rhythm](#)<sup>[12]</sup>
- [Altered gene expression](#)<sup>[13]</sup>
- [Altered metabolism](#)<sup>[14]</sup>
- [Altered stem cell development](#)<sup>[15]</sup>
- [Cancers](#)<sup>[16]</sup>
- [Cardiovascular disease](#)<sup>[17]</sup>
- [Cognitive impairment](#)<sup>[18]</sup>
- [DNA damage](#)<sup>[19]</sup>
- [Impacts on general well-being](#)<sup>[20]</sup>
- [Increased free radicals](#)<sup>[21]</sup>
- [Learning and memory deficits](#)<sup>[22]</sup>
- [Impaired sperm function and quality](#)<sup>[23]</sup>
- [Miscarriage](#)<sup>[24]</sup>
- [Neurological damage](#)<sup>[25]</sup>
- [Obesity and diabetes](#)<sup>[26]</sup>
- [Oxidative stress](#)<sup>[27]</sup>



Effects in children include [autism](#),<sup>[28]</sup> [attention deficit hyperactivity disorder \(ADHD\)](#)<sup>[29][30]</sup> and [asthma](#).<sup>[31]</sup>

Damage goes well beyond the human race, as there is abundant evidence of harm to diverse plant- and [wildlife](#)<sup>[32][33]</sup> and laboratory animals, including:

- [Ants](#)<sup>[34]</sup>
- [Birds](#)<sup>[35][36]</sup>
- [Forests](#)<sup>[37]</sup>
- [Frogs](#)<sup>[38]</sup>
- [Fruit flies](#)<sup>[39]</sup>
- [Honey bees](#)<sup>[40]</sup>
- [Insects](#)<sup>[41]</sup>
- [Mammals](#)<sup>[42]</sup>
- [Mice](#)<sup>[43][44]</sup>
- [Plants](#)<sup>[45]</sup>
- [Rats](#)<sup>[46]</sup>
- [Trees](#)<sup>[47]</sup>

Negative [microbiological](#) effects<sup>[48]</sup> have also been recorded.

<https://www.5gspaceappeal.org/the-appeal/>

### **Cows are the New Canaries**

French farmers are suing the French government over the loss of hundreds of cattle, which the farmers say are caused by local harmful sources of air, water and ground electromagnetic fields, such as those generated by transformers, cell towers and wind farms. Calves have been born blind, with holes in their heads, and deformed limbs. Cows produce little milk and animals are stunted. Cattle are sensitive to electricity and able to withstand an electrical resistance of only 50 Ohms<sup>8</sup> compared to a human tolerance of 1,500 Ohms (Thibaut Bouchut, Building Advisor of the Sanitary Defense Group, France).

<https://www.europe1.fr/societe/cotes-darmor-le-courant-electrique-responsable-de-la-mort-de-centaines-de-vaches-3879959>

<https://www.dailymail.co.uk/news/article-6855801/French-farmers-say-wind-turbines-solar-panels-killed-hundreds-cows.html>

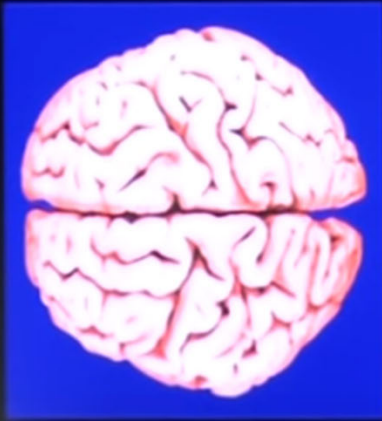
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<sup>8</sup> Ohms is the linear relationship between voltage and current in an electrical circuit.

Dr Byun Gi-Won from the Balance Brain Center, Seoul, South Korea.

## Digital Dementia Diagnosed in South Korean Children

- Characterized by: memory loss, attention disorders, lack of eye contact and empathy, difficulty feeling or showing emotions.
- Children are at the greatest risk because their brains are still developing.
- Dr. Byun Gi-Won a cognitive expert from the Balance Brain Center in Seoul, South Korea states, "Young People who are heavy technology users are likely to have a properly developed left hemisphere of the brain while the right hemisphere will be unused and underdeveloped."



Like asbestos EMFs, EMRs and ELF-EMFs are invisible and under the weight of science, industry propaganda aside, can only be assessed by a logical intelligent mind as potentially deadly. The effects of long term exposure are accumulative.

