

26 November 2019

Dear Boris Johnson,

I fully appreciate that British politicians are intensely caught up in the election, however, the issue of 5G is so pressing, I deem it imperative that I write to you. Earlier in the year, I sent an eighteen page letter to every MP outlining the gravely serious risks 5G poses to the health and well-being of the British population. I have subsequently sent emails, via my local MP, William Wragg, to specific members of Parliament, giving further details. Copies of the most relevant of these emails are enclosed.

*'When a man who is honestly mistaken learns the truth, he will either no longer be mistaken or he will cease to be honest'*. Sweeping claims that 5G technology is safe quickly dissolve in the face of the intricate scientific details which repeatedly indicate the opposite, i.e. that 5G RF radiation is biologically harmful and poses a serious threat to the health and safety of the British population. The information below, which is being widely disseminated, clearly demonstrates that allowing the deployment of 5G to continue in the absence of rigorous safety testing amounts to a political atrocity.

#### **To begin:**

Prof. Dr Franz Adlkofer: *"In democracies, it is a basic principle that above power and its owners are laws, rules, and regulations. Since in the area of wireless communication this principle has been severely violated it is in the interest of a democratic society to insist on its compliance."*

The letter and emails that I, as a British citizen, have sent to Members of the British Parliament have provided factual and verifiable information about the gravely serious threat 5G poses to the safety, well-being, and basic human rights of the British population. That officialdom has failed in its duty to provide this information does give rise to questions, however, the information itself, although provided unofficially, upholds autonomously and veraciously, and must be assessed in its own right.

#### **Part one: The situation**

1.) Necessary for the implementation of 5G are more base stations, including Massive MIMO base stations, a predicted 20,000 5G space satellites internationally, and ubiquitous small cell 5G antennas. The small cell antennas are going to be positioned within very close proximity of people, emitting phased array (beamformed), highly pulsed, 5G frequencies. From the UK Parliament post, '5G technology': *'Small cells can be mounted on existing street infrastructure, such as bus shelters, lamp-posts or traffic lights'*. Beamformed transmission: Jeremy Naydler, *'Because the beams are concentrated in this way, this adds to their power, which means they are able more easily to penetrate buildings. But it also means that any living creature that gets in the way of such a concentrated beam **will be subjected to a powerful dose of extremely high frequency radiant electricity**. ... instead of the radiation decaying when it is absorbed into living tissue, it can be re-radiated within the body. **The moving charges streaming into the body effectively become antennas that re-radiate the electromagnetic field and send it deeper into the organism.**'*

Once 5G is rolled out, exposure to extremely close range 5G radiation, and also to permanent background 5G radiation, will be unavoidable. The British people have not given their informed consent to this unmitigated exposure.

2.) In an era defined by health and safety, not a single pre-market safety test has been carried out on the biological or health effects of the 5G frequencies, including the beamformed frequencies, the public are going to be unavoidably exposed to.

3.) In Britain, the total absence of safety testing on 5G RF radiation is being justified by Public Health England's adherence to the guidelines of the International Commission on Non-Ionizing Radiation (ICNIRP). ICNIRP is an extremely influential, non-profit, self-appointed group, made up of thirteen members who are variously qualified in science and engineering. ICNIRP members acknowledge thermal (heating) RF radiation effects only and either fail, or refuse, to acknowledge the well documented cumulative, non-thermal, biological effects, including mobile phone/wireless radiation effects.

**The claim that 5G frequencies don't pose a public health risk because they are below the 300GHZ safety limit set by ICNIRP does not reflect the available science.**

4.) Criticism of the ICNIRP guidelines:

a) From the 2018 international scientists' 'EMF Call' appeal to the UN and WHO (<https://www.emfcall.org/>): *'In order to protect the public and the environment from the known harmful effects from electromagnetic fields (EMF) we ask the United Nations, the World Health Organization and all governments not to accept the ICNIRP guidelines. They are not protective, rather they pose a serious risk to human health and the environment since they allow harmful exposure to the world population, including the most vulnerable ... These guidelines are unscientific, obsolete and do not represent an objective evaluation of the available science on effects from this form of radiation. They ignore the vast amount of scientific findings that clearly and convincingly show harmful effects at intensities well below ICNIRP guidelines.'*

b) From a letter to the World Health Organization sent on behalf of the Russian National Committee on Non-Ionizing Radiation Protection (RNCNIRP), by Dr Oleg A. Grigoriev, Assoc. Prof., Head of the Scientific Department of Non-Ionizing Radiation, Federal Medical Biophysical Centre of Federal Medical Biological Agency of Russia: *'It has just come to our attention that the WHO RF (radiofrequency) Working group consists mainly from present and past ICNIRP members. ... In particular, the private self-elected organization ICNIRP does not recognize the non-thermal RF effects, which represent the main concern of widespread exposure to mobile communication and is upholding guidelines from 1996, which are based on RF thermal effects only'*.

c) Dr Susan Starkey: *'...members of Public Health England as well as members of ICNIRP, who set the international exposure guidelines, have provided inaccurate, incorrect and misleading scientific information. ... Conflicts of interest associated with membership of ICNIRP need to be addressed. Current advice is not evidence based and the public have been let down by misinformation and a lack of precautionary actions. .... We urgently need biologically-based exposure guidelines to protect the population.'*

d) Bioinitiative Report: *'Existing public safety limits (FCC and ICNIRP public safety limits) do not sufficiently protect public health ... If no mid-course corrections are made to existing and outdated safety limits, such delay will magnify the public health impacts with even more applications of wireless-enabled technologies'*

e) Professor Emeritus, Dr Martin L. Pall and Professor Emeritus, Dr Rainer Nyberg: *'Response to 2018 ICNIRP Draft Guidelines': 'It is our opinion that safety can only be assessed biologically and that the whole structure that ICNIRP proposes is deeply flawed.'*

**Head of Dosimetry at Public Health England, Dr Simon Mann, who advises the Government on public exposure levels, is a member of ICNIRP.**

