

I want thank the HHS for giving many of us nonprofessionals the opportunity to comment and plead our case to the HHS to truly examine the universal biological and environmental effect from this ever growing unnatural electromagnetic radiation cloud, increasingly saturating and controlling our lives

Ever since I became aware that many of my sleep issues were a direct influence of the ambient manmade electromagnetic radiation in my nearby environment, over 30 years ago, I have made my life's mission to learn as much as I can about this invisible pollutant. Besides reading volumes of scientific literature on the subject, I purchased a variety of calibrated RF and EMR metering devices from reputable manufacturers in Europe, mainly from 'Gigahertz solutions' and distributor 'SafelivingTechnologies' out of Canada. In doing so I truly began to understand and compare the physical effects I was experiencing to the radiation levels in my environment from RF and lower frequency electromagnetic emissions. I learned unequivocally that certain wireless devices and certain exposure levels would make it more difficult for me to function properly, specifically in the sleep arena, versus when the ambient radiation levels were below a certain measured level. Those comfortable sleep ambient radiation levels were 100 to 1000 times lower than what exists in today's ambient electromagnetic atmosphere with the saturation of wireless products and transmissions. Needless to say I always sleep deprived.

In the process of this 30 year learning curve and the meter readings that informed me, I believe for a lay person I became very well versed in the science, politics and regulations underpinning the whole safety and risk issue of Wireless radiation technologies. In this process I collected reams of scientific studies and on occasion spoke to groups, and individuals about taking a more frugal, cautionary approach to the unfettered consumption of this technology. Because it became such an important issue in my life, and the restrictions this technology imposed upon my personal life, I became dedicated to disseminating this information.

About 4 years ago I developed a comprehensive database website of over 1200 international studies by distinguished scientists in their field, mostly derived from PubMed abstracts. The website is entitled <https://wirelessemrdbase.com/>. The website is designed for both the lay person as well as more the professional scientist. It mimics a Spreadsheet design and allows for similar filtering of the database and utilizing the results as you would find in a spreadsheet platform. The Website contains an Instruction guide to lead the user through how to best use and filter the database for their desired information goals.

My journey of Discovery

My journey of discovery on how manmade ambient electromagnetic radiation impeded my everyday performance began over 30 years ago when I had just moved to a new town, specifically, Princeton N.J to complete my 2nd year Master studies in Urban Planning. At that time there were no wireless personal devices and few local antenna installations across the countryside

Shortly after arriving in my new apartment, I began to experience frightful sleep disturbances and tinnitus, where I would fall asleep only to wake up moments later with my head throbbing and body racing. I tried to calm myself down and hoped it was a passing problem. After a couple of hours I was able to regain some sleep but never the sound 8 hr sleep I had before I moved to that apartment. This happened for several nights in a row. I became very concerned. What I began to notice is if I used my desktop computer into the late evening, this problem exacerbated. However, I had been using this same computer for several years and never experienced anything like this before. At the time there were no wireless emissions coming from computers but rather large desktop monitors which emitted

their own form of low frequency electromagnetic radiation. Not knowing anything about electromagnetic radiation I decided the sleep issues had something to do with my new living environment. I rented a motel room for the weekend about 7 miles from that city, somewhat in the country. I found I slept as peacefully and soundly as before. And as soon as I got back to my city apartment the same sleep problems reappeared. For some coincidental reason I began to suspect that electromagnetic radiation may be playing a role. I started to examine my immediate environment more closely and found to my surprise my bedroom window was just below 3 large utility pole transformers, and city police department with its police antennas was just 3 doors down from my apartment. It was then I started pouring into the known physical effects of electromagnetic radiation at the time, and started my life long journey into finding peaceful places and housing to sleep based on what my meters readings were showing and how relaxed I found myself in those spaces.