### **The Standards: The Industry Standard Versus The People's Standard (TPS – AUS)**

- An independent body with internationally standardised measurements needs to be instituted to protect all Australians. Children are a nations future. Along with pollinating insects, microbes, amphibia and birds they are among the most vulnerable according to research (and common sense), the health of the biosphere, animals and plant life, also under attack from EMF-EMRs determines humanities very survival. We might begin to comprehend the fact that we play only one small intrinsic part in the web of life when we find that we cannot eat money.

- Building Biologists are currently the most highly trained and well positioned in the sphere of EMF-EMR to form such a group, along with accredited scientists, medical personal and community representatives.

### **Behavioural Change: How to Scramble Brain Wave Patterns**

*“Doubt is our product.” Tobacco Industry executive.*

Doubt is the currency of the marketing guru. In doubt, with unmoored reference points, the target individual's reality is up for grabs. Doubt your attractiveness? Doubt your masculinity? Doubt your intrinsic worth? Solution sold. Stalling tactics in the telecommunications industry parallel the strategy of Big Tobacco when it was caught covering up research findings. Polarise opinions with paid research. Never reach a conclusion. Muddy the water with positive propaganda. And always, create uncertainty. Veracity, facts, and credible science are somewhere over the rainbow. The desired message via celebrity scientists, or current influencers, is then inserted into the midst of the confusion where it goes to work to bend behaviour towards the desired outcome.

### **Coming to a Courtroom Near You**

In the year 2000, forty American states sued the tobacco companies under state consumer protection and antitrust laws. As I submit is the case for 3, 4 and 5G:

These states argued that cigarettes contributed to health problems that triggered significant costs for public health systems. In these lawsuits, the tobacco companies could not use the defense that had proven so successful in lawsuits brought by individuals - that the smoker was aware of the risks and decided to smoke anyway. This sets a significant precedent in law for cell phone communication and 5G litigation. A defence of the mobile phone user could also plead behavioural addiction. ‘Knowingly assuming risk’, in use of a cell phone despite the well hidden Legal Notice in the ‘phones access information, is no longer a legitimate industry defence. Telcos take note.

In November 1998, the attorneys general of 46 states and four of the largest tobacco companies agreed to settle the state cases. Terms of the settlement are referred to as the Master Settlement Agreement. Highlights include:

- Tobacco companies agreed to refrain from engaging in certain advertising practices, particularly ad campaigns that marketed cigarettes towards kids.

- **Tobacco companies agreed to pay annual sums of money to the states to compensate them for health-care costs related to smoking (a minimum of \$206 billion over the first twenty-five years).**
- **The settlement created and funded the National Public Education Foundation,** dedicated to reducing youth smoking and preventing diseases associated with smoking.
- Tobacco companies **dissolved** three of the biggest tobacco industry organizations (emphasis added). <https://www.nolo.com/legal-encyclopedia/tobacco-litigation-history-and-development-32202.html>

A landmark settlement of 51.5 million was awarded to a California smoker with inoperable lung cancer in February 2000.

#### **Prediction: The Future Looks Like This**

- Telecommunications companies agreed to refrain from engaging in certain advertising practices, particularly ad campaigns that marketed cell phones and other RF-EMR emitting devices towards children.
- Telecommunications companies agreed to pay billions to the states to compensate them for health-care costs related to decades of exposure to EMF-EMR and ELF-EMR fields.
- The settlement funded the National Public Education Foundation, dedicated to EMR-RF harms and reducing social / internet media addiction in young people and preventing neurological and other diseases associated with EMF-EMR and ELF-EMR exposure, including depression and suicidality.
- Telecommunications companies developed, in consultation with community representatives and selected organizations, standards that reflected the precautionary principle<sup>9</sup> within the large body of science accumulated over the previous seven decades to 2020.

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<sup>9</sup> **The Precautionary Principle** A rule in environment management which states that if serious damage can be caused to the environment and/ or to the health of a human being, immediate steps should be taken in order to contain or to prevent such an event from happening. It is also known as the preventative principle. <https://thelawdictionary.org/precautionary-principle/> Further reference: <http://www.precautionaryprinciple.eu/>

The head of ARPANSA resigned amid a conflict of interest scandal, other senior representatives were charged with gross negligence and misleading the Australian public.