5.) In the 2015 Scientists' 'The EMF Appeal' (<https://www.emfscientist.org/>), 206 international scientists, **almost half of whom were professors, and all of whom had published, peer reviewed papers on EMF health or biological effects (2,000 scientific papers collectively)**, appealed to the UN WHO, UNEP and all UN member states, for greater protection of the public from increasing electromagnetic field (EMF) exposure: *'We are scientists engaged in the study of biological and health effects of non-ionizing electromagnetic fields (EMF). Based upon peer-reviewed, published research, **we have serious concerns regarding the ubiquitous and increasing exposure to EMF generated by electric and wireless devices**'.*

6.) In 2017, the Scientists' '5G Appeal' (<http://www.5gappeal.eu/about/>) was sent to the European Commission . It has now been signed by 261 highly and specifically qualified signatories, many of whom are professors: *'The 5G Appeal was prepared in 2017 by scientists and doctors who are **urgently calling for the EU to halt the roll out of 5G due to the serious potential health effects from this new technology**'*

7.) **The European Parliament: Policy Department for Economic, Scientific and Quality of Life Policies, IN-DEPTH ANALYSIS, Requested by the ITRE committee, 5G deployment: 1.7. '5G Electromagnetic Radiation and Safety' - 'Significant concern is emerging over the possible impact on health and safety arising from potentially much higher exposure to radiofrequency electromagnetic radiation arising from 5G. Increased exposure may result not only from the use of much higher frequencies in 5G but also from the potential for the aggregation of different signals, their dynamic nature, and the complex interference effects that may result, especially in dense urban areas. **The 5G radio emission fields are quite different to those of previous generations because of their complex beamformed transmissions...**'** ([https://www.europarl.europa.eu/RegData/etudes/IDAN/2019/631060/IPOL\\_IDA\(2019\)631060\\_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/IDAN/2019/631060/IPOL_IDA(2019)631060_EN.pdf) )

#### **In a nutshell:**

1. Once 5G is deployed, unmitigated exposure to 5G frequencies is going to be unavoidable. Informed public consent has not been given for this exposure.
2. 5G is being rolled out without safety testing on biological/health effects.
3. The Government's justification for the lack of 5G testing is based solely on adherence to the ICNIRP guidelines devised by the 13 ICNIRP members.
4. The ICNIRP guidelines adopted by the Government have been internationally discredited.
5. In 2015, 206 highly qualified, independent, international scientists, including many professors, appealed to the UN, WHO, UNEP and all UN member states, for greater protection of the public from increasing EMF exposure levels.
6. 261 highly qualified, independent, international scientists and doctors, including many professors, are warning that 5G poses *serious potential health effects* and have appealed to the EU in an attempt to halt its deployment.
7. EU Policy Department for Economic, Scientific and Quality of Life Policies: *'Significant concern is emerging over the possible impact on health and safety arising from potentially much higher exposure to radiofrequency electromagnetic radiation arising from 5G.'*

In the short video, 'staat niet achter zijn eigen adviezen' ( <https://www.youtube.com/watch?v=jZ2LbIvZ52U>.) Eric Van Rongen, Chairman of ICNIRP, who advises the World Health Organization on EMF exposure standards, is asked why he should be trusted more than the 200 plus scientists who'd appealed to the U.N. for more stringent EMF safety standards. His response, from start to finish, was: *'Well, uh, it's difficult to say, everybody can believe what they*

want, er, if those scientists think that there is enough evidence, er, it's, it's er, it's their responsibility to draw that conclusion, um, we draw different conclusions from that, and it's, it's up to people to decide which group they think is more reliable and what they should believe."

## **Part two: Shrouding the elephant in the room**

'Propaganda is to a democracy what violence is to a dictatorship.' William Blum

The following 5G media propaganda is from The Guardian newspaper's article, 'How baseless fears over 5G rollout created a health scare', written by Alex Hern:

(EE's Head of Technology Communications, Howard Jones) ' ..Jones is firm: there is absolutely no evidence that 5G, or any other part of the network, is dangerous. "The wavelengths that 5G uses and will use are all entirely safe and have been in research and testing for decades. It's a red herring to say it's a new technology and therefore hasn't been tested"

..And the carriers are emphatic that, in the words of Three UK, "from a health and safety perspective, 5G deployment is no different to any other mobile technology ... no harmful levels of radiation are emitted."

..If there were a negotiation, sitting on the side of the opposition would be Martin Pall. A retired professor from Washington State University, Pall's research interests are practically an encyclopaedia of the medical counterculture...'

1.) EE's Head of Technology Communications, Howard Jones, "**The wavelengths that 5G uses and will use are all entirely safe and have been in research and testing for decades. It's a red herring to say it's a new technology and therefore hasn't been tested**"

Response: The European Parliament: 'Significant concern is emerging over the possible impact on health and safety arising from potentially much higher exposure to radiofrequency electromagnetic radiation arising from 5G. ...'

Prof. Dr Franz Adlkofer, former Executive Director of VERUM, Munich, organiser and coordinator of the EU Reflex study on RF-EMF effects: 'Since the beginning of the 50's in the last century **the safety limits for radiofrequency radiation contradict the state of scientific research. They do not protect people exposed to radiation but the interest of industry and politics. The way they were introduced, ensured and defended meets all criteria for institutional corruption.**'

Dr Martin Pall, Professor Emeritus of Biochemistry and Basic Medical Sciences, Washington State University.: "You do not put out EMFs without doing safety testing. It is an **atrocitiy** to do that."