Shortly after becoming aware of all this I, of course, went to see a doctor. They could find nothing wrong with me. My tinnitus persisted to this day. I never made note whether my tinnitus lingered on when I was in low EM- RF environments, for I believe I adapted to that condition. Sleep deprivation issues became more of my focus of concern.

Repeatedly I found when the ambient wireless radiation and magnetic fields were very low I could once again slept like a baby. When my sleep problems reoccured in those new housing environments, my RF meters verified the ambient wireless RF radiation had increased. In one instance to my surprise, where once my TV reception was extremely poor in remote housing location I was living in at the time, I suddenly had perfect reception. It seemed the change from analog to digital TV must have been a detrimental effect on my sleep.

This quest for a restful night's sleep and the increasingly diminishing areas where I could find such housing as the proliferation and saturation of wireless radiating devices and transmission system exploded, has changed completely the trajectory of my life. Besides making me a housing nomad, I had to give up my long term dream career in urban planning, for sitting in front of a large monitor computer 8 hours a day and coming home to area increasingly being built up by wireless transmitting towers and neighborhood wireless devices made it even more difficult for me to fall and stay sleep without medication. I resisted that path. Gratefully, I inherited and invested wisely where I could live off my investments and not find I had to earn a living to house and feed myself. I am sure others in my predicament are not so fortunate.

Today's increasing work from home would have been a lifesaver. I do not have or use any wireless transmitting devices in my home. However, even if one is a non-user in today's world it is impossible to find a real quiet zone away the increasing cloud wireless RF radiation. So my life comprises of little sleep and even less socialization and travel possibilities.

In terms of research I reviewed at the time, I quickly learned the US military had gathered extensive documents in the 1970s from the [research](#) produced in the Eastern European and Soviet block countries during the 50's and 60s. They found unequivocally that the main target of biological harm from microwave radiation was the central nervous system with implications to host of organ and bodily functions, including sleep. The US Military quickly discounted all 1000s of electromagnetic studies using criteria of poor study design, inadequate radiation readings and several other deficiencies they could conjure up to ensure wireless expansion of any sort would not be impeded. This type of negation on the efficacy of all the research showing bio-effects on RF and EMR radiation and frequencies has continued unabated to this day. Why is that? It's simple to see if the final arbiters of the research rests

on the shoulders of individuals promoting the full scale development of wireless radiated world, supporting a precautionary approach to it's development would be tantamount to treason. More disturbing is those making the final determination the safety measures to expand RF wireless radiation technologies come mostly from the world of inanimate physical sciences; phsycists, engineers, mathematicians, computer specialist, statisticians, etc. All worthy fields in examining this science, but we are talking impacts of this technology on living things. The biological sciences are poorly represented. Could it be the biological scientists are poorly trained and find themselves mystified how wireless RF consumer technologies have anything to do with biology. Below I show current scientific papers addressing this critical issue.

Despite our dismissal of Eastern European studies, Russia and Eastern European countries found them valid enough to set their MPE (minimum permissable exposure) RF safety standards 1000 times lower than ours and other western countries

I understand my exposure experiences and opinion on wireless radiating technologies could brand me as paranoid, bias or in need of pyschiatric help. This would be all well and good, except most people who know me would say I am very careful in drawing conclusions. The undeniable truth is the growth of sleep issue and neurological disorders in the last 15 to 20 years has skyrocketed beyond all historic proportions. At least there appears to be a clarion call is too much screen time and violent images is changing the behavior of our young. The main target appears Blue light emanating from screens. That may be partially correct, but it is disengenuouis and cowardly to fault all of it on the superficial manifestations of just a screen. The type of electromagnetic radiation emanating from digital screens are more important to evaluate.

Compound this with growing menace of wireless device emissions dumped into our environment everyday, only increases exponentially the amount, power and erratic nature of of these RF radiating signals coursing through our bodies 24/7. Can we really discount the studies that find a bio-effect. But more so are the research conclusions produced by industry favoring national and international scientist who also help design the RF – EMR safety standards and facilitate wireless expansion, a good indicator that biological effects under current exposure conditions?

