

Who's Behind The 5G Cull Of Humanity?

[July 11, 2019](#)

19 March 2019 — [*Left Hook By Dean Henderson*](#)

In 1999, HP scientist Richard P. Walker was granted a patent for what would become known as the internet of everything, now better known as 5G. Walker and the rest of his Silicon Valley colleagues had been fed military technology by Lockheed Martin and IBM.

HP spun off Agilent Technologies that same year as the vehicle through which the Walker patent would come to fruition. All ensuing patents pertaining to 5G would be mysteriously absorbed by Agilent, whether in the areas of surveillance, cybernetics, genetic engineering, human microchipping, or “wet works”.

The corporation pushing Walker's Agilent patent forward is SERCO, a powerful British company close to Lockheed Martin, GE and BAE. The first and last are the two biggest defense contractors in the world. All four are part of Crown Agents USA Inc. The golden share in SERCO was historically controlled through British Nuclear Fuels (BNFL) by Queen Elizabeth II.

In 2009 BNFL was shut down after spinning off its Westinghouse subsidiary. They had acquired Westinghouse in 1999, four years after Westinghouse bought CBS. BNFL's nuclear plants had been privatized in 1996 and were taken over by British Energy. The same year BNFL shut down, British Energy was taken over by Electricite de France.

In 2000, Serco and Lockheed Martin took control of the UK's Aldermaster weapons site. They also control two-thirds of the British Atomic Weapons Establishment (AWE). The other third was owned by BNFL. During the past decade, AWE began exporting stolen US-enriched uranium from a Eunice, NM facility through its Urenco subsidiary. Urenco Executive Chairman Stephen Billingham came from British Energy. They were aided in this effort by the Highland Group, whose associates include the Clintons and Robert Mueller.

SERCO controls immigration and owns a pathology lab in the UK and runs detention centers, prisons and hospitals in Australia and New Zealand. But the bulk of its income comes from no-bid US government contracts granted to it by members of Senior Executive Services (SES). SES consists of government insiders who, unlike a typical civil servant, cannot be fired after one year of service. President Obama appointed 8,000 of them.

SES members are in fact British Crown Agents who feed US government contracts, innovations, resources and sensitive information to their Crown bosses.

SERCO receives \$15-20 billion per year in US government contracts. It runs 63 air traffic control towers, manages Obama Care, runs city parking meters and lots as well as buses and trains, oversees Overseas Private Investment Corporation (OPIC) loans, and handles USAID shipments.

But 75% of SERCO's contracts are with the Department of Defense. With offices in the Bank of England-controlled offshore dirty money banking centers of Guernsey, Jersey and the Cayman Islands, SERCO runs “security” for all branches of the US military and our intelligence services.

SERCO is deeply involved in the US Space Program through Aerospace Corporation, which plans to deploy 24,000 new 5G-enabling satellites via Elon Musk's SpaceX and Amazon's OneWeb in the next year. SERCO also holds contracts with Bill Gates' Millenium Foundation involving the sterilization of Africans and Indians through vaccinations.

Founded in 1929, SERCO came out of RCA, another Crown Agent which morphed mostly into GE. RCA is best known for its consumer electronics but its main business had been military radar and sonar equipment. It is this same technology which is now being deployed as 5G. In my book [Big Oil & Their Bankers...](#), I pinpoint RCA as a key player in the Crown assassination of President John F. Kennedy.

During the early 1960's, RCA developed the UK Ballistic Missile Early Warning System. During the 1980's they were awarded the contract to support the new European Space Agency and began maintaining London's street lights. In 1987, with much of RCA absorbed into GE, what remained became SERCO.

During the 1990's SERCO took its "services" international, focusing on the Five Eyes Alliance countries of the UK, Canada, Australia, New Zealand and the US. The middle three countries are part of the Commonwealth and thus controlled directly by the British Crown. SERCO also began operating in the Crown's puppet GCC monarchies in the Middle East, where it runs all air traffic control operations. It also gained control of Iraq's Civil Aviation Authority. This makes Crown drugs, arms, oil and human smuggling in and out of that region a breeze.

SERCO provides "technical support" for CERN's particle accelerator, manages transport services at North District Hospital in Hong Kong (another major drug trafficking center), and provides "support" for military bases in the Five Eyes nations. It manages the UK National Physics Laboratory and trains soldiers in the US and Germany.

SERCO also dominates contracts from US Homeland Security and is in charge of FEMA Region 9, which includes Alaska, Hawaii and the US West Coast, which has recently been experiencing a slew of not-so-natural disasters.

SERCO began providing IT support for European Parliament in 2014, began training US firefighters in Afghanistan in 2016 and began operating European Meteorological Satellites in 2017.

SERCO's specialty is in handling sensitive cyber-data, including criminal records, driver's license records, vaccination records, DNA databases, and military records and communications. This puts them in a position to completely control the Five Eyes governments and their citizens.

But SERCO's most important GCHQ infiltration came in 2015 when it was awarded the patent classification contract in the US, essentially commandeering the US Patent Office. In this capacity they are able to steer and manage the Walker 5G patent in the Crown's desired direction.

That direction, according to their own documents, is a 70% reduction in the UK population by 2025, with similar reductions in store around the world.

SERCO is run by two British Knights Hospitalier. Sir Roy Gardner is Serco Chairman who handles, according to SERCO's own website, "relations with the City (of London) and major stakeholders (Queen Elizabeth II)". CEO Rupert Soames is Winston Churchill's grandson. In 2010, he was awarded Officer of the Order of the British Empire (which, of course, does not exist).

Both came from Crown Agent GE, which manufactures the smart meters and LED lighting being rolled out ahead of 5G. Monsanto (now part of Nazi IG Farben descendant Bayer), is also closely held by the Crown, which explains why it continues to poison humanity with Roundup.

Many people are now identifying the multiple threats to humanity, from chemtrails to fluoridation to vaccines to glyphosphates to 5G. This awareness has grown to a point where the Establishment is now banning such information from the DARPA net. **A few others have identified these attacks as a coordinated attempt to depopulate 90% of humanity.**

But the next task at hand in this criminal investigation is the most important one and needs to become our focus. We must identify the perps. **For decades the ruling Illuminati banker oligarchy have expressed their obsession with overpopulation. Queen Elizabeth's own husband Prince Philip has expressed his desire to reincarnate as a parasite so he can destroy humanity.**

But it appears the Crown isn't waiting for that eventuality. In their accelerating program towards the culling of billions of human beings from this planet, **SERCO is the lynch pin which implicates the Crown as perpetrator of this well-planned genocide.** 5G is key to their plan and must be stopped.

Anyone shielding or enabling these criminals is a traitor to their country. All aware people must shout out this indictment to family, friends, neighbors and the proper law enforcement agencies. It's time to focus all our energy on the enemy and get these **Luciferian sociopaths** locked up before it's too late.

Dean Henderson is the author of five books: [Big Oil & Their Bankers in the Persian Gulf: Four Horsemen, Eight Families & Their Global Intelligence, Narcotics & Terror Network](#), [The Grateful Unrich: Revolution in 50 Countries](#), [Stickin' it to the Matrix](#), [The Federal Reserve Cartel](#) & [Illuminati Agenda 21: The Luciferian Plan to Destroy Creation](#).

5G was tested in Russia on humans & animals with disturbing results: what you are not being told – Dr Barrie Trower & Mark Steele discuss

[September 8, 2019](#)

12 August 2019 — [Rangitikei Environmental Health Watch](#)

[Update 7 October 2019: According to Russian scientist, Oleg Grigoriev, DrSc., PhD. (radiobiology & hygiene of non-ionizing radiation); Chairman, Russian National Committee on Non-Ionizing Radiation Protection (RusCNIRP), via Twitter was asked to react on this report.

He wrote: "This reference about 5G tests in USSR is absolutely fake. Fantasy." His Twitter account: https://twitter.com/O_Grigoriev.

Now I have no idea whether this is true anymore than whether the original is true. Obviously, more research is needed, especially in the light of the fact that 5G is to be implemented in Russia by Huawei according to a TASS report. But this doesn't mean that 5G isn't dangerous, far from it but what it does mean is that we need to be sure our sources are reliable. WB]

"The USSR experimented on humans and animals with 5G in 1977, 1972 and 1997. A proper military experiment. The humans suffered metabolic problems, i.e. everything started to fall apart, blood problems, immune system dysfunction, severe medical and neurological problems. With animals, since they were able to dissect them, they found the bone marrow was suffering (which produces the immune

system), respiration damaged, enzyme activity damaged, nuclear dna damaged, and the total exposure time was only 15 hours over 60 days. Roughly 15 minutes a day and the levels were not high. Not as high as you are going to get in a classroom.” *Dr Barrie Trower*

Note: Since posting this people in NZ are asking what can we do? Some suggestions ... visit the nz site <http://www.5g.org.nz/> ... they have addressed what we can do in NZ. Also Mark Steele from the video, he has a website <https://www.saveusnow.org.uk/> (save us now) & all the detail on how he fought his council in Gateshead in court & won (article coming on that). Note there is a campaign to discredit him & his work which should tell you something. Please ignore the debunking links you will see when you search. If there were anything dodgy with this man Dr Barrie Trower would not be teaming up with him for this video interview. Also visit Josh del Sol's site, if you go to <https://takebackyourpower.net/> you will find his doco of the same name, an excellent although shocking intro to the shonky science we're dished out on the so called 'safety' of emfs/wi-fi particularly relating to smart meters (if you are new to this or have hitherto believed it's all good, no problems). When you land at that site you will be alerted to an upcoming online series of teaching (free at the viewing times, you can also purchase these for your own reference later). It screens in late August. Lastly Dr Trower has many other interviews on Youtube that will give you insight into how wi-fi is affecting us already. Particularly our children. 5G he illustrates is a military grade weapon they used for crowd control. Fact. (Here is a [14 minute clip](#) with the essentials from him). EWR

THE VIDEO (quoting here from Dr Barrie Trower)

“The roll out already started in Vienna, the unsuspecting people immediately suffered from nosebleeds, cardiac problems, chest pains, fatigue, dizziness, vomiting in fact all of the symptoms of microwave sickness ... known since 1932.”