Back to non-fiction reality: *Why is ARPANSA ignoring the science?* Are they a captured agency, enabling industry goals with *carte blanche* standards?

According to repeated nationwide surveys,

# More Doctors Smoke **CAMELS** than any other cigarette!

Doctors in every branch of medicine were asked, "What cigarette do you smoke?" The brand named most was Camel!

You'll enjoy Camels for the same reasons so many doctors enjoy them. Camels have cool, cool *mildness*, pack after pack, and a *flavor* unmatched by any other cigarette. Make this sensible test: Smoke only Camels for 30 days and see how well Camels please your taste, how well they suit *your* throat as your steady smoke. You'll see how enjoyable a cigarette can be!

THE DOCTORS' CHOICE IS AMERICA'S CHOICE!

**MAUREN O'HARA** says: "I pick Camels. They agree with my throat and taste wonderful!"

**DICK BOYDES** states: "I get more pleasure from Camels than from any other brand!"

**ERLIP BELLAMY** reports: "Camels suit my taste and throat. I've smoked 'em for years!"

For 30 days, test Camels in your "T-Zone" (T for Throat, T for Taste).

As of 2019, the Centers For Disease Control (CDC) report that 480,000 Americans annually are still losing their lives as a result of tobacco related harms. A further 41,000 die from second hand smoke exposure.

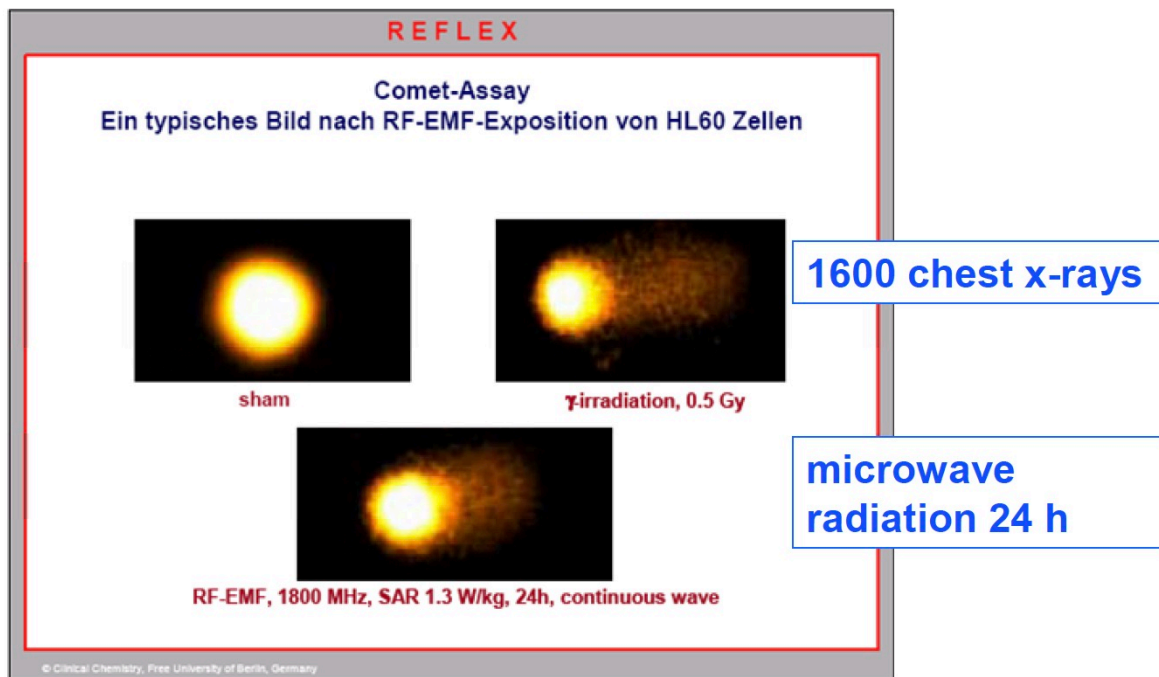
This has relevance to mobile phone and ubiquitous Wi-Fi use, as the 'side stream' use of both will indirectly and directly expose those in the users vicinity to pulsed microwave radiation 24 hours per day, seven days per week at rates of 700 million to 2.1 billion microwaves per



second for 2G/3G/4G mobile data sent to cell phones. 2.4 billion to 5.8 billion microwaves per second for Wi-Fi data to tablets/laptops. <https://whatis5g.info/microwave-radiation/>

“The only difference between cell phone radiation and your microwave oven is power.” Dr Devra Davies, Dean’s lecture, The University of Melbourne, 2018.