Should the health agencies, be it on the state, federal or local level be encouraged to purchase RF meters to better understand and monitor the overall emission quality and quantity their populations are experiencing as we grow our mantle of wireless radiation from space and nearby devices and installations? Or should these health regulatory agencies be forced to mindlessly comply with non-biologically based federal emissions safety standards developed at a time, 1980s, when we first started using singular signal wireless devices, but also safety standards that were based on physics theories of inanimate objects manipulated to apply to living organisms, vis a vi the heat (thermal) theories of non-ionizing radiation danger. These standards espouse linear physics and engineering interactions from the very small unit of bodily structures such as cellular tissue to the very large structures of the body such as head bone and the whole body, using the SAR safety methods of calculations. These interactions in the human body are based on simple physics of absorption and permittivity, conductive vs. non conductive parts of our bodies. All based on dose-response where higher the power of the electromagnetic signal (the dose), the greater the response depending on the tissue targetted. Any RF bio research that can't substantiate that premise are considered suspect and immediately discarded. The subtleties of cellular chemistry and higher organ interactions at the electromagnetic level and the complexity and variety of our current electromagnetic signals are irrelevant to the discussion of RF

safety. This is a crime and must be immediately addressed as I show below in the research and scientific views I present.

Why Current Crop of Research Reviewers are ill equipped to Review Biological Effects of RF – EMR Wireless Radiation Scientific Research

The aim of my petition and letter to the FDA is to try to show our current critiques and reviews of the Research are not informative and ill equipped to determine Biological Effects of Wireless - EMR radiation technologies, not only because of industry bias, but because that bias has caused us to long delay improvements to our review criteria and methodologies, compounding the bias effect. Additionally, industry bias has essentially prevented us from truly understanding how to mitigate the population exposure from the harmful effects of this radiation.

1. Current Standards are inadequate benchmarks to make proper evaluations of Biological and cellular Effects and Living organisms from RF radiating devices and transmissions. Dosimetry, as a measurement definition designed to calculate when our RF radiation safety guideline (SARs,) must give way to **BIODosimetry** and the use of biomarkers as complimentary, if not predominant method, of ascertaining whether the quantity and type of wireless radiation exposures are creating biological risks and possible end point disease.

Our current RF safety standards are predicated on the physics theories of overheating (thermal measures) using Wattage, Volts, amperes as proxy measures to compute heat emitted by consumer related electromagnetic radiating signal frequencies and fields. These signal frequencies are considered to be in the non-ionizing frequency range of the electromagnetic spectrum, principally in the RF range. Discounting the non-ionizing theories was principally based on the ancient 19 century physics from First law of Thermodynamics, they were also developed by observations and mathematical calculation on inanimate objects, not animate living ones. They were quickly extrapolated to living beings in the 1950's when Radar became a health effects. The principle of heating took on a life of its own to determine the harmful effects in this extremely broad range of wireless radiating technologies and products, which can include any radiating frequency from 300 KHz to 300 GHz – mind boggling wide range of electromagnetic emitting frequencies with one detrimental component – heat. Although scientist from around the world, through the decades have tried to challenge the use of the heat principle as safety benchmark of harm from wireless radiating frequencies, supplanting the heat principal of harm with something more congruous to the living metabolism has always been challenged and derailed by the powerful industry regulators and scientists whose sole aim is to promote expansion.

Interestingly, in the last 15 years the same discussion but with greater scientific progress is the question of safety from harmful effects of ionizing radiation. Is ionizing radiation exposure from a host of medical diagnostic and therapeutic equipment, and accidental spillage of ionizing radiation for various facilities best served only by Dosimetric calculations of harm? In other words whether using the physics and mathematical measuring tools of harm sufficient in determining overexposure and harmful biological effects from ionizing radiating emissions.

