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United States District Court

District of Oregon

Portland Division

AHM, by and through
her Guardian *ad litem* and father,
David Mark Morrison**,** and
David Mark Morrison, individually,

v.

Portland Public Schools,

Defendant.

Civil Action No. 3:11-cv-00739-MO

Declaration of
Dr. Magda Havas, B.Sc., Ph.D.

I, Dr. Magda Havas, B.Sc., Ph.D., under penalty of perjury pursuant to 28 U.S.C. § 1746, hereby make the following declaration in support of an injunction enjoining Portland Public Schools' use of WI-FI:

1. I am a scientist researching the adverse health outcomes of electromagnetic radiation exposure, including from sources such as WI-FI networks and cell towers. Ironically, Portland Public Schools has decided against lucrative cell tower contracts based on health, yet uses inside schools WI-FI networks and laptops that can emit higher levels of electromagnetic radiation at user distances than do cell towers outside schools.

2. My Curriculum Vitae may be found below.

Guidelines

3. The Federal Communication Commission (FCC) and the school WI-FI provider infer, respectively by their guidelines and assertions of product testing, that school WI-FI deployment is not harmful, provided that exposures to radio frequency (RF) radiation from the WI-FI remain below FCC guidelines. This is false.

4. FCC guidelines were established in 1991 by the ASTM-IEEE Committee chaired by microwave oven co-developer John Osepchuk, who is now retired from Raytheon. These guidelines apply only to an average exposure measured for a maximum of 30-minutes, and neither assure or infer safety for greater than 30-minute exposure durations. FCC guidelines apply only to 'thermal' exposure levels, and do not protect or claim to protect against biologic effects at subthermal or microthermal exposure levels.

5. The specific carrier frequency deployed by the Portland Public Schools for WI-FI is the same as that used by the microwave oven: 2.45 GHz. This frequency, which has a wavelength of approximately 12.24 cm or 4.8 inches, not only maximizes absorption-per-exposure in living tissues approximating dimensions of the human head and brain, but also has a specific harmonic resonance with the water molecule, for the intended purpose of agitating at the molecular level. Water molecule agitation occurs in all biological tissues that contain water exposed to 2.45 GHz, including to those exposed to WI-FI radiation, not only to those placed in

an oven and exposed to the higher exposure levels an oven produces.

6. Duration is a very potent contributing factor toward adverse health effects. Chronic exposure, a maximum (24/7) or near-maximum duration of constancy over hours per day, will increase adverse effects.

7. FCC guidelines are not safety standards, but rather mere guidelines. I am informed that FCC has neither authority over nor expertise in health matters.

8. There is a voluminous and ever growing number of primary, peer-reviewed scientific publications relevant to school WI-FI deployment, publications which conclude adverse health and biological effects below 'short-term, thermal-based' guidelines (seewww.bioiniative.org). These studies are consistent in demonstrating harmful outcomes. A large and growing number of scientific, public health and medical organizations, and individuals therefrom, have publicly pronounced the need for stricter policy, including even to ban certain hazardous activities that deploy pulse-modulated microwave radiation. For these reasons it is unthinkable to introduce WI-FI microwave radiation into a school environment where young children and school employees must spend hours each day.

9. Public exposure standards and guidelines for microwave (MW) radiation, which radiation WI-FI deploys, differ by five orders of magnitude (10,000 times) around the world. The strictest standards are in Salzburg, Austria, and Liechtenstein, where the public exposure limit is 0.1 $\mu W/cm^2$ (microwatt per square centimeter). See short video (http://videos.next-up.org/SfTv/Liechtenstein/AdoptsTheStandardOf06VmBioInitative/09112008.html). In Switzerland the limit is 1.0 $\mu W/cm.^2$ However, in both Canada and the United States the guideline, not even a 'standard' or 'limit,' for WI-FI frequencies is 1,000 $\mu W/cm^2$! FCC guidelines allow considerable radiation at the more hazardous microwave frequencies.