Dr George Carlo, former Chairman, International Association for the Wireless Telecommunications Industry (CTIA) Wireless Technology Research Program (WTR): 'Severe and potentially deadly diseases have been associated with the use of wireless technology for at least two decades, yet the truth about the risks has never emerged in mainstream media outlets due to the telecommunications industry being one step ahead of the game' ... "Ordinarily, in a regulatory context, new technologies would be tested extensively before they reached the market place in order to make sure they didn't present any danger to consumers. In the case of cell phones and the wireless industry as a whole, this crucial stage was bypassed ... **Had there been pre-market testing, mobile phones would never have made it into the market place.**"

Dr Joel M Moskowitz, Director, Family and Community Health, University of California, Berkeley: "Some of the claims that were being made about health effects were so severe that **had there been pre-market testing, cell phones would never have made it into the market place.**"

The EMF Call: 'ICNIRP's opinion and guidelines are unscientific and protect industry, not public health'.

Dr Martin Pall: "There are 38 different reviews arguing that EMFs, well below our safety guidelines, cause cancer. I think it's absolutely stunning that we're still discussing this issue. The only reason we're discussing it is because the industry puts out so much propaganda, it's getting covered all the time."

Dr Sharon Goldberg, integrative internal medicine doctor: "We have clear evidence that microwave radiation (2G, 3G, 4G, 5G) is what I would call a broad spectrum pathogen, so it causes all sorts of different diseases, and it's a multi-site carcinogen, so it causes cancer in many different parts of the body. We understand basic mechanisms about why this would be. ... 5G is being rolled out without any pre-market safety testing and we're being told that it's safe, but when you look at the scientific literature, we've got plenty of studies of millimetre waves (upper 5G) that show health effects."

Dr Gerd Oberfeld, Salzburg Public Health Department, Austria: 'The body of scientific evidence for detrimental health effects from EMF exposure is overwhelming. There is now even no need to call the precautionary principle into play to take action. It is the duty of scientists to inform the public and the duty of the public to force governments to apply new truly protective EMF exposure guidelines as well as to educate the society how to reduce EMF exposures.'

2.) Three UK, **"from a health and safety perspective, 5G deployment is no different to any other mobile technology ... no harmful levels of radiation are emitted."**:

Response: Published in **The Lancet**, December 2018, 'Planetary electromagnetic pollution: it is time to assess its impact'. **'..This weight of scientific evidence refutes the prominent claim that the deployment of wireless technologies poses no health risks at the currently permitted non-thermal radiofrequency exposure levels'**.

The 3 million euro EU REFLEX study (2000 -2004) on RF-EMF ((radiofrequency electromagnetic fields) effects, gave evidence of: single and double DNA strand breaks; chromosomal aberrations/ chromosome gaps/chromosome breaks; genotoxic effects; modification of anti-apoptotic pathways; downregulation of genes; effects on differentiation of stem cells; altered gene expression, to name just some of the effects evident in cells exposed to RF-EMF. In the study, it was stated that **'the currently allowed radiation emission levels for mobile phones are clearly not sufficient to protect from biological effects.'**

'Electromagnetic fields stress living cells' <https://www.sciencedirect.com/science/article/pii/S0928468009000066> **'..EMF energy in the RF range can lead to breaks in DNA strands. It is clear that in order to protect living cells, EMF safety limits must be changed from the current thermal standard, based on energy, to one based on biological responses that occur long before the threshold for thermal changes.'**

'Evaluation of the genotoxicity of cell phone radiofrequency radiation in male and female rats and mice following subchronic exposure' <https://www.ncbi.nlm.nih.gov/pubmed/31633839> 'The National Toxicology Program tested two common radiofrequency radiation (RFR) modulations emitted by cellular telephones in a 2-year rodent cancer bioassay that included interim assessments of additional animals for genotoxicity endpoints. ... In conclusion, these results suggest that exposure to RFR is associated with an increase in DNA damage.'

'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' <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4661664/> 'Exposure to high RF-EMFR generated by MPBS (mobile phone base stations) is associated with elevated level of HbA1c and prevalence of pre-diabetes mellitus among school aged adolescents. RF-EMFR appears to be another risk factor contributing to high levels of HbA1c and incidence of type 2 diabetes mellitus. This study provides awareness to the community and to the health officials regarding the effects of RF-EMFR generated by MPBS on HbA1c and its association with type 2

diabetes mellitus. We cannot deny the services provided by the mobile phone industry but we also strongly believe that health is more important and it cannot be compromised over anything. **Thus, it must be kept in mind the mobile MPBS should not be installed in the thickly populated areas, especially in or near the school buildings.'**

'Biological and Health effects of Mobile Telephony Radiations' [https://www.researchgate.net/publication/313181057\\_Biological\\_and\\_Health\\_effects\\_of\\_Mobile\\_Telephony\\_Radiations](https://www.researchgate.net/publication/313181057_Biological_and_Health_effects_of_Mobile_Telephony_Radiations)  
**'Scientific evidence implies the need of reconsideration of the current exposure criteria to account for non-thermal effects which constitute the large majority of the recorded biological and health effects.'**

Oxidative mechanisms of biological activity of low-intensity radiofrequency radiation <https://www.semanticscholar.org/paper/Oxidative-mechanisms-of-biological-activity-of-Yakymenko-Tsybulin/abc8aacaef7de31daa728a5445d05ace8300a6fd> Analysis of the currently available peer-reviewed scientific literature reveals molecular effects induced by low-intensity RFR in living cells; this includes significant activation of key pathways generating reactive oxygen species (ROS), activation of peroxidation, oxidative damage of DNA and changes in the activity of antioxidant enzymes. ... among 100 currently available peer-reviewed studies dealing with oxidative effects of low-intensity RFR, 93 confirmed that RFR induces oxidative effects in biological systems. A wide pathogenic potential of the induced ROS and their involvement in cell signaling pathways explains a range of biological/health effects of low-intensity RFR, which include both cancer and non-cancer pathologies. In conclusion, our analysis demonstrates that low-intensity RFR is an expressive oxidative agent for living cells with a high pathogenic potential and that the oxidative stress induced by RFR exposure should be recognized as one of the primary mechanisms of the biological activity of this kind of radiation.