“The USSR experimented on humans and animals with 5G in 1977, 1972 and 1997. A proper military experiment. The humans suffered metabolic problems, ie everything started to fall apart, blood problems, immune system dysfunction, severe medical and neurological problems. With animals, since they were able to dissect them, they found the bone marrow was suffering (which produces the immune system), respiration damaged, enzyme activity damaged, nuclear dna damaged, and the total exposure time was only 15 hours over 60 days. Roughly 15 minutes a day and the levels were not high. Not as high as you are going to get in a classroom.” *Dr Barrie Trower*

This is such important information here I've transcribed half of the video in note form (note particularly there are some words that may not be spelled correctly, you will need to listen for yourself). Transcription below.

Here is some detail about how [Dr Barrie Trower](#) is someone we should be listening to about the dangers of wi-fi and in particular 5G.

Barrie Trower

- trained at the Governments Microwave Warfare establishment in 60's
- worked for the Royal Navy and British Secret Service as a microwave weapons expert
- helped de-brief spies trained in microwave warfare in the 70's
- worked in the underwater bomb disposal unit which used microwaves

- has a degree in physics (specialising in microwaves), a research degree and a diploma in human physiology. [SOURCE](#)

Mark Steele

And about Mark Steele, he is a technical weapons expert, patent writer, inventor and nuclear research technology officer. [SOURCE](#) A UK Judge declared Mark Steele as a credible expert and engineer on EMF and GSM technologies. [SOURCE](#)

Barrie Trower has come out of retirement to blow the whistle & likewise Mark Steele who (in Barrie's words) 'has stuck his head [above the parapet](#)' to warn people of what is coming. He has taken on the fight & [won in Gateshead](#) UK where 5G has been rolled out since 2011. This interview will shock you. EWR



[Clairity](#)

Published on Apr 1, 2019

Mirrored from: Barrie Trower & Mark Steele on 5G <https://www.youtube.com/watch?v=6BAs5...> Barry Trower & Mark Steele discuss 5G as a weapon and also answer the confusion relating to Bemri's visit to Gateshead and how 5G encompasses the Sub Ghz range.

TRANSCRIPT:

(VIDEO-Barrie Trower and Mark Steele on 5G (2019))

350 environmental organizations from 96 countries have said, stop 5G.

WHO advisor came out & said stop 5G

Early on in its development they noted it kills birds, cattle, tadpoles & insects.

California fire fighters have an exemption from 5G because of dangers to their health.

A new weapon they have developed that is stronger than 5G was tested on Special Forces & caused them to drop to their knees.

A Professor of Medicine has said nature has no defense against 5G.

5G will affect our eyes ... cataracts, glaucoma, macular degeneration and kidney problems.

Another Professor has said 5G on lamp posts will cause insect Armageddon because they hover around lamp posts. They won't survive.

5G has to be compliant because it has to be linked as it has been in other countries, to all radar systems, wi-fi, smart meters, hospital equipment ... the internet of things... all have to be compatible. So not just getting 5G but all the other Gs and wi-fi.

The calculations for 5G are time averaged... **the data is around a 100x greater than 4G.**

The roll out already started in Vienna, the unsuspecting people immediately suffered from nosebleeds, cardiac problems, chest pains, fatigue, dizziness, vomiting in fact all of the symptoms of microwave sickness that Barrie Trower has known since 1932.

The USSR experimented on humans and animals with 5G in 1977, 1972 and 1997. A proper military experiment. The humans suffered metabolic problems, ie everything started to fall apart, blood problems, immune system dysfunction, severe medical and neurological problems. With animals, since they were able to dissect them, they found the bone marrow was suffering (which produces the immune system), respiration damaged, enzyme activity damaged, nuclear dna damaged, and the total exposure time was only 15 hours over 60 days. Roughly 15 minutes a day and the levels were not high. Not as high as you are going to get in a classroom.

So it has been used as a weapon, and it has been tested experimentally on animals and humans. So yes it is definitely going to make you ill.

Has to have megahertz frequencies to comply with other transmitters & receivers. Also in other countries it has to have the low gigahertz frequencies.

In some countries you have as many as 22 different frequencies when it's fully functional because it has to comply with all of the other things. It will be added to wi-fi 2,3,4G, smart meters. Its compliance with smart meters is actually quite frightening because each smart meter has to have two transmitters. One low frequency to go into the house & talk to the fridge and the telly etc and one to reach the main transmitter. Each house may have up to 15 appliances. Each small group of houses, goes from 500-5000 houses, in a mesh. When look at the maths... like a little group of tower blocks on a big estate, you can have as many as 5000 smart meters, two transmitters for each smart meters, so you have ten thousand smart meters in a small area transmitting. Each of them (15 per house) so in one reasonably sized council estate can have up to 150,000 transmitters. They are producing the 5G wave forms and wi-fi, 2.4 gigs which is a known weapons frequency. It is known in the military & published, Stanford Institute Research California, did their own experiments and said the two most dangerous frequencies for living cellular structures which is all of nature, trees, animals, insects, humans, is the wi-fi frequency and .95 gigs ... a Doctor with 22 years experience in WHO cancer dept. has said that all of this will cause cancer. No question.

5 Gigahertz isn't 5G, it is a telecom signal frequency. Shows the deceit of these people. It is capable of spying, on every device in your home.

5G has already been here for many years. Rolled out in Gateshead in 2011 & 12. Mark didn't know until Sept 2016 when LED ... the architecture, the equipment 5G's been attached to is LED streetlights. They're also part of a weapons system ... post modulated, terahertz range lights can be extremely hazardous. The blue phosphor coating ... professor John O'Hagan has stated these lights are a risk, a risk to biology, a risk to children, a risk to eye sight etc. This is Public Health England. You have American Medical Assn stating the same, Anzi (?) stating the same, and Shia (?) the emerging risk team in Europe stating that flicker, post modulation on these LED street lights is risky. Ask yourself, why are your local authorities at speed, rushing this technology out on top of you when there's already been identified a double increase in prostate cancer from the exposure to these blue light systems, phosphor coated blue light systems, so what's going on? These councils are totally disregarding this. Regulatory bodies we pay to protect are still rolling them out. They're on the motorways. Children are being born today that by the time they're 25 they won't be able to see. That's because the exposure to this type of radiation, non ionized radiation, the secretary of state has a duty of care he's totally ignoring. The plan is to make sure these people are seen in a court of law to bring them to justice.

This brings you to half way through the video (32 mins in).

The 5G Roll Out of 20,000 Telecom Satellites. Cosmic Junk

[November 11, 2019](#)

11 November 2019 — [Global Research](#)

By [Richard Gale](#) and [Dr. Gary Null](#)

For years, scientists have warned about the dangers of enormous amounts of debris orbiting our planet. Aside from wrenches and other tools used by astronauts, plastic bags, and yes even a toothbrush, according to the federally-funded [Areospace organization](#), the greater dangers are obsolete spacecraft, portions of damaged and disabled satellites, rocket fragments, flywheels, and nuclear reactor cores that have broken up or collided with various other objects. Yet even a screwdriver traveling at an average of 17,500 mph, with an impact velocity of 21,000 mph, can be very destructive if it were to crash into a satellite, rendering it inoperable. And this simply adds to more useless junk, now estimated at 128 million small bits of debris under 1cm and the 34,000 larger pieces, floating above our heads. Imagine [being hit with a piece of space scrap](#) the size of a sugar cube is “equivalent of standing next to an exploding hand grenade.”

A [Business Insider story](#) about space debris noted that the US government already tracks 23,000 objects regularly, including China’s bus-size Tiangong-1 space station that incinerated in orbit. [In February of 2011](#), a Russian military satellite collided with an American Iridium commercial satellite. The former disintegrated into hundreds of thousands of pieces of debris while the latter spun out of control. Approximately 2,000 of these larger objects are being tracked regularly. Three thousand large objects from the [Chinese anti-satellite weapon FY-1C](#), which the Chinese military deliberately blew up, also have to be routinely monitored. As more and more satellites, space stations, rocket and missile remains, and a variety of other orbiting technologies are shot into space, the more frequent these accidents will occur.