A strong handful of scientist and scientific papers from ionizing radiation world believe BIODosimetry must play a greater role in determining overdose and harmful effects of ionizing radiations. In other words the search and identification of biomarkers would have more immediate relevancy in preventing biological long range harm to an overexposed individual. **See papers below.**

We will never develop any clarity and make progress in removing bias and overcoming the shortcomings of the science into biological effects from Wireless radiation exposure, until we also start entertaining the fact that BIODosimetry must become our important tool in assessing the biological, living effects of Wireless radiating technology. BIODosimetry does not predicate removing Dosimetric principles of safety, i.e. SARS, but believes having a more complete picture using Biomarkers will yield safer results from our communicating and information technologies

<https://pmc.ncbi.nlm.nih.gov/articles/PMC8497872>

<https://pubmed.ncbi.nlm.nih.gov/37285811/>

<https://pubmed.ncbi.nlm.nih.gov/38854157/>

<https://pubmed.ncbi.nlm.nih.gov/39222930/>

<https://mriquestions.com/what-is-sar.html>

2. We cannot support a healthier population when biologists and medical professional are untrained and ignorant on how electromagnetic energy works in body to support health and disease. These deficiencies are becoming more glaring and more imminent to address with the explosion of manmade electromagnetic radiating devices & transmitters in our environment. The science of Biophysics tackles this issue directly. Training in health physics has been one area addressing this need. However the latter has focused more on Ionizing energy, radiation applications in medicine and nuclear accidents and less involvement in endogenous electromagnetic metabolism, i.e heart, brain and cellular functions. If we are to overcome the stranglehold the physics and mathematical formulas have on human safety regulations, as well as other living creatures, we must promote greater *NON*-life science education in our medical and biological professions with focus on how biology and physics & physical chemistry are truly married in the healthy sustenance of life.

<https://www.biophysics.org/what-is-biophysics>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3055214/>

<https://pmc.ncbi.nlm.nih.gov/articles/PMC10578400/>

<https://engineering.asu.edu/news/rosalind-sadleir-accurately-measuring-body-electrical-signals/>

3. One of the criticisms by industry supporting scientists on the jury of RF-EMR research is to discount studies on the basis of inconsistent and non-homogenous. This criticism was leveled, in particular, toward research involving oxidative stress, ROS, Redox and antioxidants responses. All intertwined. Oxidative stress research which was promoted by the proponents to prove our current wireless RF safety regulations are deficient. Again when you have the majority of reviewers and cross pollinated regulators coming from the non-living sciences are their measuring tools the best to evaluate the vagaries of bioeffects from exogenous electromagnetic interferences below thermal thresholds set by our regulations and held sacrosanct by wireless promoting scientists. The non-living sciences especially, engineering and math are used as absolutes in all manner of experimentation and results from electromagnetic science. Transients, variable dose-response results means bad research protocol. The following 4 research papers once again illucidate why these industry supporting reviewers are ill equipped to review the efficacy of the science of electromagnetic properties on living beings.

Some preliminary excerpts from papers on the topic are italicized below with references:

the interactions of EMR with biological systems and its precise mechanisms remain poorly characterized.... This review can serve as a platform for researchers to understand the mechanism and interactions of microwave radiation with biological systems....

most common mechanism is shown in Figure 3. Specifically, microwaves cause electrons or ions to vibrate owing to resonance, which then collide with other molecules inside biological tissues. Opposite charges swing to opposite sides, and charge polarization occurs in the presence of the electric field Accordingly, this polarization induces the formation of electric dipoles [33]. Continuous repolarization of the induced dipoles and an energy-consuming

phenomenon which absorbs the EF energy occurs with the alternating EF. Biological tissues contain large amounts of water [33]. In an alternating EF, the dipoles continually oscillate around their axes, helping to absorb electric energy [35]. whereas nonionizing EMR may also cause biochemical changes that lead to various effects (good, bad, and neutral). Indeed, it is possible that all possible mechanisms depend on the resonance, coherence, and CNS functioning, as well as the stimulation of muscles, reactive oxygen species (ROS), proteins, DNA, and RNA (Figure 2).