Microwaves and Alzheimer's disease: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5038365/> '.. **we can conclude that the current exposure to microwaves during the use of cell phones is not safe for long-term exposure** ... the increased risk of tumors of the head associated with long-term cell phone use is evident since radiofrequency may cause the blood-brain barrier to leak and to favor the damage of genetic material which consists of common precursors to cancer. ... Notably, the data suggested that the hippocampus can be injured by long-term microwave exposure, which may result in the impairment of cognitive function due to neurotransmitter disruption.

Radiofrequency Radiation and MicroRNAs <https://www.tandfonline.com/doi/full/10.3109/09553002.2015.1028599?src=recsys> MicroRNAs (miRNA) play a paramount role in growth, differentiation, proliferation and cell death by suppressing one or more target genes. The aim of this study was to investigate the long-term effects of radiofrequency radiation emitted from a Wireless Fidelity (Wi-Fi) system on some of the miRNA in brain tissue. Conclusion: Long-term exposure of 2.4 GHz RF may lead to adverse effects such as neurodegenerative diseases originated from the alteration of some miRNA expression

'Wi-Fi is an important threat to health' <https://www.ncbi.nlm.nih.gov/pubmed/29573716>  
'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.'

'Exposure to radio-frequency electromagnetic waves alters acetylcholinesterase gene expression, exploratory and motor coordination-linked behaviour in male rats' (2.5 GHz) <https://www.sciencedirect.com/science/article/pii/S221475001730063X> 'In conclusion, these data showed that long term exposure to WiFi may lead to adverse effects such as neurodegenerative diseases as observed by a significant alteration on AChE gene expression and some neurobehavioral parameters associated with brain damage.'

*Electromagnetic radiation 2450 MHz exposure causes cognition deficit with mitochondrial dysfunction and activation of intrinsic pathway of apoptosis in rats* <https://link.springer.com/article/10.1007/s12038-018-9744-7> Male rats were exposed to EMR (900, 1800 and 2450 MHz) every day for 1 h for 28 consecutive days. ... Animals exposed to EMR-2450 MHz exhibited significant cognitive deficits. EMR-2450 MHz caused loss of mitochondrial function and integrity, an increase in amyloid beta expression. There was release of cytochrome-c and activation of apoptotic factors such as caspase-9 and -3 in the hippocampus. Further, there was decrease in levels of acetylcholine, and increase in activity of acetyl cholinesterase, indicating impairment of cholinergic system. Therefore, exposure of EMR-2450 in rats caused cognitive deficit with related pathophysiological changes in mitochondrial and cholinergic function, and amyloidogenesis.

'Effects of Electromagnetic Field on Islets of Langerhans and Insulin Release in Rats' [http://www.cjmb.org/uploads/pdf/pdf\\_CJMB\\_96.pdf](http://www.cjmb.org/uploads/pdf/pdf_CJMB_96.pdf) 'Results showed that in EMF exposed group insulin level was decreased, which was associated with decreased area and perimeter of pancreatic islets. Conclusion: Exposure to EMF impacts insulin secretion by influencing the size of pancreatic islets.

From the book 'Electromagnetism and Life', co-written by researchers Dr Robert Becker and Dr Andrew Marino : '**Man-made EMFs are present in the environment at levels shown by experiment to be capable of affecting biological function.**' ... '**..there is no biological function which can be said to be impervious to non-thermal EMFs**' ... 'EMFs produced a broad array of impacts on the nervous system' ... 'Heart action may be particularly sensitive to EMF'. ... 'An organism whose physiological reserve capital is being expended in a process of adaptation to an environmental agent would be expected to exhibit a reduced capacity to deal with a second, simultaneous agent. This is exactly what has been seen in the immune response studies: the fields impaired resistance to infection, decreased phagocytic activity, and altered both cellular and humoral immunocompetence.'

'Electrosmog and autoimmune disease' <https://link.springer.com/article/10.1007/s12026-016-8825-7> ... 'We cannot ignore the increasing body of evidence showing electromagnetic effects on the immune system' - 'Disturbance of the immune system by electromagnetic fields..' <https://www.sciencedirect.com/science/article/abs/pii/S0928468009000352> '**it must be concluded that the existing public safety limits are inadequate to protect public health, and that new public safety limits, as well as limits on further deployment of untested technologies, are warranted.**'

'Epidemiological evidence for an association between use of wireless phones and tumour diseases' <https://www.sciencedirect.com/science/article/pii/S0928468009000091> '**We conclude that the current standard for exposure to microwaves during mobile phone use is not safe for long-term exposure and needs to be revised.**'

Dr Kevin O'Neill, FRCS (SN), Consultant Neurosurgeon, Charing Cross Hospital, London, UK. Letter to the British Medical Journal: '**The evidence for children's particular vulnerability is accumulating.** Most recently a study by the University of Orebro, published in the *International Journal of Oncology* (*Int J Oncol.* 2011 May;38(5):1465-74) found almost a fivefold increase of astrocytoma (brain cancer caused by DNA alterations) among subjects who started mobile phone use before the age of 20.'

Dr Martin Pall: "There is an extraordinary amount of evidence that cancer is caused by EMF exposures, and that the DNA effects are an important part of that, but not the only mechanism"

'Mobile phone radiation induces reactive oxygen species production and DNA damage in human spermatozoa in vitro' <https://www.ncbi.nlm.nih.gov/pubmed/19649291> 'RF-EMR in both the power density and frequency range of mobile phones enhances mitochondrial reactive oxygen species generation by human spermatozoa, decreasing the motility and vitality of these cells while stimulating DNA base adduct formation and, ultimately DNA fragmentation. **These findings have**

**clear implications for the safety of extensive mobile phone use by males of reproductive age, potentially affecting both their fertility and the health and wellbeing of their offspring,'**

'Effect of Microwave Exposure on the Ovarian Development of *Drosophila melanogaster*' [https://www.researchgate.net/publication/221864020\\_Effect\\_of\\_Microwave\\_Exposure\\_on\\_the\\_Ovarian\\_Development\\_of\\_Drosophila\\_melanogaster](https://www.researchgate.net/publication/221864020_Effect_of_Microwave_Exposure_on_the_Ovarian_Development_of_Drosophila_melanogaster) 'Our present experiments showed retardation of ovarian development due to DNA damage and consequent ovarian cell death after exposure to microwave radiation emitted by GSM mobile phones. Fertility disorders due to ovarian cell death induction may be very similar between insects and mammals (including humans). Thus our present results may suggest that, **women pregnant or at the prospect of pregnancy should avoid exposure to microwave radiation**, such as occurs while using or carrying mobile phones, Digitally Enhanced Cordless Technology (DECT) domestic phones, laptops with enabled wireless internet connection (Wi-Fi), or being near wireless routers and modems, all of which emit similar types of microwave radiation.'