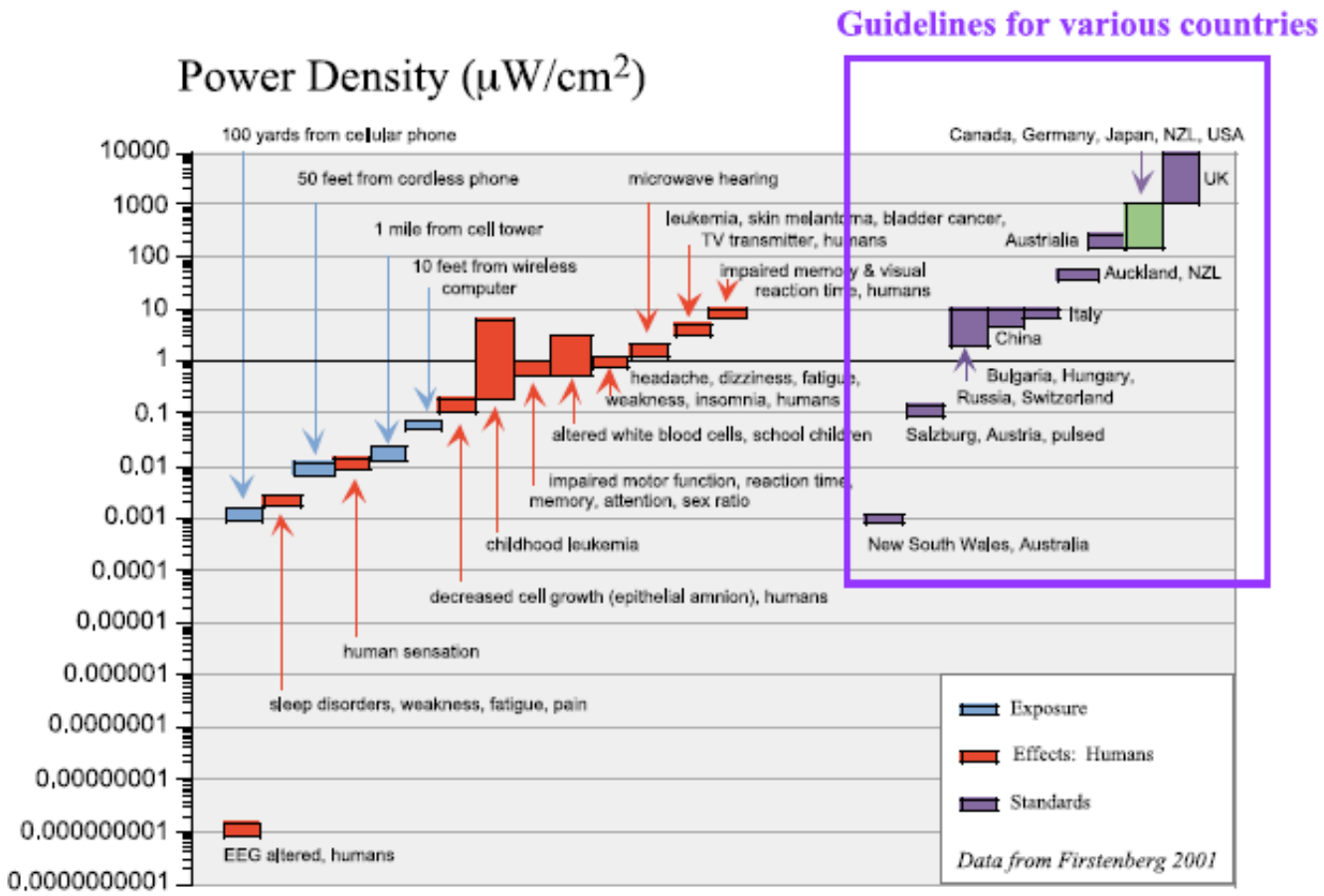

Figure 1. Guidelines, exposures and effects of radio frequency radiation at various power densities. Data from Firstenberg, A 2001 Radio Wave Packet, Cellular Phone Taskforce.

10. The Public Health Department Salzburg recommends for **all kindergartens and schools in** the region of Salzburg not to use WI-FI or DECT cordless phones, based on health grounds.

11. The FCC guideline is similar to the International Commission on Non-ionizing Radiation Protection (INCIRP) guideline, which is based on 30-minute exposure of public and 6-minute exposure of those occupationally exposed. Both are purported to protect against **heat occurrence in a 6-foot, 200-pound adult male.** The guideline for RF radiation is frequency-specific and ranges from 200 to 1,000 μW/cm^2 for the frequencies 0.3 MHz to 100 GHz, with the higher exposure (1000 μW/cm^2) for frequencies between 1.5 and 100 GHz

(i.e. WI-FI range). The latter includes Portland school WI-FI frequencies. This guideline is based on the false assumptions that below these frequency-specific power densities there exists no heating of human tissues; and that if RF (including MW) radiation does not heat tissue, there is no harm.