The input of energy through an external signal may be concentrated when the EMR wavelengths are equal to the molecular energy level differences, resulting in an upsurge in signal strength.

<https://pmc.ncbi.nlm.nih.gov/articles/PMC9409438/#:~:text=Recently%2C%20nonthermal%20biocompatible%20atmospheric%2Dpressure,are%20shown%20in%20Figure%207.>

Human Cells Show a Physiological Response to RF Exposure at Amplitudes Below Current Safety Standards....

.....important biological finding..._cells show sensitivity to RF electromagnetic exposure at amplitudes (signal strength) that are far below current exposure safety limits. As a consequence, the physiological effects of RF exposure are likely to be non-linear (i.e., not proportional to the RF input signal), as the higher the stimulation, the stronger the cellular antioxidant response and, thereby, the counterintuitive observation of actually lowered levels of intracellular ROS [23]. Furthermore long-term assays (continuous RF exposure over days or weeks) may not show responsiveness, due to the cellular redox adaptation response. Therefore, transient effects of RF exposure may be a better means to detect physiological effects of RF at low signal amplitudes, and may have been missed in longer-term experimental setups.... therefore necessary to assess physiological response to RF signal exposure at multiple signal amplitudes and wavelengths, and preferably by using a readout assay that is rapid and direct. This may help explain existing confusion and contradictions in the literature, as well as stimulate future studies on the nature of the biological reception mechanisms.

.....although RF exposure from cell phones and telecommunications devices has not been proven harmful, there is a definite physiological response in human beings to this signal range. Risk factors.... exist for susceptibility to RF exposure,.....in individuals with reduced tolerance to oxidative stress and/or who are exposed to excessive stressors in their daily life. **These additive or synergistic effects may contribute to certain poorly defined syndromes such as electromagnetic hypersensitivity (EHS)...**

<https://www.mdpi.com/2306-5354/12/3/257>

The collision between wireless and biology, Dr. Paul Theroux 2025

This article examines the historical development of the concept of energy of activation, which has been used in the past to frame the belief that non-ionizing electromagnetic radiation is harmless at non-thermal levels.

The power and telecommunications industries have used two arguments to support their view that human exposures to non-thermal non-ionizing radiation is inoffensive. First, the radiation is non-ionizing. Second, the energy quanta of the radiation are too weak to overcome the competing energy of thermal motion. Those arguments rest on the Arrhenius equation (1889) and on the concept of energy of activation. Later scientific developments such as the Eyring equation (1935) and the Bennett-Chandler (1977–1978) equation on reaction rates, and the Second Law of Thermodynamics..., all undermine these arguments.

Sustaining life (homeostasis) requires continual arranging of atoms and molecules into assemblies needed to repair, develop and duplicate living cells. Development of these complex structures decreases entropy (-ΔS), counteracting the universal tendency towards disorder and uniformity prescribed by the Second Law of Thermodynamics.....

To remain consistent with the Second Law of Thermodynamics (counter to the First Law), self-organizing reactions that lower entropy values (life processes) must dissipate energy so as to increase entropy (+ΔS) elsewhere [82]..... The energy needed comes from redox reactions that transfer electrons. These electron transfers inevitably involve some electron losses. It is these electron losses that are avidly captured by oxygen as Reactive Oxygen Species (ROS) and produce the increase in entropy required to at least balance the entropy lost to biosynthesis. The negative effects of ROS are controlled by enzymatic antioxidants such as superoxide dismutase, catalase and glutathione, and non-enzymatic antioxidants such as vitamin C and E, carotenoids, thiols, flavonoids and melatonin [7]..... The fact that life provides its own metabolic energy, **activating reactions independently of the energy injected by electromagnetic fields, removes all objections to NTER (Non-Thermal ElectroMag Radiation) health effects.****modeling (discussing) living tissues (on the premise) as sugar/water/salt, or as separate bio-molecular components such as protein, biopolymers and solvated biomolecules excludes the most essential element of the**

living process, which is the continuous traffic of electrons and protons maintained by metabolism..... All this inevitable metabolic activity is the essential distinction between living and inert materials and has been the focus of three Nobel prizes (Warburg 1931; Krebs 1953; Boyer, 1997).