'Report of final results regarding brain and heart tumors in Sprague-Dawley rats exposed from prenatal life until natural death to mobile phone radiofrequency field representative of a 1.8 GHz GSM base station environmental emission' <https://www.ncbi.nlm.nih.gov/pubmed/29530389> 'The RI (Ramazzini Institute) findings on **far field** (base station) exposure to RFR are consistent with and reinforce the results of the NTP (National Toxicology Programme) study on **near field** (mobile phone) exposure, as both reported an increase in the incidence of tumors of the brain and heart in RFR-exposed Sprague-Dawley rats. These tumors are of the same histotype of those observed in some epidemiological studies on cell phone users. **These experimental studies provide sufficient evidence to call for the re-evaluation of IARC conclusions regarding the carcinogenic potential of RFR in humans.**'

'Towards 5G communication systems: Are there health implications?' <https://www.ncbi.nlm.nih.gov/pubmed/29402696> 'The spread of radiofrequency electromagnetic fields (RF-EMF) is rising ... RF-EMF promote oxidative stress, a condition involved in cancer onset, in several acute and chronic diseases and in vascular homeostasis. ... Preliminary observations showed that MMW (millimetre waves: 30 GHz- 300 GHz. ICNIRP's safety limit is 300 GHz) increase skin temperature, alter gene expression, promote cellular proliferation and synthesis of proteins linked with oxidative stress, inflammatory and metabolic processes, could generate ocular damages, affect neuro-muscular dynamics....'

'Systematic Derivation of Safety Limits for Time-Varying 5G Radiofrequency Exposure..' <https://www.ncbi.nlm.nih.gov/pubmed/30247338> The results also show that the peak-to-average ratio of 1,000 tolerated by the International Council on Non-Ionizing Radiation Protection (ICNIRP) guidelines **may lead to permanent tissue damage after even short exposures, highlighting the importance of revisiting existing exposure guidelines.**

Opening paragraph, declassified 1977 CIA article on millimetre wave biological effects <https://midsafetech.files.wordpress.com/2019/02/biological-effects-of-millimeter-wavelengths.-zalyubovskaya-declassif-by-cia-1977-biol-eff-mm-waves.pdf> : 'Morphological, functional and chemical studies conducted in humans and animals revealed that millimetre waves caused changes in the body manifested in structural alterations in the skin and internal organs. Qualitative and quantitative changes of the blood and bone marrow composition and changes of the conditioned reflex activity, tissue respiration, activity of enzymes participating in the processes of tissue respiration and nucleic metabolism. The degree of unfavourable effect of millimetre waves depended on the duration of the radiation and individual characteristics of the organism.'

This is just a sampling. According to Dr Pall, who has spent several years specifically studying EMF biological/health effects, there are at least ten thousand scientific studies demonstrating pathophysiological effects caused by EMF exposure at levels below the safety guidelines.

3.) Alex Hern, ***'If there were a negotiation, sitting on the side of the opposition would be Martin Pall. A retired professor from Washington State University, Pall's research interests are practically an encyclopaedia of the medical counterculture...'***

**Response:** 1.) It is misleading to refer to Dr Martin Pall as a '*retired professor*', because as Professor Emeritus, he is still actively involved in scholarship. 2.) To link Dr Pall's extensive list of research papers to '*the medical counterculture*' is to clutch at extremely feeble straws. 3.) Having given voice to representatives of the telecoms industry, Alex Hern gave no balancing voice to Dr Pall, *the opposition*, but sought only to denigrate him.

The reality is, whatever the propaganda spews out about him, Dr Pall cannot be discredited. He is a highly qualified scientist with not only an in-depth understanding of the biological implications of exposing people to 5G RF radiation, but with the conscience, enterprise and courage to apply himself fully to raising awareness about the serious risk this 5G exposure poses to public health.

### **Part three: The "early warning" scientists**

From the Parliamentary Assembly of the Council of Europe's 2011 Resolution: ***'The potential dangers of electromagnetic fields and their effect on the environment'***, Resolution 1815: *' the Assembly strongly recommends that the ALARA (as low as reasonably achievable) principle is applied, covering both the so-called thermal effects and the athermic (non-thermal) or biological effects of electromagnetic emissions or radiation. ... Given the context of growing exposure of the population, in particular that of vulnerable groups such as young people and children, there could be extremely high human and economic costs if early warnings are neglected.'* ... ***'8.5.3. pay heed to and protect "early warning" scientists'***

"Early warning" scientist, Dr Franz Adlkofer: *'There is a real health hazard for the people through radiation technologies. There is a real threat to independent scientists with the courage to tell the truth, in the job as well as in person. There is a real threat to the freedom of science and research through politics and industry.'*

"Early warning" scientist, Dr Martin Blank (now deceased), Associate Professor of physiology and cellular bio-physics at Colombia University. In a video made in 2015 to accompany 'The EMF Appeal', Dr Blank warned: *'I'm here with disturbing news about our favourite gadgets, cell phones, tablets, Wi-Fi etc. Putting it bluntly, they are damaging the living cells in our bodies and killing many of us prematurely... I am here to tell you that we have created something that is harming us and it is getting out of control.'*

Dr Franz Adlkofer: *'... it will still take a while until the prevalence of chronic diseases such as cancer and neurodegenerative disorders cannot be overlooked anymore due to the continuing rise of the radiation intensity.'*

It is epidemiologically documented that many chronic illnesses, including autoimmune and neurodegenerative diseases, are significantly, and in some cases, drastically, on the rise. According to Cancer Research UK, UK childhood cancer rates have increased more than adult cancer rates (15% to 12%). Life expectancy is falling: Epidemiologist, Veena Raleigh: *'2011 marked a turning point in long-term mortality trends, with improvements tailing off after decades of steady decline – in both males and females, and at younger and older ages.'*

Obviously, non-thermal microwave radiation is only one of many toxicities our bodies are exposed to, however, independent research repeatedly demonstrates that this type of radiation is biologically harmful, especially when taking into account the relentless exposure most people are subjected to. Moreover, causative factors for the harmful biological effects have been identified.