This has raised serious concerns among space agencies that we may be heading towards the creation of a “debris belt” that might lead to a critical climax known as a Kessler Syndrome event. The Kessler Syndrome, named after Donald Kessler, a scientist at NASA’s Johnson Space Center in Houston, who warned about such an event in a 1978 [paper published](#) in the Journal of Geophysical Research, refers to the exponential increase in space junk leading to a tipping point that would in turn trigger a cascade of collisions between orbiting objects. This could make lower orbital space inaccessible for hundreds of years. In addition, it would dramatically impair, and likely disengage, telecommunication operations, weather forecasting, interfere with airline and GPS navigation, and military and national security surveillance and operations. There are no international treaties in place to deal with this crisis nor concerted collaborative efforts to limit the further trashing of space. In the meantime the US government spends enormous amounts of money simply monitoring 24/7 potential collisions and to maneuver functioning satellites out of harm’s way.

Since the launch of the first satellite, the Soviet Union’s Sputnik in 1957, there have only been 8,378 satellites lofted into the heavens thus far. That may not seem to be many over the course six decades, nevertheless the threats posed by space debris is becoming an issue of growing concern as satellite launches steadily increase annually. According to the [UN’s Office for Outer Space Affairs](#), there were slightly under 5,000 satellites in the Earth’s orbit at the start of 2019. However the [Union of Concerned Scientists estimated](#) that only 1,957 of these are actually operative. In other words, over 75 percent of orbiting satellites are revolving clutter.

If some space scientists are worried today about the potential of a Kessler Syndrome cascade, the implementation of 5G technology, the global installation of the “internet of things,” is going to accelerate the probability of this catastrophe astronomically.

Speaking before a [5G conference](#) in Oslo last October, United Nation's staff member Claire Edwards warned of the 5G efforts to dramatically colonize the lower orbital space with a minimum of 20,000 5G satellites by 2022. Without our governments' and the Big Telecom Industry's impatience to engulf the planet in 5G, and with the full support of the military and intelligence complexes, there would be absolutely no need for this kind of expansive satellite colonization of the Earth's lower orbit.

[Video: 5G Telecommunications Technology in Space: "This is All About Controlling People in 'Smart Cities'"](#)

Orbiting technologies and satellites are not only threatened by collisions with high velocity cosmic junk. Additional threats, which humans have absolutely no control over, are solar activities such as solar winds, coronal holes, coronal mass ejections or CMEs and solar flares. During [the 2003 geomagnetic storm](#), "10 percent of the world's satellite fleet suffered malfunctions." [In a Scientific American article](#), "Solar Storms: Effects on Satellites," a super solar storm could cause years' worth of damage and wear on a satellite within a few hours. The article states, "a recurrence of the 1859 solar superstorm would be a cosmic Katrina, causing billions of dollars damage to satellites, power grids and radio communications." [Financial Times estimated](#) the cost of a plasma storm would be in the trillions and knock out our most critical satellite systems. Such a massive coronal mass ejection from the sun's thermonuclear reactor, known as a Carrington Event and containing up to 10 billion tons of solar plasma, gas and magnetic radiation, would kill the 5G internet. It could be the end game for years before becoming operable again.

The type of satellite that connects signals to your cell phone is a Low Earth Orbit satellite or LEO. These are the most susceptible to impact with space debris. [Professor Richard Horne](#) from the British Antarctic Survey, a scientific research project that relies on satellite-generated measurements for monitoring climate changes at the southern pole, has warned that the negligence in the commercial satellite sector, which is betting on gigantic profits from the 5G Dream, could have serious consequences. "People are trying to use more commercial off-the-shelf components," says Prof. Horne, "rather than components made to operate in space." He continues, "many systems have not been tested in a major [solar] storm so there is a lot of uncertainty about what might happen."

[Elon Musk's SpaceX](#) is planning to install 12,000 satellites alone, including 1,585 in low earth orbits (LEO) and 7,518 positioned at very low earth orbits (VLEO). He expects to control 50 percent of all internet traffic. [Last month](#), SpaceX widened its ambitions to seek permission to launch an additional 30,000 satellites thereby raising the commercial space industry's total to 53,000 — twenty-six times more than now orbiting the Earth. The Institute of Electric and Electronics Engineers (IEEE) [estimates that the combined mass](#) of Musk's adventure will be ten times greater than the International Space Station. SpaceX is betting on the uncertain promise that when these Tesla Model-3 automobile sized VLEO satellites reach their final days, they will burn up during their descent through the atmosphere before reaching the Earth's surface. The science shows otherwise. Much debris will remain in addition to reaching the Earth's surface.

Besides satellites being damaged and inoperative from space clutter and solar storm events, satellites are not immortal. They have a limited lifespan. An LEO satellite's average life is between 5-8 years above our atmosphere. In other words, starting in another eight years, all of these satellites will need to be replaced, further adding to the ocean of electronic waste. In addition., during the course of their life in orbit, many will malfunction or be damaged and need to be replaced. We have already trashed our oceans, so what is preventing us from doing the same in space?

Furthermore, despite what pro-5G voices wish us to believe, the roll out and ongoing maintenance of the 5G global blanket is not green and climate friendly. The steady launch of thousands of suborbital rockets will "create a persistent layer of black carbon particles in the northern stratosphere that could cause potentially significant changes in the global atmospheric circulation and distributions of ozone and temperature," according to a paper released by the Aerospace Corporation. This will likely deplete the ozone by 1 percent and the polar ozone layer by as much as 6%. The [report concludes](#) that "[A]fter one decade of continuous launches, globally

averaged radiative forcing from the black carbon would exceed the forcing from the emitted CO2 by a factor of about 10 to the fifth power.” [Back in 1991](#), Aleksandr Dunayev at the Russian Space Agency was quoted by the New York Times, if there are “about 300 launches of the space shuttle each year [it] would be a catastrophe and the ozone layer would be completely destroyed.” And for several years, even with Musk’s Falcon Heavy rocket potentially carrying 100 satellites for a single launch, this would still exceed Dunayev’s calculations. In other words, 5G is going to have a perilous carbon footprint at a time when we must drastically reduce our greenhouse gas emissions.

Although there are no conclusive directly caused risks to human health or the environment from orbiting telecom satellites, the [entire 5G network](#) will require millions of base stations and an estimated 200 billion transmitting objects blanketing the nations that sign on to this monstrous technological experiment. The number of EMF transmitting objects is expected to increase to over a trillion several years after full deployment. The human and environmental health risks of EMF emitting 5G base stations and transmitters have been reported extensively. Eight years ago the World Health Organization had already classified wireless as a Group 2B carcinogen and further medical evidence continues to pile up. There are now [over 10,000 studies](#) supporting the evidence of genetic and cellular damage to humans, animals, insects and plants, a variety of cancers, cardiovascular disease, neuropsychiatric disorders, reproductive dysfunction, and general EMF hypersensitivity symptoms such as chronic headaches, learning difficulties, sleep problems, fatigue and depression, etc.

Government telecommunication departments and the private telecom industry have absolutely no credible independent scientific studies in their arsenal to deny the volumes of evidence against wireless EMF risks; therefore, they follow the all-too-common game of pathological denialism and generate propaganda to attack and denounce 5G’s critics as conspiracy alarmists. The International Appeal to Stop 5G now has over 176,000 signatures from scientists, academics, and medical and environmental organizations’ advocates representing 208 nations and territories. Yet no precautionary measures, which are recognized by many international laws and treaties, are being followed.

The full assault of 5G is dependent upon the satellite programs from companies such as SpaceX, OneWeb, Boeing, Iridium, Telesat Canada and Amazon collaborating in league with the telecom giants. The commercial space industry is an intricate factor in the 5G infrastructure estimated to be worth \$32 billion. The wolves following behind 5G’s trashing of space is the recent appearance of a [space debris removal industry](#), which is expected to be valued \$2.9 billion by 2022. Key corporate vendors in this emerging business include Airbus, Astroscale, Boeing and Lockheed Martin. In our dystopian civilization, where one technological disaster leads to the creation of another for-profit industry, this is called job growth. **Clearly, all the pieces are being put into place for a 5G deep state, a powerful edifice committed to the massive surveillance of every person and human activity.**

Richard Gale is the Executive Producer of the Progressive Radio Network and a former Senior Research Analyst in the biotechnology and genomic industries.

Dr. Gary Null is the host of the nation’s longest running public radio program on alternative and nutritional health and a multi-award-winning documentary film director, including The War on Health, Poverty Inc and Silent Epidemic.

*The original source of this article is Global Research
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5G Cell Phone Electromagnetic Radiation: Numerous Health Impacts, Nervous System, DNA, Cancer, Cardiac Effects, Alzheimer...