In a more complete model, and from the principle of superposition, oscillating electric or magnetic fields penetrating from the environment will alter the tissue's electron and proton currents, (need to produce fuel cellular and metabolic energy pathways) These can be far more easily disturbed by external electromagnetic fields To be biologically active, NTER does not need to produce ionized targets (ionization of cells) or electronic currents itself (generally having thermal outputs), but only to disturb those already provided by biology.

[https://www.cell.com/heliyon/fulltext/S2405-8440\(25\)00647-](https://www.cell.com/heliyon/fulltext/S2405-8440(25)00647-4?returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2405844025006474%3Fshowall%3Dtrue)

[4? returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2405844025006474%3Fshowall%3Dtrue](https://www.cell.com/heliyon/fulltext/S2405-8440(25)00647-4?returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2405844025006474%3Fshowall%3Dtrue)

Strangely the above summary compliments the concepts underlying creation of supercooled computers needed for development of Quantum computing that allow for processing massive amounts of information in seconds. In Quantum computing a slight warming effect destroys the computers ability to process and store data.

An interesting trend in last few years is the propensity for much of the sophisticated RF and Electromagnetic research to comes from scientists and scientific institution promoting healing modalities from electromagnetic energy. Can that be because those scientist that have shown negative biological side effects from consumer electromagnetic technologies are not funded anymore or have been marginalized. Despite the research now promoting healing effects from electromagnetic radiation, much is being learned on how inherent electromagnetic energy fuels life and well being. The following research illustrates that point.

<https://www.sciencedirect.com/science/article/pii/S2666555724000777>

4. Learning Scores for a host of academic subjects are dropping at alarming rate, as shown in International study in 2015 and others. Many studies see this as an effect from overexposure to digital media. However little understanding and comparison is made between wireless digital media vs. wired digital media. Which factor is causing the greatest harm. Could a return to a more wired digital world decrease this accelerating trend.

https://www.oecd.org/content/dam/oecd/en/publications/reports/2015/09/students-computers-and-learning_g1g57f3a/9789264239555-en.pdf

https://www.oecd.org/en/publications/pisa-2025-results-volume-i_73451bc5-en.html

ELECTROMAGNETIC FIELDS OF CELLULAR COMMUNICATION AS A HEALTH RISK FACTOR FOR CHILDREN AND ADOLESCENTS (REVIEW) – Russian Review

<https://journal.fcisk.ru/eng/sites/journal.fcisk.ru.eng/files/upload/article/697/health-risk-analysis-2023-2-18.pdf>

US Study Elementary school children Using Cell phones significantly lower Reading comprehension

<https://www.youtube.com/watch?v=NH3mAGvLWq8>

5. Besides Selection Bias by the International scientists reviewing RF biological science and setting the RF emission safety standards are also imposing Statistical bias. Their statistical methods have concluded the RF scientific studies showing various biological effects are inconclusive and the safety thresholds created by national and international RF safety standard setting and regulating bodies, INCRIP, IEEE, FCC based on heating principals are sufficient. These conclusions were derived in part by WHO's reviews several years ago on host of biological functions from cognitive abilities, fertility and reproduction, cellular functions and cancer. **Those reviews on a host physical functions found no effect from Wireless radiation technologies despite the 100s to 1000s they had to choose from.**

Interestingly **2025 Analysis of RF Literature & Cancer partially funded and guided by WHO, found moderate to High of Cancer risks in a variety of Cancer lines, supporting the cancer risks found in the 2011 IARC study.** This study used entirely new statistical benchmark to weigh the evidence which has been found to be much more acceptable and revealing

<https://www.sciencedirect.com/science/article/pii/S0160412025002338?via%3Dihub>

6. I have omitted sending research for there appears to be much to choose from . Additionally, the Database Website I created covers a wide range of research topics and filtering capabilities to allow the user to target their special interest in the Biological effects of Wireless RF radiation.

