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Katie Singer: “An Electronic Silent Spring”: EMR: Radiation Soup

IFG Teach-In: Techno-Utopianism & The Fate of the Earth
Great Hall of the Cooper Union, New York City
October 25, 2014



Katie Singer works on public policy with [The Electromagnetic Radiation Policy Institute](#). A medical journalist, her books include *An Electronic Silent Spring* (Steiner, 2014), *Essential Questions About Sex & Health* (self-published in English and Spanish, 2012), *Reproductive Anatomy Posters* with illustrations by Suzann Gage (self-published, in English and Spanish, 2012), *Honoring our Cycles* (New Trends, 2006), *Honoring our Cycles in Africa* (self-published, 2006), *The Garden of Fertility*, (Avery/Penguin 2004). Her novel, *The Wholeness of a Broken Heart* (Riverhead, 1999) was a selection of Barnes and Noble's Discover Great New Writers Program. She teaches internationally. See also: katiesinger.com and gardenoffertility.com.

My mother gave birth to me in 1960, about a mile uptown, under bright, electric lights with an epidural that erased her pain and made her unconscious for my arrival. During my first day, nurses fed me commercial formula I could not digest.

Compared to most people born after World War II, there's nothing special about my techno-birth. Compared to most mammals, it's a recipe for abandonment and a life filled with the question, *What is home?*

Besides home, I'm looking for people who want to know technology's dangers and who will practice self-regulation to protect nature and health. I figure I have come to the right place.

I'd like to spell out some troubling rules and studies about electronics, and some regulations we can implement ourselves. But first, let's go back a few billion years, before man-made laws,

before mobile phones, before these lights, when this planet was a mass of gasses, water, dust, and rock.

After a buildup of charge, lightning began to strike. A *bombardment* of lightning storms led to nucleic and amino acids, the building blocks of life. Early plants made oxygen and paved the way for animals.

Plants and animals still function by electro-chemical signals. So do our brains and our hearts. Even at rest, all cells have measurable voltage. In other words, without electromagnetic energy, none of us would be here.

By 1880, we humans had figured out how to generate, store, and transmit electrical energy over long distances. We got electric lights. We got motors and built refrigerators. We got radio and TV.

Since 1934, the Federal Communications Commission has said, *go forth and invent electronics*—as long as you don't create "harmful interference." This means we cannot disrupt existing radio, TV, and now cellular or internet broadcasts. "Harmful interference" at the FCC has *never included biological harm*.

Call this exclusion of nature.

In 1996, our FCC filled the head of a 200 pound plastic man with salty fluid. The engineers called him SAM, for Standard Anthropomorphic Man. They took SAM's temperature. They gave the dude a cell phone for six minutes and then they took his temperature again.

SAM's temp had changed by less than two degrees.

And so, ladies and gentlemen, the FCC determined that mobile devices are safe. Call this test insufficient.

Next, everybody got a cell phone. Then came smartphones, which also transmit Wi-Fi. Providers installed about 300,000 cell towers in the U.S. In a few short years, we blanketed our environment with frequencies and amplitudes that do not exist in nature.

Some of us want to know the *non*-thermal, biological effects of exposure to electromagnetic radiation from wireless technologies.

We want to know the effects of long-term exposure—more than 6 minutes. What happens if exposure begins in utero? What if a child can see a cell tower from her bedroom window? What if a utility company installs a microwave-transmitting "smart" meter on your breaker box and you've got a medical implant? How do wildlife react around cell towers?

If the FCC has considered these questions, they have not made their studies public.

Many scientists have. If you want 1800 peer-reviewed studies about the biological effects of Electromagnetic Radiation (EMR) exposure, please visit BioInitiative.org.

Most of these studies come from Europe, the Middle East, Turkey, because United States telecom providers will not give your data, subscribers' usage data, to epidemiologists. This is another questionable situation.

So what are the biological effects of exposure to EMR?

Fundamental things are affected, including the rate of calcium release from a cell's membrane, the brain's metabolic rate, the rate of DNA breakage, melatonin production, decreased sperm production—and I will say my book is really well-referenced; everything I'm saying in this talk is in my book and referenced.