Compelling Evidence for Eight Distinct Types of Great Harm Caused by Electromagnetic Field (EMF) Exposures and the Mechanism that Causes Them

By [Dr. Martin Pall](#)

Global Research, September 23, 2019

peaceinspace.blogspot.com 17 May 2018

Region: [Europe](#), [USA](#)

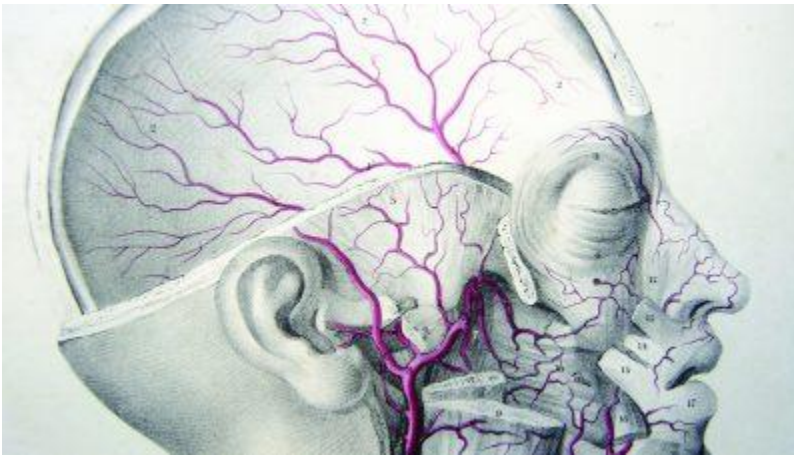
Theme: [Environment](#), [Science and Medicine](#)



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This report was originally published in May 2018.

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 exposures. This is shown in from 12 to 35 reviews on each specific effect, with each review listed in Chapter 1, providing a substantial body of evidence on the existence of each effect. Such EMFs:

1. **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.
2. Attack our endocrine (that is hormonal) systems. In this context, the main things that make us functionally different from single celled creatures are our nervous system and our endocrine systems – even a simple planaria worm needs both of these. Thus the consequences of the disruption of these two regulatory systems is immense, such that it is a travesty to ignore these findings.
3. Produce oxidative stress and free radical damage, which have central roles in essentially all chronic diseases.
4. **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.
5. Produce elevated levels of apoptosis (programmed cell death), events especially important in causing both neurodegenerative diseases and infertility.
6. **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.

7. Produce excessive intracellular calcium $[Ca^{2+}]_i$ and excessive calcium signaling.
8. Attack the cells of our bodies to cause cancer. Such attacks are thought to act via 15 different mechanisms during cancer causation.

There is also a substantial literature showing that EMFs also cause other effects including **life threatening cardiac effects** (Chapter 3). In addition substantial evidence suggests EMF causation of very early onset dementias, including Alzheimer's, digital and other types of dementias (Chapter 3); and **there is evidence that EMF exposures in utero and shortly after birth can cause ADHD and autism** (Chapter 5).

Each of these effects is produced via the main mechanism of action of microwave/lower frequency EMFs, activation of voltage-gated calcium channels (VGCCs) (Chapter 2). Each of them is produced via what are called downstream effects of VGCC activation. It follows from this that we have a good understanding not only that these effects occur, but also how they can occur. The extraordinary sensitivity of the VGCC voltage sensor to the forces of the EMFs tells us that the **current safety guidelines allow us to be exposed to EMF levels that are something like 7.2 million times too high**. That sensitivity is predicted by the physics. Therefore, the physics and the biology are each pointing to the same mechanism of action of non-thermal EMFs.

The different effects produced are obviously very deep concerns. They become much deeper and become existential threats when one considers that **several of these effects are both cumulative and eventually irreversible**. There is substantial evidence for the cumulative nature and eventual irreversibility of the neurological/neuropsychiatric effects, of the reproductive effects, the mutational DNA effects, the cardiac effects, of some but not other of the hormonal effects (Chapter 3); any causation of ADHD and autism may add additional concerns (here the cumulative nature is probably limited to the perinatal period).

When we know that **sperm counts have dropped by more than 50% throughout the technologically advanced countries on earth**, it is difficult to avoid the conclusion that the vast majority of the population in those countries is already substantially impacted. The same conclusion can be made based on the widespread nature of the neuropsychiatric effects in those countries. Both of those effects will get much much worse even with no increase in current exposures, due to the cumulative nature and irreversibility of these effects. **I expect we will see crash in human reproduction almost to zero as happened in the Magras and Xenos mouse study** which I estimate to occur within about 5 years, without any increases in our exposures. Obviously 4G and 5G will make the situation much worse. Similarly I expect that the deterioration in brain function that we are already seeing will seal our fate if we fail to act rapidly and vigorously. Our collective brain function may become completely incapable of dealing with such a mega-crisis situation.

Now it can be argued that some of these may not develop as I expect, although those expectations are based on the best available evidence. One may even be able to argue this for all of those expectations. However, when we have substantial risk of multiple existential threats to every single technologically advanced country on earth, failure to act vigorously means there is a very high probability of complete destruction of these societies. And the chaos which would inevitably ensue, in a world that still has nuclear weapons, may well lead to extinction. In the face of these types of risk, the only reasonable course is to move with great vigor to stop new exposures and lower current exposures. One can still access the internet, using wired connections. And we can lower cell phone tower and cell phone radiation substantially. Smart meters, if needed, can work via wired connections.

Over 60% of this document (Chapters 5 & 6), is focused on the failures of statements from SCENIHR, the telecommunications industry, the U.S. FCC and the U.S. FDA to reflect the science. Their statements repeatedly omit much, often all of the most important science. Their statements are rife not only with omissions, but also with easily demonstrable falsehoods and with false logic. These have often occurred at times where we know that they knew better. These have occurred along with vigorous efforts by the telecommunications industry to corrupt the science by attacking individual scientists whose only fault is that they have obtained important findings that the industry does not like. These attacks have occurred along with vigorous efforts to corrupt two agencies that have important regulatory roles.

There are also possible concerns about individual industry-linked research studies. All wireless communication devices put out polarized EMFs that carry information via pulsations. Both the pulsations and the polarization make these EMFs much more biologically active. There are three other factors that also influence the production of effects. Several industry-linked studies may have used these factors, along with using very tiny numbers of individual animals in their studies, to produce studies which may have been designed to fail (Chapter 5). It is not clear at this point whether this type of concern is quite limited or whether it is very broad.

The European Commission has done nothing to protect European citizens from any of these very serious health hazards and the U.S. FDA, EPA and National Cancer Institute have done nothing to protect American citizens. The U.S. FCC has been much worse than that, acting vigorously with wanton disregard for our health.

Rural America and the 5G Digital Divide. Telecoms Expanding Their “Toxic Infrastructure”

By [Renee Parsons](#)

Global Research, July 19, 2019

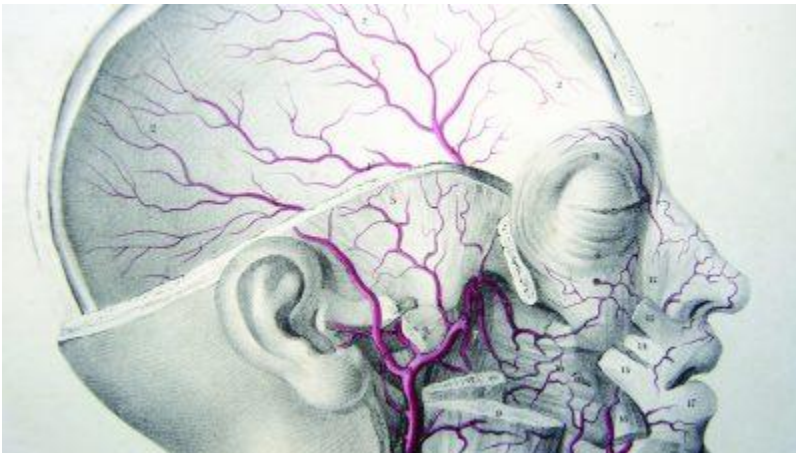
Region: [USA](#)

Theme: [Media Disinformation](#), [Science and Medicine](#)



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While there is considerable telecom hubris regarding the 5G rollout and increasing speculation that the next generation of wireless is not yet ready for Prime Time, the industry continues to make promises to Rural America that it has no intention of fulfilling. Decades-long [promises](#) to deliver digital Utopia to rural America by [T-Mobile](#), [Verizon](#) and [AT&T](#) have never materialized.

Despite much bravado, the biggest telecom carriers have [never shown the willingness](#) to fund the necessary infrastructure nor do they possess the necessary infrastructure to bridge the [digital divide](#) – despite \$[22 billion](#) in government subsidies and grants over the last five years specifically to provide wireless coverage to rural America. At the same time, the incompetence at the FCC has been staggering – as an unreliable, albeit

compromised, Commission that has consistently failed to provide accurate, reliable maps to identify broadband availability for rural America.

Whether 5G will measure up to its [hype of performance](#) and expectations remains a question since there is a different market today than when 4G came on line in 2010. At that time, there was room for improved cell service, more apps, video streaming and new subscribers. Today there is little new subscriber growth except in the chronically underserved areas of rural America which has been neglected by the telecom industry and FCC for decades. The challenge for 5G is to create a market demand, to devise new gimmicks to finagle higher revenues out of current subscribers and most especially to expand their [toxic infrastructure](#) to rural America. The market is much more aware than it was in 2010 as customers are no longer lining up around the corner to purchase the newest thingamajig.

As universal wireless coverage remains a myth in rural America, the [Digital Divide](#) is alive and well after decades of neglect by those telecoms who now see rural customers as their cash cow.

With the digital world of personal computers and cell phones a reality for the last three decades, broadband service to rural America has continued to play second fiddle in favor of upgrades to more affluent urban customers and the telecom industry's bottom line.