<https://wirelessemrdbase.com/>

Three recent studies not included in the Database may be of Interest:

Hi than normal Voltage*3/2025** Stdy- France: Sub Thermal effects extreme low voltage effect on Adipose Fat - "5G Radiofrequency Exposure Reduces PRDM16 and C/EBP β mRNA Expression, Two Key Biomarkers for Brown Adipogenesis"

<https://www.mdpi.com/1422-0067/26/6/2792>

Curative - Bone Density increase with application 900 MHZ at 150 uw/cm2 - China

<https://pesquisa.bvsalud.org/porta1/resource/pt/wpr-1135761>

6 GHz @ .065 W/kg cause liver abnormalities in mice 7_25, Turkey

<https://pubmed.ncbi.nlm.nih.gov/40692353>

Conclusion:

Because 50 years of conflicting interests and a circus of counter productive debate in evaluating the efficacy of the bioelectromagnet research, we will never end our negation and denial of 1000s of research papers produced showing bioeffects from wireless technologies **until changes are made to the protocol and methods we examine and produce new research findings.**

I propose that FDA undertake this call for new research and research a protocol that tackles some of the above issues I discuss as well as others

1. Clear and complete guidelines are put out worldwide on what factors must be covered and detailed in any new scientific research endeavor involving such particulars as detailing exposure conditions or specific radiating devices used, detailing the conditions in sham exposures, detailing the targetted bio factors being exposed and analyzed, statistical methods for evaluation, the type of study, etc.

2. A panel of jurist be set up ahead of time that would approve the scientists who would produce the Reviews on any of the research that has been conducted requiring review analysis. This jury would comprise both long term advocates for more cautionary distribution of this technology, as well as scientists who produced research in the past and even industry scientist. That jury would develop clear guide lines on the selection of final reviewing scientists. This jury would be an ongoing body called upon to make those individual scientist selections when needed. Clear guidelines for selection of the Reviewing scientists would allow the jury personnel to change with time. This process is akin to what is now used to nominate justices for supreme court and other levels of government.

3. Finally, a new research study should be undertaken by the FDA that involves studying larger sectors of population and how they respond biologically to various setting of exposure from a multitude of radiating products and setting. Not just one frequency or device. Exposures that would mimic what people are exposed to today. For too long our wireless research has centered around one frequency or device of exposure. This is not informative under today's exposure conditions and has led to some very

disengenuous criticism that specificity of the frequency was not identified, leading to the conclusions studies are too heterogenous. The nature of this experiment would require that sham exposure conditions would also have to well classified and monitored with meter readings.

4. The latter comment leads me to my final request from the FDA. That is, FDA begin to promote and urge for measure that would stop Telecom companies from saturating the whole earth with their wireless radiating technologies. Instead truly create quiet zones within each state or designated square mile areas, allowing for predominantly wired digital communications and connections. That request is even more important and urgent showing recent consume articles detailing how people looking for vacations in these inadvertent quiet zones where they finally digitally detox and sleep better

<https://travel.yahoo.com/advice/lifestyle/articles/burned-looking-truly-disconnect-time-220142850.html>

<https://travel.yahoo.com/advice/lifestyle/articles/why-travelers-choosing-off-grid-150513759.html>

<https://travel.yahoo.com/advice/lifestyle/articles/sleep-tourism-why-travelers-booking-171102794.html>

Thank you for reading my testimony. I hope something comes out of this generous solicitation by HHS solicitation

Sincerely,
Evelyn Savarin
evsavarin@gmail.com
503-847-9705