## DNA–Damage: Comet-Assay Microwave Radiation Mobile Phone



Asbestos, lead in petrol, smoking on airlines... These are just three examples of a vast number of products and related behaviours, whereby concerned medical and lay people alike became aware of the dangers and raised the alarm. After many years of vigorously defended industry court cases, legislation was enacted and without exaggeration the quality of life was improved and millions of lives were undoubtedly saved.

I submit: we do not have years to allow the roll out of the untested technology of 5G, and be damned with the consequences. I believe, based on the vast amount of peer reviewed and published findings on EMFs, EMRs and ELFs, that potentially, 5G represents nothing less than a genocide (Firstenberg, 2019; Johansson, 2019; Pall, 2019).

I would ask you dear reader to consider that you and or your loved ones may become or may already be one of those victims.

Perhaps when we are hungry, but discover in the famous words of Sitting Bull - that money cannot feed us; when our parents develop Alzheimer's, dementia, diabetes and osteoarthritis; adolescents become adults and want to have children of their own, but find themselves sterile having been irradiated in the womb (Johannson, 2019). Perhaps when we are starving because the pollinating insects are extinct; when four-year-olds develop leukemia or gliomas or ADHD, diabetes or neurological symptoms, and we cannot save them as we sit beside their hospital bed 24/7 and hold their hands and watch them struggle with unbearable suffering. Then we may legislate, we may change behaviour, we may take action, but for millions, perhaps for your child, that will be too little too late.

I would rather appeal to your humanity, than your guilt. But have those whom we entrust with keeping us from harm listened to the scientists, medical personnel and those suffering EHS? Some, but all too few.

The solutions exist. *Carpe diem!* Solutions lie in imagining a different future, in creating standards that acknowledge the overwhelming body of research; standards that implement change at an industry / infrastructure and policy level. Standards that commit to research safe technologies and utilise existing superior pathways like fibre optics (Pall, 2015; Schoechele, 2018). What is needed is an informed public, political will, *leadership* and decisive action.

As adults we are indebted to the safety and future of the children. As humans beings – to the animal nations, as human beings to nature herself. Unlike us, the planet is not attached to outcomes. With or without us, the world will keep spinning. What we allowed to happen here may be an infinitesimal footnote in the history of the universe; but on a human scale *it is our universe* – we have a significant investment in the experience of life. As humanity ever increasingly embraces the digital over 'raw' social connectivity, we adapt towards self-reinforcing states of psychopathology. The psychopath values power, he feels no empathy, compassion or remorse. The untested, publicly uniformed nature of the global 5G roll out is one more symptom of this adaptation. I would however, because of its military origins, and invisible stealth nature, count it among one of the most dangerous.

Every age needs courageous people to step up. With the global roll out of 5G the future of humanity is at stake. Silence is complicity. Inaction is ecocide. Freud's identification of *Thanatos*, the death drive, versus *Eros* – life, may be justified. Equally however, humans have proved themselves to be astonishing innovators, with an indomitable spirit in the face of great apathy, inertia, and denial – my hope lies with those who are unafraid to face the truth, not in the absence of fear. But in the presence of courage.



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### **Selected Websites For Further Education**

- *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*, by Martin L. Pall, PhD <https://einarflydal.files.wordpress.com/2018/04/pall-to-eu-on-5g-harm-march-2018.pdf>
- The BioInitiative Report 2012, updated 2017 :<https://bioinitiative.org/>
- Physicians for Safe Technology: <https://mdsafetech.org/>
- Environmental Health Trust: <https://ehtrust.org/>
- Human Exposure to RF Fields in 5G Downlink, by Imtiaz Nasim and Seungmo Kim: <https://arxiv.org/pdf/1711.03683.pdf>
- 5G Hazards & The Internet of Things (IoT) <https://www.buildingbiology.com.au/hazards/5g-the-internet-of-things-iot.html>

### **Biographies - selected**

Dr. Schoechele's Bio: Timothy Schoechele, PhD is a communications technology expert, international consultant in computer engineering, and Senior Research Fellow at the National Institute for Science, Law & Public Policy. He is faculty member of Colorado State University-Global Campus where he develops graduate and undergraduate courses on cyber-security and privacy and is a Principal Investigator for a research grant to demonstrate innovative electricity management, solar, and control system technologies for the City of Boulder. "Reinventing Wires: Future of Landlines and Networks" -