A Swedish study found that people who begin using a digital cell phone as teenagers or younger have a 420% increased risk of brain cancer.

South Korean teens now commonly have dementia. Their doctors think this comes from excessive screen time—and using only one side of their brains.

After Wi-Fi was recently installed in Los Angeles schools, some children began bleeding from their noses and their ears.

A British toddler was recently admitted to an addiction treatment center because she would not give up her iPad. (A 31-year-old man with Google Glass was admitted for Internet addiction disorder because he was online 18 hours a day.)

When people with deep brain stimulators for Parkinson's ride in a Prius and the car breaks to stop and in the process recharges its battery, pulsed magnetic fields from the car's computers shut off the medical implant.

Men with erectile dysfunction are 2.6 times more likely to keep a cell phone in their front pants pocket. We all want men to assume more responsibility for birth control, but I don't think this qualifies.

Lots of folks just don't feel well after they get Wi-Fi installed, or a new mobile device, or their utility installs smart meters or a cell tower goes up nearby. They don't sleep. They get headaches and memory problems. Their eyes strain. They get nausea and strange rashes.

European and Russian studies since the 1960s associate these symptoms and many more with exposure to radiofrequency radiation from radar and now mobile phones, cell towers, Wi-Fi, and smart meters.

As for wildlife, a Spanish biologist studied a common frog habitat 140 meters from a cell tower. He built a metal box around these frogs. Two months later, these shielded frogs had a mortality of 4.2%. The unshielded frogs had a mortality of 90%.

White stork pairs tried to build nests near antennas. When they did so they often fought over sticks. Their sticks fell to the ground. The nests did not get built. Chicks frequently died.

In a German study, 65% of bee colonies abandoned their hives when nearby cell towers went live. GMOs, pesticides, and monocultures likely also play roles in colony collapse. But ill bees typically die *in* or *near* their hives. In this study, no ill bees were found.

Bees use cryptochromes, magnetically sensitive genes in their eyes, to sense the Earth's electromagnetic energy fields and to navigate. Exposure to EMR emitted by cell towers disrupts cryptochrome-based navigation.

Humans also have cryptochromes. They're involved in our sleep cycles.

Here's another red flag. [Section 704](#) of the 1996 Telecommunications Act states that no health or environmental concern may interfere with the placement of telecom equipment (as long as it complies with FCC emissions guidelines). Among other things, this means that even if you can prove that a cell phone caused brain cancer, you cannot sue the provider. [See Apr 23 1996 FCC Fact Sheet <[local PDF copy](#)>, §704, paragraph (7),(B)(II)(iv): "No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions."]

So. Did Congress or AT&T know something they don't want *us* to know about how cell phones and towers affect health or wildlife?

And why doesn't the FCC employ even one person to routinely measure radiation emitted by those 300,000 cell towers?

Many people consider electronic technologies "green." But broadcasting data wirelessly takes much more energy than transmitting data on copper wire or optical fiber. A mobile call requires three times as much energy as a corded landline call. To keep air conditioned, data centers require the equivalent of 30 nuclear power plants. If data centers were a country, they would rank fifth in use of energy.

For the most part, modern technologies expand our use of energy. They do not curtail it.

In March of 2014, the CDC reported that one in 42 boys now has autism. This number is up by nearly a third since 2012. We do not know the cause of autism nor of this alarming trend. But a Bay Area pediatrician now has a free protocol that includes turning Wi-Fi off at night, and keeping mobile devices away from children.

One family had a non-verbal ten-year-old boy who screamed every night from 10pm until 3am every night. Within three days of turning off their Wi-Fi at night and unplugging their cordless phones, this boy spoke a complete sentence. This family lived on a military base, and still they kept reducing their own EMR emissions, and the doctor (Dr. Jelter) prescribed therapeutic-grade fish oil. After three weeks, the boy's screaming stopped. He slept through the night. His mother's seizure disorder also decreased.

You can read my report, "[Calming Behavior in Children with Autism and ADHD](#)," at

electronicsilentspring.com. And you don't need autism to try the protocol.