"Early warning" scientist, Dr Zaret Milton: *"There is a clear, present and ever increasing danger to the entire population of our country from exposure to the entire non-ionizing portion of the*

electromagnetic spectrum. **The dangers cannot be overstated because most non-ionizing radiation injuries occur covertly**".

"Early warning" scientist, Dr Martin Pall: 'We know that there is a massive literature, providing a high level of scientific certainty, for each of eight pathophysiological effects caused by **non-thermal** microwave frequency EMF exposure:

*Attack our nervous systems including our brains leading to widespread neurological/ neuropsychiatric effects and possibly many other effects. This nervous system attack is of great concern.*

*Attack our endocrine (that is hormonal) systems. ... the consequences of the disruption of these two regulatory systems is immense, such that it is a travesty to ignore these findings....*

*Produce oxidative stress and free radical damage, which have central roles in essentially all chronic diseases.*

*Attack the DNA of our cells, producing single strand and double strand breaks in cellular DNA and oxidized bases in our cellular DNA. These in turn produce cancer and also mutations in germ line cells which produce mutations in future generations....*

*Produce elevated levels of apoptosis (programmed cell death), events especially important in causing both neurodegenerative diseases and infertility.*

*Lower male and female fertility, lower sex hormones, lower libido and increased levels of spontaneous abortion and, as already stated, attack the DNA in sperm cells.*

*Produce excessive intracellular calcium [Ca<sup>2+</sup>]<sub>i</sub> and excessive calcium signalling.*

*Attack the cells of our bodies to cause cancer.'*

*'There is also a substantial literature showing that EMFs cause other effects including life threatening cardiac effects ... very early onset dementias, including Alzheimer's, digital and other types of dementias; and there is evidence that EMF exposures in utero and shortly after birth can cause ADHD and autism.'*

*'But what can we say about the 5G EMFs and what effects they will have on our bodies?*

*Very large increases in blindness from each of the four major causes of blindness: cataracts, macular degeneration, glaucoma and retinal detachment. I conclude that each of them is likely to be massively elevated by 5G.*

*Large increases in hearing loss and tinnitus, leading in many cases to deafness.*

*Very large increases in male infertility, as well as universal drops in sperm count.*

*Very substantial numbers of melanoma skin cancer and leukaemia and possibly other types of cancer. EMFs appear to be particularly active in causing cancer in children and consequently children are at special risk from 5G.*

*Impacts on the peripheral nervous system leading to near universal neuropathic pain and peripheral neuropathy.*

*Large increases in thyroid dysfunction, because of the location of the thyroid gland near the surface of the body.*

*Impacts on the immune system cells, possibly leading to autoimmune diseases and other deficiencies.*

*Impacts on the erythrocytes (red blood cells), leading to stacking of the erythrocytes into rouleaux (long chains) and also cell lysis, leading to very low oxygen in the tissues and lowered nutrients transport to the tissues.'*

*"There are gigantic 5G effects near the surface of the body, but there are also effects that go very, very deeply in the body. Organisms which have much higher surface exposure relative to their volume are going to be much more sensitive to 5G effects. And so, I expect that almost all organisms, plants and animals, are going to be more affected than we will, and we will be highly affected.*

*Interestingly, there was a patent that was taken out to use millimetre waves as an insecticide, because you can kill insects really easily with millimetre waves. So, there is some evidence, in fact, that insects are very, very sensitive to these millimetre waves. And 5G, because of the extraordinary level of pulsation, will be vastly more dangerous to the insects and to small birds and animals."*

"Early warning" scientists, Dr Anthony B Miller, Professor Emeritus at the Dalla Lana School of Public Health, Toronto University; Dr Devra Davis, Founding Director, Centre for Environmental Oncology at the University of Pittsburgh Cancer Institute, Visiting Professor of Medicine at The Hebrew University Hadassah Medical School, Israel and Ondokuz Mayıs University Medical School, Turkey; Professor Iris Udasin, Medical Director EOHSI Clinical Centre, Rutgers University, School of Public Health: **Cancer epidemiology update: following the 2011 IARC evaluation of radiofrequency electromagnetic fields' ... 'Based on the evidence reviewed it is our opinion that IARC's current categorization of RFR as a possible human carcinogen (Group 2B) should be upgraded to Carcinogenic to Humans (Group 1).'** [\\_https://www.sciencedirect.com/science/article/pii/S0013935118303475](https://www.sciencedirect.com/science/article/pii/S0013935118303475)

The following reassurance from Margot James MP, given in response to written question 176373 about 5G health risks, is completely meaningless: **'A considerable amount of research has been carried out on radio waves and we anticipate no negative effects on public health.'** See all that's written above. **'As 5G continues to develop, the Government is committed to working with Public Health England's Centre for Radiation, Chemical and Environmental Hazards (CRCE) in order to monitor available evidence and will take action if necessary.'** 'Monitoring 'available evidence' will fail because a.) It will not be in time to prevent the people who provide evidence from becoming ill or dying. b.) Health effects caused by this type of non-thermal, non-ionizing radiation exposure are generally cumulative and, like cigarette smoking health effects, have a long latency period before emerging as disease, therefore millions of people could be developing non-thermal radiation related diseases across two or three decades, with no perceivable or identifiable evidence.