<http://electromagnetichealth.org/wp-c...> Sheldon Hines offered hard copies of this report. If interested, please contact him [REDACTED] Dr. Schoechele's Conference in Tucson: <https://www.youtube.com/watch?v=o-ws3...>

### **Devra Davies PhD MPH**

President of the Environmental Health Trust (EHS), a non-profit scientific and policy think tank. Dr Davis was Founding Director of the Center for Environmental Oncology at The

University of Pittsburgh Cancer Institute — the first institute of its kind in the world, to examine the environmental factors that contribute to the majority of cases of cancer.

In 2007, Dr Devra Davis founded the non-profit Environmental Health Trust to provide basic research and education about environmental health hazards. Dr Davis served as the President Clinton appointee to the Chemical Safety and Hazard Investigation Board in the U.S.A. from 1994–1999, an independent executive branch agency that investigates, prevents and mitigates chemical accidents. As the former Senior Advisor to the Assistant Secretary for Health in the Department of Health and Human Services, she has counselled leading officials in the United States, United Nations, European Environment Agency, Pan American Health Organization, World Health Organization, and World Bank.

Dr Davis holds a B.S. in physiological psychology and an M.A. in sociology from the University of Pittsburgh, 1967. She completed a PhD in science studies at the University of Chicago as a Danforth Foundation Graduate Fellow, 1972 and a M.P.H. in epidemiology at the Johns Hopkins University as a Senior National Cancer Institute Post-Doctoral Fellow, 1982. She has authored more than 200 publications and has been published in Lancet and Journal of the American Medical Association as well as the Scientific American and the New York Times. Dr Devra Davis is an internationally recognised expert on electromagnetic radiation from mobile phones and other wireless transmitting devices.

She is currently the Visiting Professor of Medicine at the Hebrew University Hadassah Medical School, and Visiting Professor of Medicine at Ondokuz Mayıs University, Turkey.

### **About Environmental Health Trust**

Environmental Health Trust (EHT) supports cutting-edge, high-impact research, and educates individuals, health professionals and communities about controllable environmental health risks and policy changes needed to reduce those risks. Currently EHT is raising health concerns about mobile phones and wireless radiation and recommends reducing exposures to decrease risk consistent with a [database of national precautionary policies](#).

<http://www.EHtrust.org> and [Facebook](#)

Melbourne University Webpage on the Dean's Lecture: The truth about mobile phone and wireless radiation: what we know, what we need to find out, and what you can do

now <https://events.unimelb.edu.au/events/5999-the-truth-about-mobile-phone-and-wireless-radiation-what-we>

### **Arthur Firstenberg**

<https://www.cellphonetaskforce.org/>

Arthur Firstenberg is a scientist, journalist and author who is at the forefront of a global movement to tear down the taboo surrounding this subject. After graduating Phi Beta Kappa from Cornell University with a degree in mathematics, he attended the University of California, Irvine School of Medicine from 1978 to 1982. Injury by X-ray overdose cut short his medical career. For the past thirty-eight years he has been a researcher, consultant, and lecturer on the health and environmental effects of electromagnetic radiation, as well as a practitioner of several healing arts.

### **Dariusz Leszczynski PhD**

I consider myself expert in biological effects of cell phone radiation. I have two doctorates and docentship in biochemistry. I worked at STUK for nearly 22 years, including as Head of Radiation Biology Laboratory and most recently, for 13 years, as Research Professor. I do research on cell phone radiation and health since 1996. My expertise in this area was recognized by my peers when e.g. I was invited to testify before a committee of the US Senate, Finland's Eduskunta, Canadian Parliament or Health Minister of India. I was member of the group of 30 scientists who, at invitation of IARC, classified in 2011 cell phone radiation as a possible human carcinogen (group 2B in IARC scale). For those interested my full experience is available from [this link](#).