Unlike the national commitment to provide rural electrification in the 1920's as a major accomplishment, there has been no such Federal commitment to bring geographically challenged citizens into the digital age nor has Congress demanded that the telecom industry do whatever it takes to end the Digital Divide.

The fact that rural America was the topic of [three previous](#) Commerce committee hearings is indicative of how closing the Digital Divide is considered mandatory for a successful 5G rollout. As the National Security Council [power point](#) suggested *"by initially focusing on rural broadband, the network would guarantee a revenue stream while further business models develop,"* In other words, the telecom industry is banking on rural America, in its desperation for wireless service, to subscribe (probably at premium rates) after decades of neglect.

In 2017, the USDA reported that [29% of American farms](#) had [no internet](#) access. The FCC says that 14 million rural Americans and 1.2 million Americans living on tribal lands do not have 4G LTE on their phones, and that [30 million rural](#) residents do not have broadband service compared to 2% of urban residents. It's beginning to sound like a Third World country.

Despite an FCC [\\$4.5 billion annual subsidy](#) to carriers to provide broadband service in rural areas, the FCC reports that *'over 24 million Americans do not have access to high-speed internet service, the bulk of them in rural area'* while a [Microsoft Study](#) found that *"162 million people across the US do not have internet service at broadband speeds."*

At the same time, **only three cable companies have access to 70% of the market** in a [sweetheart deal](#) to hike rates as they avoid competition and the FCC looks the other way. The FCC believes that it would cost \$40 billion to bring broadband access to 98% of the country with expansion in rural America even more expensive. While the FCC has pledged a [\\$2 billion, ten year plan](#) to identify rural wireless [locations](#), only 4 million rural American businesses and homes will be targeted, a mere drop in the bucket.

Which brings us to rural [mapping](#): Since the advent of the digital age, there have been [no accurate maps](#) identifying where broadband service is available in rural America and where it is not available. The FCC has a long [history](#) of promulgating unreliable and unverified carrier-provided numbers as the Commission has repeatedly *'bungled efforts to produce accurate broadband maps'* that would have facilitated rural coverage.

During the [Senate Commerce Committee](#) hearing on April 10th regarding [broadband](#) mapping, critical testimony questioned whether the FCC and/or the telecom industry have either the commitment or the proficiency to provide 5G to rural America. Members of the Committee shared concerns that 5G might put rural America further [behind the curve](#) so as to never catch up with the rest of the country. Committee Chair **Roger Wicker** (R-Miss) opened the hearing with

*“To close the digital divide, we need to have [accurate broadband maps](#) that tell us **where broadband is available and where it is not available**. This is critical because maps are used to inform federal agencies about where to direct broadband support. [Flawed and inaccurate maps](#) ultimately waste resources and stifle opportunities for economic development in our rural and underserved communities.”*

Tim Donovan of the Competitive Carriers Association told the committee that the FCC had falsely claimed in a December report that “*approximately 100% of the American population lives in geographical areas covered by mobile LTE with a minimum 5Mbps speed*” as an example of the Commission peddling false data.

Mike McCormick, President of the [Mississippi Farm Bureau](#) with 200,000 family members quoted from the FCC’s [2018 report](#) that 72% of Mississippi resident had broadband coverage while data from a comparable [Microsoft](#) study found that only 487,000 citizens or 16% had broadband service. Further, the FCC reported that 41% of Jefferson County residents had broadband usage while the Microsoft study found that only 5.6% Jefferson County residents had usage. McCormick told the committee he was ‘*very confident*’ in disputing the FCC figures.

In discussing variable terrain and foliage in rural areas that has delayed installation of necessary cellular infrastructure, McCormick mentioned that “*pine needles are some of the bigger deflectors of broadband signal because they are the exact same size of band width*” as an example of challenges in rural America. Who knew pine needles could be a factor to 5G?

McCormick went on to explain that in February 2018, the FCC released a [map](#) showing areas eligible to receive FCC [Mobility Fund Phase II](#) funding for deployment of 4G LTE service which provides \$4.53 billion over ten years for telecom carriers to bring mobile and broadband service to rural and underserved areas. The Mississippi map showed that 98% of the state was already receiving mobile broadband service which the Farm Bureau disputed, ultimately filing a waiver request with the FCC to challenge the map’s accuracy.

The short of the story is that while the Farm Bureau collaborated with the Mississippi Public Service Commission (PSC) to fulfill FCC requirements, the final conclusion was that not one of their speed tests processed through the PSC program was approved by the FCC for challenge. In other words, no ‘average’ member of the public would have been able to successfully challenge the integrity of the FCC maps.

Chair Wicker (R-Miss) responded

*“Here’s where you were not a failure Mr. McCormick...we determined that the challenge process is **unworkable and frankly worthless**. The map is **inaccurate and almost impossible using that challenge process to demonstrate this**. It needs to be fixed and no program should go forward unless we are satisfied in the Congress that the process is going to touch areas that need it.”*

There was unanimous agreement among Members of the Committee and the witness panel that “*the maps are fake news and not reliable.*” **Sen. Roy Blount** (R-Missouri) who reported that 51% of rural Missouri is without broadband coverage, inquired “*Does anyone believe that the maps are worth relying on?*” No one responded affirmatively.

Jonathan Spalter of the US Telecom Association informed the Committee that the ‘*our 5G future will be **built and based on our ability to pull the fiber** ubiquitously, extensively and quickly*’ and further dropped a bomb on

the Committee that the ***“final last mile of any 5G wireless network is built and based on the fiber based backhaul opportunities that exists through the wireline businesses..upon which 5G wireless networks ultimately rely.”***

Chair Wicker used the analogy that when electricity came to rural Mississippi,

“we ran the power out to the end of the dirt road. Are you saying that, as a general rule, we are going to have to, big time, run fiber out to the end of the dirt road? Sen. Blount has touched on a very, very important subject that we’ll need a lot more discussion about.”

Spalter confirmed Wicker’s understanding. Clearly, the concern about providing 5G to rural America had just hit a seemingly insurmountable roadblock that given the diversity of rural terrain obstacles, laying fiber cables would be mandatory as Spalter had described.

NTSA

Previously, both T-Mobile and Sprint [promised](#), if allowed to merge, 5G networks to 85% of rural areas in three years, and 90% of rural areas in six years but that was before the issue of how installing miles and miles of fiber optics might affect that promise. Shirley Bloomfield, CEO of NTSA, the [rural broadband association](#) representing 850 rural telecom companies, responded that the T-Mobile/Sprint promise

“would require huge amounts of fiber backhaul that neither company currently possesses, as small cells must be placed very close to the customer (often within 300 to 500 feet) to reach the higher speeds contemplated by 5G making the technology particularly impractical (and very expensive) for most rural applications anytime soon.”

In October, 2018, NTSA opposed the merger citing T-Mobile as the owner of ‘valuable spectrum for many years’ that “had ample time to build out the rural areas or enter into a joint venture.” In other words, the telecom industry is already well aware of the necessity to “pull wire” in order to install 5G infrastructure throughout rural America.

The question for the telecom industry is that if the economics of 4G did not dramatically increase subscribers in rural America, how will the very expensive and much more controversial 5G provide a sufficient customer base to guarantee a return on the telecom industry’s \$275 billion investment?

To be continued....

*

Note to readers: please click the share buttons above or below. Forward this article to your email lists. Crosspost on your blog site, internet forums. etc.

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MIT Scientists Psyched About Harmful 5G and 6G Wireless, Dangerous AI and IoT Applications, and Their Laser That Remotely Beams Audio Into People's Ears

TOPICS: [5G](#) [6G](#) [Artificial Intelligence](#) [BN Frank](#) [Cybersecurity](#) [Internet of Things](#) [smart technology](#)

June 13, 2019

By [B.N. Frank](#)

Why are MIT scientists so psyched about unleashing biologically and environmentally harmful [technology](#) that also creates tremendous public safety and cybersecurity risks? Is it because exposure to wireless radiation has [saturated their brains](#) so deeply that impulse control and common sense has been severely [compromised](#)? Because they seem to be acting like the mad scientists portrayed in every book, comic strip, movie, and TV show in their enthusiasm to make us all guinea pigs for known-to-be dangerous technology.

Activist Post reported in January about how MIT scientists created a new laser to [transmit audio directly into people's ears](#). That was freaky enough.

Now they are promoting [5G](#), [6G](#), Artificial Intelligence ([AI](#)), and [Internet of Things \(IoT\)](#) despite the fact that a growing number of credible experts have warned about their biological, [environmental](#), and [safety](#) risks as well as their catastrophic and embarrassing failures (see [1](#), [2](#), [3](#)). In fact, even the [Telecom Industry has stated they have no scientific evidence](#) that 5G is safe. So why are MIT scientists endorsing any or all of this?

From *MIT Technology Review*: [“Ready for 6G? How AI will shape the network of the future.”](#)

The latest technology—[the fifth generation of mobile standards, or 5G](#)—is currently being deployed in select locations around the world. And that raises an obvious question. What factors will drive the development of the sixth generation of mobile technology? How will 6G differ from 5G, and what kinds of interactions and activity will it allow that won't be possible with 5G?

[...]