Please, let's get informed about the biological effects of exposure to electromagnetic radiation.

The smart grid aims to reduce our use of electricity and make delivery of it more efficient. But most “smart” meters are wireless. They emit EMR, they create health hazards, violate security and waste energy. “Smart” meters are not necessary for a smart grid. “Smart” meters can transmit pulsed EMR every 15 seconds. They can shut off cardiac pacemakers. Like other wireless technologies, they are not UL certified, which means that if a smart meter fire damages your house, your home owner's insurance likely will not cover you.

Safer technology is available for an intelligent grid. Let your utility commissioners know.

Learn about transformers. Big transformers convert voltages on the grid. Smaller transformers —switch-mode power supplies—are used by devices like mobile phones, compact fluorescent lights, and solar power inverters. Transformers can generate magnetic fields that apparently cause leukemia.

Solar power *can* operate safely. You need thoroughly filtered inverters that can deliver clean DC or AC electricity without harmonics.

Please be aware that broadband over powerlines and distributed antenna systems can blanket your town in electromagnetic radiation.

With new “green” ordinances, providers no longer need to prove that a new cell tower can withstand 130 mph winds for example. This is another red flag. Why would a legislator give up the permitting process when cell towers regularly collapse and catch fire?

Around the country, school systems have issued iPads for every child. Last July, FCC Chair Tom Wheeler committed \$2 billion for high speed Wi-Fi in our schools. Call these risks to every child’s health, every child’s mind.

At the conclusion of [*Silent Spring*](#), [Rachel Carson](#) called on pesticide users’ humility. She asked pesticide users to acknowledge “the vast forces with which they tampered.” *Could we get humble and acknowledge that using wireless technologies tampers with vast forces?*

Because of the extraordinary powers at our fingertips, we may lose sight of laws that value mobile devices more than our ecosystem and our health. We might ignore that depending on a mobile phone gives technology and corporations control of our lives. We may fail to notice that no app can steer us *home*.

Clearly, the FCC and telecom providers value profits more than our ecosystem and our health. If we value health and nature more than an electronic device, then what is our responsibility?

I think we’ve got to start making limits. To begin, consider not using mobile devices around pregnant women or children.

Get cabled Internet access.

Think twice before using a mobile device in a moving car or train. At every mile, your phone connects to a new base station and goes to maximum power. EMR gets trapped in the car and bounces around. That is not good.

Join others who’ve gotten “smart” meters removed and analog utility meters restored to their homes.

Guard building codes for safe installation of new and upgraded cell towers.

Is anyone here ready to commit to even one of these limits, starting today? Would you stand up?

Thank you very much.

Resources:

- electronicsilentspring.com
includes [Introductory Packets](#) on:
 - [Cell Towers, Cell Phones and Cancer](#)
 - ["Smart" Meters](#)
 - [Children, WIFI, and Cell Phones; Autism and Cell Phones](#)
 - [Medical Implants and Wireless Devices](#)
 - [Fertility, Pregnancy and Wireless Devices](#)
 - [Wildlife and Cell Towers](#)
 - [Scientists and MDs on EMR Exposure](#)
 - [EMF Protection & Solutions](#)
- Purchase Katie Singer's book, *An Electronic Silent Spring*, from BookDepository.com for the same price as Amazon. Don't patronize Amazon: see ["Amazon and the CIA: Corporate State Interlock – What is Our Responsibility as Human Beings?"](#)
- bioinitiative.org
BioInitiative 2012 A Rationale for a Biologically-based Public Exposure Standards
for Low-Intensity Electromagnetic Radiation (ELF and RF)
1800 peer-reviewed studies about the biological effects of exposure to electromagnetic radiation (EMR).
From the [Summary for the Public \(2014 Supplement\)](#):