12. Established adverse biological outcomes of RF and MW radiation exposure (power density) levels below the FCC guidelines include, without limitation, the increased permeability of the blood brain barrier, nerve damage, alterations in calcium efflux kinetics, increased DNA breakage, induced stress proteins, decreased immune-protection markers, and–at the whole-body level–cognitive and sleep impairments, headaches, dizziness, weakness, tinnitus, cardiac irregularities, hormonal and reproductive aberrations, skin dermatitis, reproductive problems, cancer and more.

13. According to Norbert Hankin, Chief EMF Scientist, US Environmental Protection Agency:

> The U.S. Federal Communications Commission, (FCC's) exposure guidelines are considered protective of effects arising from a thermal mechanism but not from all possible mechanisms. Therefore, the generalization by many that the guidelines protect human beings from harm by any or all mechanisms is not justified. http://www.protectschool.org/epa%20letter.pdf.

14. ANSI/IEEE and ICNIRP may infer RF/MW radiation exposure can be 'safe' in the context of an exposure level too weak to produce a rise in body temperature, i.e., too weak to produce a 'thermal' effect, which is defined as 'Biological effects that result from heating of tissue by RF/MW energy.' See, *Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Electromagnet Fields*, FCC OET Bulletin 56, 4th Ed (1999) http://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf. The claim is misleading and false. First, all RF/MW radiation deposits heat, and there is always at least microthermal temperature increase in exposed persons. Further, it is untrue that exposure levels less than 1,000 $\mu W/cm^2$ for radiation between 1.5 and 100 GHz cannot produce a thermal

increase; since body tissues vary in their water content, producing internal hot spots, and since wavelength also significantly influences absorption.

15. Moreover, there is no question that non-thermal or microthermal adverse biologic events do occur. These adverse outcomes of RF (including MW) exposure may be amplified per other contributing factors including duration of exposure, frequency/wavelength, complexity of the radiation microenvironment, and the recipient's vulnerability and susceptibility.

Guidelines Extrapolated

16. As stated above, the current FCC guideline is based on flawed assumptions concerning a heating effect mechanism, set at 6 minutes for those occupationally exposed and 30 minutes for public exposure. A guideline based on a 30-minute (or 6-minute) exposure does not apply in the case of exposure likely to be 24/7 for decades. However, were this guideline extrapolated for long-term exposure, the exposure limit would decrease, approaching and exceeding guidelines and standards established by other countries (Table 1):

Table 1. FCC Guideline for public exposure to radio frequency radiation extrapolated for longer exposure and compared to Russia and Salzburg.

Exposure Time	**Time (hr)**	**Guideline (microW/cm^2)**	**Comments**
30 minutes	0.5	**1000**	**FCC** Guideline, public exposure
60 minutes [casual computer use]	1	**500** =1000/2	extrapolation of FCC guideline for 1 hour exposure daily
daily computer use [6 hrs/day]	6	**83** =500/6	extrapolated FCC *daily* exposure limit
weekly computer use [6 hr/day x 5 d/wk]	30	**16.7** =500/30	extrapolated FCC *weekly* exposure limit
		10	**Russian** Guideline
monthly computer use [as above for 4 weeks]	120	**4.17** =500/120	extrapolated FCC *monthly* exposure limit
annual computer use [as above for 40 weeks]	1200	**0.42** =500/1200	extrapolated FCC *annual* exposure limit
		0.1	**Salzburg** Guideline *outdoor* environments
10-year computer use [as above for 10 years]	12,000	**0.04**	extrapolated FCC *10-year* exposure limit
		0.01	**Salzburg** Guideline *indoor* environments

17. For better protection of young, healthy *adults* who use a wireless computer daily for one year, their exposure should not exceed **0.42** $\mu W/cm^2$ (a value similar to Salzburg). In fact, in 1999, the European Parliament had proposed a limit of **0.3** $\mu W/cm^2$ for all of Europe. For better protection over **13 years'** wireless computer use, young, healthy adults' exposure should not exceed **0.03** $\mu W/cm^2$. (Thirteen years is the number of years that students in the public schools, K-12, will have to be exposed to WI-FI, if it is not banned.) These extrapolated exposure limits do not take into account other exposures from RF/MW sources such as infrastructural antennas, cell and cordless phones, Wii, 'smart' boards, smart meters and grids, microwave ovens, and the many other manmade, environmental exposures. Nor do they protect vulnerable persons, for whom one would have to extrapolate further, making WI-FI unfeasible.