5G base stations, for example, are designed to handle up to a million connections, versus the 4,000 that 4G base stations can cope with. That should make a difference to communication at major gatherings such as sporting events, demonstrations, and so on, and it could enable all kinds of applications for the internet of things.

Then there is latency—the time it takes for signals to travel across the network. 5G is designed to have a latency of just a single millisecond, compared with 50 milliseconds or more on 4G. Any gamer will tell you how important that is, because it makes the remote control of gaming characters more responsive. But various telecoms operators have demonstrated how the same advantage makes it possible to control drones more accurately, and even to perform telesurgery using a mobile connection.

So how can 6G better that? 6G will, of course, offer even faster download speeds—the current thinking is that they could approach 1 terabit per second.

But what kind of transformative improvements could it offer? The answer, according to Stoica and Abreu, is that it will enable rapidly changing collaborations on vast scales between intelligent agents solving intricate challenges on the fly and negotiating solutions to complex problems.

Take the problem of coordinating self-driving vehicles through a major city. That's a significant challenge, given that some 2.7 million vehicles enter a city like New York every day.

The self-driving vehicles of the future will need to be aware of their location, their environment and how it is changing, and other road users such as cyclists, pedestrians, and other self-driving vehicles. They will need to negotiate passage through junctions and optimize their route in a way that minimizes journey times.

Of course, this is just one example of the kind of collaboration that 6G will make possible. Stoica and Abreu envision a wide range of other distributed challenges that become tractable with this kind of approach.

These will be based on the real-time generation and collaborative processing of large amounts of data. One obvious application is in network optimization, but others include financial-market monitoring and planning, health-care optimization, and “nowcasting”—that is, the ability to predict and react to events as they happen—on a previously unimaginable scale.

Artificially intelligent agents are clearly destined to play an important role in our future. “To harness the true power of such agents, collaborative AI is the key,” say Stoica and Abreu. “And by nature of the mobile society of the 21st century, it is clear that this collaboration can only be achieved via wireless communications.”

That's an interesting vision of the future. There is much negotiating and horse-trading to be done before a set of 6G standards can even be outlined, let alone finalized. But if Stoica and Abreu are correct, artificial intelligence will be the driving force that shapes the communications networks of the future.

<https://www.activistpost.com/2019/06/mit-scientists-psyched-about-harmful-5g-and-6g-wireless-dangerous-ai-and-iot-applications-and-their-laser-that-remotely-beams-audio-into-peoples-ears.html>

5G Fifth Generation Cellular Technology

This page last updated October 20, 2019.

The website for the [Building Biology Institute](#) (BBI) is home to many online courses, including a course on [5G](#), written by Oram and a team of a dozen experts from within and outside the Building Biology profession. See these offerings at the Courses tab at the top of the [BBI website](#), then click on the [Electromagnetic Radiation](#) page link. There you will find the link to the 5G online course, ["5G: Understanding the Technology & Protection Strategies"](#). For a free three-page preview and summary Fact Sheet of the 5G online course, download it from the BBI website by clicking [here](#).

*Josh del Sol, who brought us [Take Back Your Power](#), teamed up with Sayer Ji, co-founder of [GreenMedInfo](#), to bring us a series of interviews with over 40 experts on **The 5G Crisis: Awareness and Accountability**. This series of interviews was available for free viewing during the week of August 26 through September 1, 2019. **The full summit is still available** for free viewing of all 40 interviews for seven days from the date you register for the summit by clicking on the link or banner below. After the seven days has elapsed, you can purchase the entire summit for \$59 and have access to all the speakers whenever you like thereafter. When you register, you will receive a PDF entitled, "7 Essential Ways to Make Your Home Safe from 5G and EMF Radiation" as a free gift. This guide was updated by Josh with help from Oram and colleagues at the [Building Biology Institute](#).*

*If you purchased the 5G Summit in the past, you were also eligible to purchase the **4 Solutions Masterclass**. That included **four additional presentations on The 4 Levels of Solution to 5G, including a presentation by Oram**. At the present time, the only way to view this and the other three presentations was if you purchased the entire 5G summit and the 4 Solutions Masterclass when they were available for purchase. (The entire 5G Summit is available for purchase once again, but unfortunately not the 4 Solutions Masterclass at the present time). The 4 Solutions Masterclass may become available once again in the future. If and when that happens, we will notify you through this website. If you already purchased the 5G summit and the 4 Solutions Masterclass in the past, you can access those interviews through your account with [HealthMeans](#). I encourage you to watch my presentation in the 4 Solution Masterclass to see a thorough overview of 5G.*

To register for the 5G Summit, click [here](#) or on the banner below:



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Finally, *another 5G resource is an audio interview of Oram conducted by Camilla Rees of ElectromagneticHealth.org. In the interview, entitled, "[Insights on 4G/5G Antenna Densification: Oram Miller, BBEC, EMRS](#)", Oram goes into great detail on what 5G entails, how 4G is a big component of it, and how you can measure and protect yourself from it. To link to the free interview, click [here](#). Camilla serves on the Advisory Board of the [Building Biology Institute](#) and was one of our contributors and editors of the Institute's online course, [5G: Understanding The Technology & Protection Strategies](#), mentioned above.*

Introduction

One of the most worrisome aspects of our modern society is the coming of fifth generation cell technology, known as "5G". Much has been written about the potential health effects for electrically sensitive and non-sensitive people alike, not to mention animals, insects and our entire biosphere. Concern is mounting. How can we avoid 5G? How can we measure it? How can we protect ourselves from it in our homes and when we go outside in public places? Where are we safe?

The first thing we need to do is to learn what 5G is (and what it is not), how it works, how it will be deployed, and what its characteristics are. Every ten years or so, the cell industry releases a new generation of technology. Over forty years we have evolved from simple voice service to high-speed audio and HD video data transmission, where virtually all tasks you could do on a computer can now be done on a handheld device. Communication is instantaneous and many people can't be without their mobile phone or tablet.

Don't be confused by the designation "5G" on your router. That is 5.8 GHz, a WiFi and cordless telephone frequency (along with 2.4 GHz) used for decades. It is not directly part of fifth generation cellular technology, also known as 5G. WiFi and cordless telephones, however, are themselves harmful to your health and the use of WiFi will be expanded as part of the overall technological evolution that is 5G.

What Are The Dangers From Wireless Transmitters In General?

The wireless transmitters in mobile devices emit intermittent and now, continuous radio frequency (RF) signals at close range to your body. These signals are silent, invisible and odorless (unlike cigarette smoke). They are very harmful to us cumulatively on a cellular level. Our governmental regulatory agencies are, unfortunately, captured by industry and incorrectly tell us these devices are safe while hundreds of independent research studies prove otherwise. You are on your own and need to follow three simple rules to stay safe, recommended by the Building Biology Institute and the EMF safety community in general: reduce use, increase distance and favor hardwired connections whenever and wherever possible.

Furthermore, a landmark opinion piece was published on October 17, 2019 in [Scientific American](#) entitled, [We Have No Reason to Believe 5G Is Safe](#). It was written by [Professor Joel Moskowitz, PhD](#), Director, Center for Family and Community Health at the School of Public Health, University of California, Berkeley. In that article, Dr. Moskowitz sites [more than 500 research studies](#) that have "found harmful biologic or health effects from exposure to RFR at intensities too low to cause significant heating". As a result of this research, over 240 scientists worldwide who themselves have published more than 2,000 peer-reviewed research studies on the adverse health effects of radio frequency EMFs have signed [the International EMF Scientist Appeal](#), calling for tighter limits on radio frequency radiation (RFR) exposure for the general public. That petition is found at [EMFscientist.org](#).

The appeal states, "Numerous recent scientific publications have shown that EMF affects living organisms at levels well below most international and national guidelines. Effects include increased cancer risk, cellular stress, increase in harmful free radicals, genetic damages, structural and functional changes of the reproductive system, learning and memory deficits, neurological disorders, and negative impacts on general well-being in humans. Damage goes well beyond the human race, as there is growing evidence of harmful effects to both plant and animal life."

Dr. Moskowitz discusses the damaging effects of long term, low-level exposure to modulation from signalling (polarization and pulsing) emitted by 4G and 5G cell frequencies and how this is particularly harmful to the biological functioning of human cells. He calls for new, more stringent limits on human RFR exposure, particularly from cell phones held at close proximity to the head and body, even when on standby. Recent research conducted by the [US National Toxicology Program \(NTP\)](#) found clear evidence of cancer and DNA damage in laboratory animals. This was [further corroborated](#) by the Ramazzini Institute in Italy using even weaker RFR exposure levels.

Dr. Moskowitz states, "Nonetheless, without conducting a formal risk assessment or a systematic review of the research on RFR health effects, the FDA recently reaffirmed the FCC's 1996 exposure limits in a letter to the FCC, stating that the agency had 'concluded that no changes to the current standards are warranted at this time,' and that 'NTP's experimental findings should not be applied to human cell phone usage.' The letter stated that 'the available scientific evidence to date does not support adverse health effects in humans due to exposures at or under the current limits.'"