In twenty-four technical chapters, the contributing authors discuss the content and implications of about 1800 new studies. Overall, these new studies report abnormal gene transcription (Section 5); genotoxicity and single- and double-strand DNA damage (Section 6); stress proteins because of the fractal RF-antenna like nature of DNA (Section 7); chromatin condensation and loss of DNA repair capacity in human stem cells (Sections 6 and 15); reduction in free-radical scavengers, particularly melatonin (Sections 5, 9, 13, 14, 15, 16 and 17); neurotoxicity in humans and animals (Section 9); carcinogenicity in humans (Sections 11, 12, 13, 14, 15, 16 and 17); serious impacts on human and animal sperm morphology and function (Section 18); effects on the fetus, neonate and offspring (Section 18 and 19); effects on brain and cranial bone development in the offspring of animals that are exposed to cell phone radiation during pregnancy (Sections 5 and 18); and findings in autism spectrum disorders consistent with EMF/RFR exposure. This is only a snapshot of the evidence presented in the BioInitiative 2012 updated report.
- www.babysafeproject.org
Know Your Exposures - Protect Your Baby from Wireless Radiation
See the 7 minute video featuring the chair of Yale Medical School's ob/gyn department warning pregnant women not to use wireless tech
- www.emrpolicy.org
Longtime watchdog regarding rules and regulations around EMR
- takebackyourpower.net
"Take Back Your Power," 2014 documentary about investigates so-called "smart" utility meters, uncovering shocking evidence of in-home privacy invasions, increased utility bills, health & environmental harm, fires and unprecedented hacking vulnerability... and lights the path toward solutions.

- www.emrsafety.net
Ray Pealer, of emrsafety.net, made the video Katie Singer used in her talk.

Additional References:

- microwavenews.com
For more than 30 years, Microwave News has been reporting on the potential health and environmental impacts of electromagnetic fields and radiation. We are widely recognized as a fair and objective source of information on this controversial subject. Microwave News covers the entire non-ionizing electromagnetic spectrum, with special emphasis on mobile phones and power lines, as well as radar and broadcast towers. In addition, we cover medical applications of different types of fields and radiation, as well as the ability of various species to navigate using the Earth's magnetic field. Microwave News is independent and is not aligned with any industry or government agency. We were originally supported through subscriptions. Today, we rely on [contributions](#) from our readers.
- electromagnetichealth.org:
 - [Seletun Statement, 2009](#)
[Media Advisory](#): Scientists, Led by Karolinska Institute's Olle Johansson, PhD, Recommend Global Governments Adopt New Exposure Guidelines for Electromagnetic Radiation—Pointing to Biological Hazards and Risks to the Genetic Code from Unchecked Proliferation of Wireless Technologies. The warnings strongly emphasize the global population is at risk, and that there is serious disruption to biological systems now occurring.
 - [Evidence Indicates Plausible Link between Autism and RF Radiation Exposure](#)
Submission to Canadian House of Commons Standing Committee on Health, April 28, 2015
Martha Herbert, PhD, MD, faculty member: Harvard Medical School, staff member: Massachusetts General Hospital (MGH) and affiliate of Harvard-MGH-MIT Martinos Ctr for Biomedical Imaging
- www.emfscientist.org
International Scientist Appeal on Risks of Electromagnetic Fields Presented to the United Nations, 11 May 2015
[VIDEO: International Scientist Appeal on Electromagnetic Fields](#),
Martin Blank, PhD Spokesperson
Dr. Martin Blank, Dept of Physiology and Cellular Biophysics at Columbia University representing 190 international scientists in an Appeal to the UN, UN Member States and the WHO on the risks of electromagnetic fields emitted by telecommunications and utility technologies. Cautioning strongly, Dr. Blank says, "The time to deal with the harmful biological and health effects is long overdue. To protect our children, ourselves and our ecosystem, we must reduce exposure by establishing more protective guidelines." Video produced by ElectromagneticHealth.org on behalf of international scientists and the Appeal Committee.
- gettingsmarteraboutthesmartgrid.org
"Getting Smarter About the Smart Grid" exposes inherent conflicts in the monopoly utility business model preventing the nation from moving to a renewable energy economy. It defines the technology investments, and standardization, as well as regulatory action, needed for an electricity grid that is wealth-creating, interconnected, secure, and empowering of people. The report says the nation's energy and economic future can no longer be left in the hands of a monopoly power industry dis-incentivized to take the necessary steps toward renewable energy and sustainability.