### **Martin Pall PhD**

Dr. Martin Pall, Professor Emeritus of Biochemistry and Basic Medical Sciences at Washington State University. I am a published and widely cited scientist on the biological effects of electromagnetic fields and speak internationally on this topic. I am particularly expert in how wireless radiation impacts the electrical systems in our bodies. I have published 7 studies showing there exists exquisite sensitivity to electromagnetic fields (EMFs) in the voltage sensor in each cell, such that the force impacting our cells at the voltage sensor has massive impact on the biology on the cells of our bodies. <https://phibetaiota.net/2019/03/dr-martin-pall-5g-criminally-insane-electromagnetic-fields-emf-fry-living-things/>

## **Appendix A.**

Compiled by TTA, Time to Take Action, Melbourne based activists.

### **Overview Of 5g Regulatory Bodies And Research Safety**

#### **ACMA (the Australian Communications and Media Authority)**

<https://www.acma.gov.au>

- **Federal regulatory body of Australia Electromagnetic Energy EME**
- **Compliance Monitoring Section of ACMA 8-10 people**
- **Federal Compliance for each State in Australia**

The Australian Communications and Media Authority (ACMA) is an Australian Government statutory authority within the Communications portfolio. ACMA was formed on 1 July 2005 with the merger of the Australian Broadcasting Authority and the Australian Communications Authority. ACMA is responsible for ensuring media and communications works for all Australians. It does this through various legislation, regulations, standards and codes of practice.

The ACMA website states:

The ACMA and EME

The ACMA is responsible for regulating radiofrequency (RF) electromagnetic energy (EME) for consumer devices (e.g. mobile phones) and telecommunications facilities (e.g. mobile phone towers). To make sure EME exposure is kept low, the ACMA applies the ARPANSA EME exposure limits contained in the Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields – 3 kHz to 300 GHz (2002), (the ARPANSA Standard).

The ACMA is not an expert body on the possible health effects of human exposure to EME and is *not responsible for investigating possible health effects* (italics added).

<https://www.acma.gov.au/Citizen/Spectrum/About-spectrum/EME-hub/the-acma-and-eme>



On the link entitled ‘human exposure’ one finds this advice:

If you have questions about individual health concerns and exposure to EME—including ‘EME hypersensitivity’—you should direct those questions to a health professional. <https://www.acma.gov.au/Citizen/Spectrum/About-spectrum/EME-hub/eme-and-health>

### **How Does The ACMA Regulate EME For Base Stations?**

The Telecommunications Code of Practice 1997 Authoritative Version Series

Is no longer in force and has been replaced by: the Telecommunications Code of Practice 2018 Telecommunications Act 1997. <https://www.legislation.gov.au/Series/F2004B00451>

### **Compliance with industry standards. Part 2 of the Act, clause 2.7**

A carrier must engage in a land entry activity in accordance with any standard that:

- (a) relates to the activity; and
- (b) is recognised by the ACMA as a standard for use in that industry; and
- (c) is likely to reduce a risk to the safety of the public if the carrier complies with the standard.

Note 1 See Act, Schedule 3, clause 12.

Note 2 Examples of applicable standards are:

- Australian Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields – 3kHz to 300GHz (RPS3); and
- A relevant standard or code under Part 6 of the Act.

### **Low Impact Facility**

***low-impact facility*** means a facility determined by the Minister under subclause 6 (3) of Schedule 3 to the Act to be a low-impact facility.

Note 1 For specification by class, see subsection 33 (3A) of the *Acts Interpretation Act 1901*.

Note 2 Low-impact facilities are specified in the *Telecommunications (Low-impact Facilities) Determination 2018*.

*low-impact facility activity* see section 4.2.

\**maintenance*, for a facility, see clause 7 of Schedule 3 to the Act.

*maintenance activity* see section 6.2.

It appears that 5G is exempt from development approval.

## **ARPANSA (The Australian Radiation Protection and Nuclear Safety Agency)<sup>10</sup>**

### **ARPANSA Radiation Protection Series No. 3 (RPS 3)**

Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields - 3 kHz to 300 GHz (2002)

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<sup>10</sup> ARPANSA is a non-corporate Commonwealth entity under the Public Governance, Performance and Accountability Act 2013 (PGPA Act), within the Health portfolio, and operates under the Public Service Act 1999. <https://www.arpansa.gov.au/about-us/corporate-publications/corporate-plan/corporate-plan-2016-20>

## **Appendix B.**

### Electrosensitivity Diagnosis and Treatment

<https://www.electrosensitivity.co/diagnosis--treatment.html>

#### Diagnosis and Treatment of ES and EHS

Diagnosis using objective physiological markers is becoming well established and includes:

- 3d fMRI scans (Heuser, G. et al, 2017, 2017)
- cerebral blood perfusion scans etc (Belpomme, D. et al, 2015)
- genetic variants (De Luca, C. et al, 2014)
- peripheral blood markers for oxidative stress (Irigaray, P. et al, 2018)
- saliva alpha amylase (Andrianome, S. et al, 2017)

Andrianome, S. et al: "[Increasing levels of saliva alpha amylase in electrohypersensitive \(EHS\) patients](#)" (2017)

Austrian Medical Association: [Guidelines of the Austrian Medical Association for the diagnosis and treatment of EMF-related health problems and illnesses \(EMF syndrome\)](#) (2012)

Belpomme, D. et al: "[Reliable disease biomarkers characterizing and identifying electrohypersensitivity and multiple chemical sensitivity as two etiopathogenic aspects of a unique pathological disorder](#)" (2015)

Belyaev, I. et al.: "[EUROPAEM EMF Guideline 2016 for the prevention, diagnosis and treatment of EMF-related health problems and illnesses](#)" (2016)

De Luca, C. et al: "[Metabolic and genetic screening of electromagnetic hypersensitivity subjects as a feasible tool for diagnostics and intervention](#)" (2014)

Heuser, G. et al.: "[Functional brain MRI in patients complaining of electrohypersensitivity after long term exposure to electromagnetic fields](#)" (2017) "[Corrigendum](#)" (2017)

Irigaray, P. et al.: "[Oxidative stress in electrohypersensitivity self-reporting patients: Results of a prospective in vivo investigation with comprehensive molecular analysis](#)" (2018) [Article](#).

Dr Mary Redmayne: "[Past, Present and Future ElectroHyperSensitivity: History, Definition and Proposed Diagnostic Criteria](#)" (2017)

Dr Yael Stein: "[Electrohypersensitivity \(EHS\): Medical Overview](#)" (2017)

### ICD for ES and EHS - ICD-10-CM Code W90

Classification of ES and EHS according to the ICD (International Classification of Diseases)

Nordic Council of Ministers: [El-allergy or Electrosensitivity](#) (2000: ICD-10. R68.8)

ICD-10 codes for the most frequently encountered occupational disorders in the Nordic countries:

Other general symptoms and signs (page 33):

R68.8: Other specified general symptoms and signs

(suggested/recommended for multisymptomatic “idiopathic/environmental intolerance” (IEI), including “multiple chemical sensitivity” (MCS);

“electromagnetic intolerance” (“el-allergy”) etc.

if the patient has not one major symptom which should preferably be coded )

APPENDIX IV (page 50<sup>11</sup>):

“Electromagnetic intolerance”

“El-allergy”:

**Usually general symptoms (tiredness, nausea, memory- and concentration difficulties etc.) related to use of TV/PC/data-screens, electrical transformers or fluorescent lamps. Symptoms disappear in “non-electrical environments”.**

USA: [USA: 2016 ICD-10-CM:](#)

Diagnosis Code T66: Radiation sickness, unspecified

2016 Non-Billable/Non-Specific Code: T66 is not a billable or specific ICD-10-CM

diagnosis code as there are 3 codes below T66 that describe this diagnosis in greater detail.

Reimbursement claims with a date of service on or after Oct 1, 2015 require the use of ICD-10-CM codes.

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<sup>11</sup> The Nordic Adaptation of Classification of Occupationally Related Disorders (Diseases and Symptoms) to ICD-10 (ICD-10: International Statistical Classification of Diseases and Related Health Problems)

This is the American ICD-10-CM version of T66. Other international ICD-10 versions may differ.

Clinical Information:

**The effects of ionizing and nonionizing radiation upon living organisms, organs and tissues, and their constituents, and upon physiologic processes. It includes the effect of irradiation on food, drugs, and chemicals.**

**ICD-10-CM Code W90:**

[Exposure to other nonionizing radiation:](#)

W90 Exposure to other nonionizing radiation:

W90.0 Exposure to radiofrequency

W90.1 Exposure to infrared radiation

W90.2 Exposure to laser radiation

W90.8 Exposure to other nonionizing radiation

"Evidence of RF radiation-ill populations" ([Center for Electromog Prevention](#)):

**Source: ICD-10 Medical Codes for Exposure to nonionizing radiation: (ICD-10-CM W90)**

<https://www.electrosensitivity.co/diagnosis--treatment.html>