The authorities responsible for protecting the health of the British public are failing to put the biological, the etiological and the epidemiological pieces together with regard to the cumulative biological harm caused by exposure to mobile phone/wireless radiation. This failure is increasingly endangering public health.

#### **Part four: When the people don't know anything about 5G technology**

In a 1996 interview, Carl Sagan warned: *'We live in an age based on science and technology with formidable technological powers. ... We've arranged a society on science and technology in which nobody understands anything about science and technology, and this combustible mixture of ignorance and power sooner or later is going to blow up in our faces. I mean, who is running the science and technology in a democracy if the people don't know anything about it?'*

The terrestrial and space deployment of 5G is forging ahead unimpeded, even though, at its scientific core, the telecommunications industry has known from the beginning that mobile phones are biologically harmful. Senior Motorola Research Scientist, Robert C Kane PhD: *'Never in human history has there been such a practice as we now encounter with the marketing and distributing of products hostile to the human biological system by an industry with foreknowledge of those effects'*.

**Lloyds of London's Exclusion 32:** *'The Electromagnetic Fields Exclusion is a General Insurance Exclusion and is applied across the market as standard. **The purpose of the exclusion is to exclude cover for illnesses caused by continuous long-term non-ionising radiation exposure i.e. through mobile phone usage.**'*

**Clearly, Lloyds of London is not placing as much trust in the ICNIRP Guidelines as the Government is.**

The 7.7 billion humans who make up the world population have not been asked if they want or need 5G, an Internet of Things, autonomous vehicles, smart cities, the extensive application of artificial intelligence, or trans/posthumanism, and have certainly not given **informed** consent to their implementation. Instead, they are being fed 5G propaganda and herded, in a state of collective ignorance, into the 5G technological trajectory which, as I wrote in my letter, does not represent true human progress but rather, a full-scale aberration with risks that astronomically outweigh any benefits. Dr Jack Kruse: *"5G is going to be the biggest assault on the human race that we've ever seen"*; Dr Martin Pall: *"There are ways in which these devices can be made safer but we're currently running as fast as we can in exactly the wrong direction."*; Joshua Corman: *"As we bring more connectivity and software into our homes, we're inviting the devil into our homes. If it's software, it's hackable. If it's connected, it's exposed."*; Bryan Lunduke: *"The reality is, no matter how secure you make these devices, it doesn't matter, they will be compromised.... If you give a global consciousness, the Internet of Things, complete access and control to your security system, your front door lock, all the lighting in your house, your oven, your toaster, your internet friggig enabled crock pot, it can destroy you completely, literally"*; Prof. Stephen Hawkins: *"The development of full artificial intelligence could spell the end of the human race."*; Sam Harris: *"I'm going to describe how the gains we make in artificial intelligence could ultimately destroy us, and in fact, I think it's very difficult to see how they won't destroy us"*.

Generally, people know practically nothing about 5G and don't appear to be in a hurry to educate themselves. Amongst those who have a grasp of 5G's commercial side there seems to be a general sense of underwhelm at the prospect of faster download speeds, immersive virtual realities, smart connectivity, holograms, cyborgs and autonomous vehicles. So far, the '5G zeitgeist' is largely one of indifference, and this is not surprising, because 5G isn't being rolled out in response to consumer demand, to serve genuine human needs, or to enhance and enrich human lives in genuinely meaningful ways. The commercial raison d'être of 5G, beyond the smart, 'must have' device market, is to technologically intrude upon and commodify people's lives, to perpetually mine their personal, 'smart' data so that it can be sold on and regurgitated back to them as adverts or other forms of influence. In the 5G business model, the consumer is also the consumed. UN Declaration of Human Rights, Article 12: **'No one shall be subjected to arbitrary interference with his privacy, family, home or correspondence, ... Everyone has the right to the protection of the law against such interference or attacks. It is 'imposed interference with his privacy, family, home or correspondence.'**

#### **Part five: The telecommunications industry's greatest vulnerability**

Major General Smedley D. Butler: *'A racket is best described, I believe, as something that is not what it seems to the majority of people. Only a small inside group knows what it is about. It is conducted for the benefit of the very few at the expense of the masses.'*

What the instigators of 5G didn't account for in their ambitious plans to roll 5G out for the masses was strong opposition from many of the world's leading EMF scientists. Nor did they foresee that as a result of this, the extremely large body of science (including military reports) evidencing non-

thermal radiation health effects, that had lain dormant, sometimes for decades, would be brought up into the light of day for scrutiny. This scientific can of worms provides an informational arsenal not only for the scientists but for the many thousands of concerned citizens who are part of the fast growing international opposition to 5G.

The fact is, formidably powerful as it's become, the telecommunications industry is burdened with a whopping Achilles' heel, because from its inception, it has been guilty of *'the marketing and distributing of products hostile to the human biological system ... with foreknowledge of those effects'*... and of denying and covering up evidence of those *hostile* effects. That it has also managed to avoid regulatory pre-market safety testing... including with 5G, possibly makes others vulnerable too.

### **Part six: Protecting "our peoples"**

The rhetoric:

From your recent UN speech: *"But how we design the emerging technologies behind these breakthroughs and what values inform their design will shape the future of humanity ... so the mission of the United Kingdom and all who share our values must be to ensure that emerging technologies are designed from the outset for freedom, openness and pluralism with the right safeguards in place to protect our peoples ... We must insist that the ethical judgements inherent in the design of new technology are transparent to all."*

The reality:

From my letter to all MPs: 'It is unthinkable that the British government is prepared to expose the British population to an invasive, pervasive technology that's untested for safety. This is compounded by the fact that assurances from the government implying RF radiation causes no harm are not only strongly contested by highly qualified scientists but contradicted by decades of research proving harm.'