In my humble opinion, the FDA and FCC are clearly cow-towing to corporate interests in the face of strong evidence to the contrary. Many in the EMF community feel, with good reason, that the FCC is a "captured agency". Reports exist that in the mid-1980s, the cell industry wanted to deploy cellular technology, developed by the military in earlier decades, for civilian use. They reportedly pressured the US federal government to move any oversight of health effects from cellular technology out of the NIH and EPA, agencies that have medical researchers, and place that function in the hands of the Federal Communications Commission, or FCC. The sole function of the FCC is to allocate frequencies to broadcasters. They had no medical researchers on staff who can oversee health effects from human exposure to radio frequency radiation (RFR). That move of health oversight was done on purpose. This is according to Dafna Tachover, EMF researcher and attorney licensed in New York and Israel who lectures on the adverse health effects of 5G. Her website is [Wearetheevidence.org](#).

Bolstering that point, Dr. Moskowitz states, "Little is known (about) the effects of exposure to 4G, a 10-year-old technology, because governments have been remiss in funding this research. Meanwhile, we are seeing increases in certain types of head and neck tumors in tumor registries, which may be at least partially attributable to the proliferation of cell phone radiation. These increases are consistent with results from case-control studies of tumor risk in heavy cell phone users."

Dr. Moskowitz goes on to say, "5G will not replace 4G; it will accompany 4G for the near future and possibly over the long term. If there are synergistic effects from simultaneous exposures to multiple types of RFR, our overall risk of harm from RFR may increase substantially. Cancer is not the only risk as there is considerable evidence that RFR causes neurological disorders and reproductive harm, likely due to oxidative stress."

How Can We Protect Ourselves From These Wireless Sources?

This means using hardwired landline telephones, hardwired Ethernet connections or network adapters and Multimedia Over Coaxial Alliance (MOCA) adapters for Internet service. Replace WiFi and Bluetooth with hardwired connections for your desktop or laptop computer, mouse and keyboard, streaming TV, thermostats, music speakers, baby monitors, security and surveillance systems, and any other communication needs. We even have hardwired connections for Mac and Android tablets and smart phones. These items and more are available through many retailers. I have examples on my [EMF Products and Order Codes](#) page through such vendors as [Amazon](#), [Safe Living Technologies](#), and [LessEMF](#). You can read about specific hardwired workarounds by linking to my Safer Use of Computers page by clicking [here](#).

You must then disable WiFi and Bluetooth on your router, computer, tablet or smart phone. Plugging in an Ethernet cable does not automatically shut off WiFi or Bluetooth on these devices. You must do that manually. If you do hardwire your devices, you will have faster, more stable, secure and healthy data connections.

How Will 5G Work?

5G has two parts: The first is expanded and updated use of existing frequencies used now for 3G and 4G LTE, which are in the 600 to 6,000 MHz (Megahertz) range (6,000 MHz is the same as 6.0 GHz, or Gigahertz). This is also called the low- to mid-band.

Cell companies will build upon their existing 4G LTE network of macro cell towers by trying to place additional lower power "small cell" antennas on street lights, buildings, power lines, lamp posts, house attics, rooftops, wherever they can get them closer to customers. These small cell antennas will contain both 4G and new, enhanced 5G equipment transmitting at these low- and mid-band frequencies.

New technologies will be employed to speed data traffic through these low- and mid-band frequencies. These will include: carrier aggregation, beamforming (down to 2 GHz), massive MIMO (Multiple Input, Multiple Output), and 256 QAM, a modulating technique that crams more throughput into the same airspace on the same frequencies. All of this involves a great deal of AI, or Artificial Intelligence, to help the network function more and more autonomously.

Secondly, cell companies will expand into the high-band above 20 GHz (Gigahertz), starting with frequencies at 24, 28 and 39 GHz. This is known as the millimeter, or "mm", band because the wavelengths are so small, about half-an-inch (just a few millimeters) long. That is what most people think of when they hear the term "5G".

There is much open bandwidth at these higher frequencies. These frequencies haven't been used by the cell industry before now, because signals in the mm band don't travel easily through walls like cell frequencies do in the low- to mid-band. But we are hitting the limits of existing frequencies, at least with current technology, and there is a lot of open bandwidth in the high band range, which cell carriers haven't been able to access until now. All this comes at a cost to human health, as you will see.

What Are the Physics of 5G Signals in the Millimeter (mm) Band?

In order to pass through walls, window glass, rain and even moisture in air, 5G signals in the mm wave band need to make use of advanced technologies in development for decades and not available until now. These include beamforming, which uses many small antennas (up to 64 and more) that all focus their signal to one or more user's mobile device in a coordinated, narrow beam that is only 2-15 degrees wide. Many mobile devices can be contacted in the same air space, but that focused beam has health impacts, which you have read about and which are discussed below. These include harm to skin and eyes. 4G signals, on the other hand, cover a much wider swath of 120 degrees in front of macro and small cell antennas and are quite harmful in their own right.

New cell phones will have 4G LTE, 5G and WiFi receivers and transmitters. Your phone will connect to whichever antenna provides the strongest connection wherever you are located. Inside most homes in the world today, this would be a WiFi network. If you are a visitor and don't have the password or the home does not have WiFi, your phone would connect to a nearby 5G antenna if there is one, but primarily if your phone is stationary. If your phone moves, it will tend to lose its 5G connection and connect instead to a local 4G antenna, as it does now. That 4G transmitter would be alongside the 5G transmitter on the small cell antenna outside your home if your neighborhood has them, or, if not, your mobile device would connect to an existing 4G LTE antenna on a distant macro cell tower, as it has done for the past decade.

4G LTE antennas on existing macro cell towers, currently spaced one to one and one-half miles apart, can locate your phone down to 50 feet. If the cell industry gets its way, small cell antenna arrays with 4G LTE transmitters will appear on every block, able to locate your phone down to 3 feet. Then, massive amounts of data can be uploaded using 5G transmitters on the same small cell antenna. Harvesting that data, data that we willingly provide through social media and other platforms, will be worth trillions of dollars to the cell industry as new income in the coming years. That is why the cell industry is pushing so hard for the installation of 4G antennas in every neighborhood, so they can better locate your phone to extract data, not to mention the surveillance and other issues that become possible with the massive movement of data. 5G connections allow that, particularly with "fixed wireless."

Fixed wireless, as opposed to mobile wireless, is a big component of 5G. I am told by 5G activists that cell carriers are planning to compete head to head with existing cable and telephone companies

that provide wired Internet service to homes and businesses over coaxial cable and telephone lines. Cable and telephone companies are regulated by Public Utility Commissions in every state, capping how much they can charge customers for delivery of Internet data.

Cell carriers, on the other hand, are not bound by these restrictions because their "last mile" is wireless. That means, they are unregulated and can charge whatever the market will bear, without restriction. Cell carriers are laying thousands of miles of fiberoptic cable to bring terabytes of data to their small cell antennas for pennies. That data will then be sprayed into residential neighborhoods wirelessly, bathing homes in high-strength radio frequency signals at close range.

Characteristics of 5G Transmitters

What many people do not know is that 5G antennas in the high band only transmit beamformed signals when mobile devices initiate a connection. That means, if we consider mobile wireless service in a residential area, 5G signals will not sweep through neighborhoods like 4G LTE signals do. Engineers and 5G activists know this. It is the 4G transmitters that will also be present on neighborhood small cell antenna arrays that worry activists as much as 5G equipment, because those 4G antennas will be always-on, constantly spraying homes with hard-to-shield radio frequencies at very close range. Yet, this is also part of "5G."

Granted, the effective radiated power of these 4G LTE antennas will be lower than is currently the case from 4G LTE cell antennas on existing macro cell sites, but instead of a mile away, the 4G antenna on the small cell antenna on your street will be 30-50 feet from your bedroom window. RF readings have been measured in the thousands and tens of thousands of microWatts per squared meter in these rooms, especially second story bedrooms, well above the building biology recommended safe level of ten microWatts per squared meter or less in sleeping areas.

Bear in mind, however, that while mobile wireless 5G transmitters on small cell antennas in residential neighborhoods will only transmit when mobile devices initiate a connection, consumer equipment units (CEUs) mounted on or inside customer's homes to bring wireless Internet into the home will draw a relatively constant beamformed connection. That is how Verizon's 5G Home wireless Internet service works. Their 28 GHz small cell antenna mounted on a utility pole sends a signal to a CEU on a customer's wall or inside their window, which then sends the Internet over an Ethernet cable to their modem/router. That router then distributes the Internet data inside the home using traditional WiFi and Ethernet jacks.

Thus, if you are electrically sensitive, we would advise you to stick with your hardwired Internet service from the cable or telephone company. We have strategies to help keep those services hardwired without the need for WiFi. Again, see my article, [Safer Use of Computers](#) for details.

As more and more fixed wireless devices go into residential homes and businesses, along with the use of new 4G/5G hybrid cell phones, 5G signals will increase in neighborhoods, especially in dense urban areas. 5G signals to fixed and mobile devices in neighbor's homes will be narrow, so try to avoid bringing these devices into your home if you want some degree of protection. See below for information on shielding materials.

The bottom line is, if you live in or visit a city and regularly walk on city streets, you will be bathed in 4G and 5G signals at close range, much closer than 4G LTE signals have been in the past for most of us. The cell industry is focusing most of its investment dollars in establishing 5G service in dense urban areas first because that is where the bulk of their customers are. It is a matter of economics for them.

How Can We Measure 5G?

Current RF meters can only measure RF signals up to 8-12 GHz. That means they cannot measure 5G signals in the new super-20 GHz mm wave range. They can, however, measure 4G transmitters that will be going up on small cell arrays outside your home and on city streets. New, enhanced 5G equipment transmitting at the same low- to mid-band sub-6 GHz frequencies will also be picked up by your existing RF meter.

RF meters that measure in the super-20 GHz high-band range are really spectrum analyzers. They are expensive, they only measure in average mode and they only use diodes for measurement. They are considered not sensitive enough for 5G, according to experts such as [Prof. Trevor Marshall](#). New, affordable RF meters designed to specifically measure super-20 GHz 5G signals are, however, under development.

If you have an RF meter and you measure a signal from a new small cell antenna near your house, you are measuring 4G or new, enhanced 5G transmitters in the low- to mid-band range, not signals above 20 GHz. Yet, as I mentioned above, this is all part of what is now being called "5G". These low- to mid-band 4G and 5G frequencies are still quite harmful even if they are not in the super-20 GHz band and should be avoided. Thus, there is more to be concerned about than just beamformed signals above 20 GHz, which is what most people are presently focused upon. At least, we can measure RF signals below 6 GHz.

When deciding how to measure 5G, then, remember that you will be able to measure existing 4G frequencies and new 5G frequencies in the sub-6 GHz range. RF meters that do that include several affordable models that are relatively accurate and have good quality sound. These include:

- [Safe & Sound Classic RF Detector](#) (Please use coupon code CHHOM when ordering)
- [Safe & Sound Pro RF Detector](#) (Please use coupon code CHHOM when ordering)
- [Acousticom2](#)
- [Acoustimeter](#)
- [Gigahertz Solutions HF Series RF Meters](#) (Please use coupon code CHHOM when ordering)
- [Cornet Improved Tri-Mode \(Hi/Low Frequency\) Electromog Meter \(ED88t Plus\)](#)
- [Tri-Field TF2](#)

How Can We Protect Ourselves From 5G?

4G and 5G signals can be shielded by various materials, depending upon the frequency of the signal. That is why it is important to know that 5G will come in two frequency ranges. In the low- and mid-bands, RF-shielding paints, copper mesh, aluminum building foil and most RF-shielding fabrics are all relatively effective at blocking RF, if you are careful in your analysis and application of the material.

In the super-20 GHz mm wave high-band, however, only paint and building foil will be effective. Copper mesh and most fabrics, on the other hand, lose their effectiveness above 12-18 GHz.

Besides paint and building foil, you can best protect yourself in your own home by not purchasing a 5G-enabled cell phone, keeping cell phones off when at home, and using hardwired alternatives for all your devices, as mentioned above. Do not bring new 5G-enabled wireless devices into your home, such as new routers and smart speakers. Opt out of your electric, water and gas utility's smart meter programs, if possible. If not, shield your smart utility meters with a smart meter guard, such as from [Smart Meter Guard](#) or [Smart Meter Covers](#).

Hire a building biologist to measure the RF levels inside and outside your home and help guide you on how to shield effectively and find hardwired alternatives to wireless devices. We can also trace and help repair/reduce/eliminate other forms of EMFs. Find a building biologist in your area at the [Find an Expert](#) tab at the top of the [Building Biology Institute](#) website.

Also be aware that industry experts doubt that the economics of 5G will allow large scale deployment by the cell industry of 5G in rural areas any time soon. These experts feel 5G will be mostly concentrated in dense urban areas, where most customers are located. EHS people need to avoid areas of high population density. If you are electrically sensitive, you need to consider living in a rural area away from other people. It is highly unlikely that a cell company will invest in putting a small cell antenna in front of only one or two homes in a rural area, unless they are trying to provide coverage for travelers on the road in front of your house. So, don't live near major roads.

In my opinion, every electrically sensitive person should own an accurate RF meter and learn how to use it properly. Measure any place you plan to live or spend any length of time in to be sure RF levels are acceptable for you. We recommend nighttime RF levels be below 10 microWatts per meter squared, and as close to 10-20 microWatts in the daytime. That is hard to achieve in most residential areas, let alone in a city. I routinely measure 50-150 microWatts in upstairs bedrooms in suburban areas from distant cell towers (and sometimes from WiFi in my own client's home--we then endeavor to educate them about the need to switch to hardwired Internet connections and then shut off their WiFi most or all of the time).

What 5G Will Mean to Our Health and to the Health of Our Planet

The most troubling aspect of the deployment of RF signals in the high mm band above 20 GHz is the particular effect that short and long term exposure to these frequencies is expected to have on human health. The short wavelength of these signals means they will not penetrate much deeper than the skin, but the skin itself is a large organ with its own integrity and biological properties. Exposure to signals in the mm band is known to harm the skin, as well as the eyes. Some report that the helical nature of sweat glands provides a path for mm Wave frequencies to penetrate deeper into the body than only skin deep. Researchers speak about "Brillouin Precursors." These can open small channels through the cell membrane, inducing a large electrostatic potential in the process. (See Jeremy Naydler's article [here](#).) People are already reporting adverse health effects in cities where 5G signals in the mm band are being tested.

We are quite concerned about the massive increase in RF signals that will bathe particularly our urban and suburban environments in ever-increasing amounts of microwave energy as 5G is

deployed, threatening the health of people, animals, insects, plants and even microorganisms. We encourage you to learn about and join efforts to slow and halt the deployment of 5G. It must be properly tested. It will, in my opinion, ultimately be deemed to be harmful, just as cigarette smoke, lead, asbestos and GMOs were all found to be harmful. See [Recent EMF News](#) on this site for links to websites with information on the dangers of long term exposure to existing wireless signals, both outside and inside your home.

Right now, we are still in the middle of our honeymoon with wireless/cellular technology. Most people don't feel any ill effects, or they and their doctors do not notice the connection between symptoms they do have and the EMFs they are exposed to. Researchers have shown that wireless devices are harmful to 100% of cells and tissues when holding cellphones at close range next to your head and body, even from a call as short as two minutes. These researchers estimate that two-thirds of the population can repair that damage when they sleep at night. Yet, one third of people cannot repair that damage, which is a staggering number. Those individuals often go on to develop frank disease.

That is your real risk. Unfortunately, you don't even know how high the RF exposure is from devices in close proximity to your body because they bathe you in silent, invisible RF signals throughout the day and sometimes, at night if you charge your cell phone on your bedside table. Remember, follow the principles to reduce use, increase distance and favor hardwired connections wherever possible.

Unfortunately, in my opinion we haven't yet reached critical mass, as we had to do with tobacco, asbestos and lead in gasoline, where enough people had to get sick and die before the public demanded action from regulators and industry. Sadly, we are not at that point with the public at large when it comes to wireless devices and almost everyone wants to use them. We have indeed seen this movie before.

What Do 5G Activists Say?

5G activists recommend the following points:

- Neither 5G nor 4G antennas should be deployed in residential neighborhoods near homes.
- 5G antennas should be restricted to existing macro cell sites.
- 5G antennas should also be restricted to commercial and industrial sites.
- 5G antennas should have at least a 250-foot setback from residential homes.
- 5G antennas should be placed above roof lines, not below 150 feet.
- 5G antennas should not be deployed without environmental impacts being conducted first.
- This includes impacts on human health.
- Favor, support and utilize hardwired connections to buildings and within homes, schools and businesses.

Resources on 5G

To learn more about 5G, register for **The 5G Crisis: Awareness and Accountability** online summit, available for free viewing during August 26 through September 1, 2019, by clicking [here](#).

You can also purchase the online course entitled, **5G: Understanding the Technology & Protection Strategies** (IBE 221.4) published by the Building Biology Institute, available by clicking [here](#). Download a free three-page summary Fact Sheet of the online 5G course at the same link and by clicking [here](#).

To learn more about and support the work of 5G activists around the nation and world and to learn more about 5G, go to such websites as:

- [SafeG](#)
- [The 5G Summit](#)
- [Building Biology Institute](#)
- [5G Crisis](#)
- [What is 5G?](#)
- [We Are The Evidence](#)
- [Environmental Health Trust](#)
- [Electromagnetic Health](#)
- [Americans for Responsible Tech](#)
- [Cellphone Taskforce](#)
- [Telecom Power Grab](#)
- [My Street, My Choice](#)
- [Physicians for Safe Technology](#)
- [Parents for Safe Technology](#)
- [Wireless Education](#)
- [Re-Inventing Wires: The Future of Landlines and Networks](#)

One of the best resources of information on the debacle of wireless use without testing or taking into account the needs of electrically sensitive people is the documentary, [Generation Zapped](#). It is available from a number of sources linked to from the home page of this website in the [Recent EMF News](#) section.

Scientists are circulating a letter warning of the potential health risks of 5G. Access the letter at <https://ehtrust.org/scientists-and-doctors-demand-moratorium-on-5g-warning-of-health-effects/>.

Finally, here is an interesting article from an industry magazine, [Computer World](#), published on September 29, 2018 by Mike Elgan, entitled, "Why 5G will disappoint everyone -- Wireless connections that are 20 times faster? What could be disappointing about that?". Read the article by clicking [here](#).