In his 1961 Farewell speech, President Dwight Eisenhower warned: *"Yet, in holding scientific research and discovery in respect, as we should, we must also be alert to the equal and opposite danger that public policy could itself become the captive of a scientific-technological elite."*

Since 2015, international EMF scientists have been actively warning world health authorities that the frequencies from mobile phone/wireless technology are harmful and that the current safety limits are inadequate and put the public at serious risk of cumulative harm. The scientists have been appealing for more protective guidelines to be implemented in order to protect the world population. Instead of this being acknowledged, acted upon and reflected in public policy in order to safeguard people, the telecommunications industry has been given the all-clear to exponentially amplify these harmful frequencies via the deployment of millions upon millions of small cell 5G antennae, more base stations, including Massive MIMO base stations, and an estimated 20,000 5G space satellites. The vast influx of 5G frequencies from these sources is going to corrupt the entire planetary electromagnetic field to a degree which not only defies reason, but begs targeted questions. The most pressing question presently is, what protective measures can be taken?

Some humble suggestions:

1.) The first course of action is to lift the scripted rhetoric off the page and apply it to reality: *"so the mission of the United Kingdom and all who share our values must be to ensure that emerging technologies are designed from the outset for freedom, openness and pluralism, with the right safeguards in place to protect our peoples"*.

2.) That in order to *"protect our peoples"*, Members of Parliament doff the veil of propaganda that's currently influencing their actions and become informed about the risks wireless technologies pose. Also, that the public are educated about these risks, for instance, by making

people aware that in the small print inside their smartphone there's a little message from the mobile phone company telling them not to put the phone directly against their head.

3.) On the grounds of serious public health risks, the Government calls for a moratorium on 5G and for rigorous, rigorously monitored research to be carried out on the biological/health effects of 5G RF radiation. This must include all combinations of authentic, not simulated, 5G frequencies; the phased array effects; the pulsing effects; the combined effects of 2G, 3G, 4G and 5G frequencies. The research must be monitored by many independent scientists, reviewed by many more, and assiduously guarded against corruption.

4.) Implement wired technology, for the following reasons: From the 2018 report '*Re-Inventing Wires: The Future of Landlines and Networks*', Timothy Schoechle PhD, Senior Research Fellow, National Institute for Science, Law and Public Policy, Washington DC (<http://electromagnetichealth.org/wp-content/uploads/2018/05/Wires.pdf>):

*'The unstated industry motive is to force subscribers into more profitable wireless networks. The claims about obsolescence and the supposed need to "step toward to the 21st century" are a self-serving, false narrative put forward by monopolistic corporations and their political lackeys.'*

*'Wireless access has been artificially inflated by regulatory disparity. Present technology and a market trajectory of dependence on wireless are unsustainable as a long-term solution for many reasons, including: • Not efficient (energy or materials) • Not sufficient (economically or in performance) • Not self-sufficient (energy or materials) • Not sustainable (economically, in energy, environmentally, socially) • Vulnerable (hacking) • **Growing health concerns'***

***'Wired infrastructure is inherently more future-proof, more reliable, more sustainable, more energy-efficient, and more essential to many other services. Wireless networks and services are inherently more complex, more costly, more unstable, and more constrained.'***

5.) Allocate funding to formulate safer mobile phone technology generally. Research has demonstrated that certain mobile phone frequencies are more biologically active than others. In terms of biological safety, mobile phone technology has ploughed through the world like 'a bull in a china shop'... as things stand, 5G is going to be more like a bull in the Wedgwood factory.

What I don't know is how the pecking order of power plays out in the deployment of 5G. What I do know is that individually, and as a nation, British people do not take kindly to those who harm others, especially if it involves children. We do not like lies, deception and corruption, and we do not like cowards who don't stand up for what is honest, right and just, which brings me to my last suggestion.

6.) That the country's leaders find the immense courage to do what is honest, right and just and, in your words, put "*the right safeguards in place to protect our peoples*". If this means standing up to the redoubtable force of the telecommunications industry, so be it. The industry runs the risk of finding itself 'hoist by its own petard' and is therefore vulnerable. If it means stepping out of the 'race to 5G' in order to protect the British population from the '*serious potential health effects*' of 5G, so be it. Safeguarding the health and safety of the population is of paramount importance and should, without question, take precedence over a commercial race. Such a courageous stance could also safeguard the peoples of other nations by creating a necessarily strong precedent.

In your UN speech, you said "It is a trope as old as literature that any scientific advance is punished by the Gods", and you spoke lyrically about how Prometheus, after stealing fire from Zeus to bring back to mankind, was chained to a "Tartarian crag" so that his liver could be interminably pecked out in punishment. You observed that it is a deep human instinct to be wary of technological progress and that there are still people in the world of today who are "anti-science"... a stance you referred to as "anti-scientific pessimism".

In the 5G scenario there is no Prometheus, no wrath pouring down from angry Gods, no anti-science brigade yelling from the sidelines. It is eminent EMF scientists with the expertise to understand the serious health risks that accompany 5G technology who are at the heart of the

resistance to 5G and calling for a halt to its deployment. These scientists don't peck out livers or act out of irrational fear or supposition, they apply objective, scientific reasoning.

Dr Martin Pall: ... *"We are taking absolutely extraordinary risks, risks that no rational society could possibly take."*

British MPs are not voted into power to prioritise economic growth or corporate interests above fundamental human health and safety, or to violate their constituents' right to **'life, liberty and security of person'**. If the British Parliament cannot or will not protect the millions of people it represents from an avoidable risk of harm as serious as the one 5G poses, then ideology has failed and the wrong kind of power has triumphed.

**To close:**

In order to protect the British public, it is patently clear that the British Parliament should call for a moratorium on 5G and for rigorous, rigorously monitored safety testing to be carried out on 5G biological/health effects, including cumulative effects. If the British MPs choose to allow the 5G roll-out to forge ahead without this safety testing, and choose to adhere to the vehemently discredited ICNIRP guidelines, whilst disregarding the international scientists' and doctors' scientifically validated warnings of serious potential 5G health effects, they will be choosing to put the health and safety of the millions of people they represent at appalling risk of bodily harm. To make this choice would amount to a political atrocity.