18. FCC will tell you their guideline is not intended for long-term extrapolation in this manner. However, since FCC, EPA and FDA all lack a long-term guideline and have no Standard whatsoever; and given that the extrapolated values fit the scientific data for long-term health effects, the potential exposure limits of 0.42 $\mu W/cm^2$, 0.03 $\mu W/cm^2$ and less for vulnerable persons respectively recommended above can help Portland officials to determine more appropriate exposure limits for schools until realistic guidelines and standards are established at the federal level for non-thermal or microthermal effects, for chronic and long-term durations of exposure, and for vulnerable subgroups and specific occupational and environmental conditions. Until such time as real standards exist, no further wireless systems or infrastructures should be imposed upon society for involuntary exposure.

19. Firstenberg (Firstenberg, A, 2001, Radio Wave Packet, President, Cellular Phone Taskforce, http://www.goodhealthinfo.net/radiation/radio_wave_packet.pdf.) also compiled a list of studies (many more recent studies exist) showing adverse biological outcomes at RF/MW radiation exposure levels below FCC guidelines (Table 2):

Power Density (μW/cm2)	Reported Biological Effects	References
0.0000000000001	Altered genetic structure in E. Coli	Belyaev 1996
0,0000000001	Threshold of human sensitivity	Kositsky 2001
0.000000001	Altered EEG in human subjects	Bise 1978
0.0000000027	Growth stimulation in *Vicius fabus*	Brauer 1950
0.00000001	Effects on immune system in mice	Bundyuk 1994
0.00000002	Stimulation of ovulation in chickens	Kondra 1970
0.000005	Effect on cell growth in yeast	Grundler 1992
0.00001	**1/100 millionth of FCC guidelines**	
0.00001	Conditioned "avoidance" reflex in rats	Kositsky 2001
0.000027	Premature aging of pine needles	Selga 1996
0.002	Sleep disorders, abnormal blood pressure, nervousness, weakness, fatigue, limb pain, joint pain, digestive problems, fewer schoolchildren promoted	Altpeter 1995, 1997
0.0027	Growth inhibition in *Vicius fabus*	Brauer 1950
0.0027 to 0.065	Smaller tree growth rings	Balodis 1996
0.01	**1/1000th of FCC guidelines**	
0.01	Human sensation	Kolbun 1987
0.06	Altered EEG, disturbed carbohydrate metabolism, enlarged adrenals, altered adrenal hormone levels, structural changes in liver, spleen, testes, and brain—in white rats and rabbits	Dumanskij 1974
0.06	Slowing of the heart, change in EEG in rabbits	Serkyuk, Reported in McRee 1980
0.1	Increase in melatonin in cows	Stark 1997
0.1 to 1.8	Decreased life span, impaired reproduction, structural and developmental abnormalities in duckweed plants	Magone 1996
0.13	Decreased cell growth (human epithelial amnion cells)	Kwee 1997
0.168	Irreversible sterility in mice	Magras 1997
0.2 to 8.0	Childhood leukemia near transmitters	Hocking 1996
0.3	Impaired motor function, reaction time, memory and attention of schoolchildren, and altered sex ratio of children (fewer boys)	Kolodynski 1996
0.6	Change in calcium ion efflux from brain tissue	Dutta 1986
0.6	Cardiac arrhythmias and sometimes cardiac arrest (frogs)	Frey 1968
4	Altered white blood cell activity in schoolchildren	Chiang 1989
1	Headache, dizziness, irritability, fatigue, weakness, insomnia, chest pain, difficulty breathing, indigestion (humans—occupational exposure)	Simonenko 1998
1	Stimulation of white cells in guinea pigs	Shandala 1978
1	**Within 16 feet (5 meters) of a Wi-Fi node in San Francisco**	**Maifeld 2007**
2	"Microwave hearing"—clicking, buzzing, chirping, hissing, or high-pitched tones	Frey 1963, 1969, 1971, 1973, 1988, Justeson 1979, Olsen 1980, Wieske 1963, Lin 1978
2.5	Breakdown of blood-brain barrier (used a digital cellular phone to provide the radiation)	Salford 1997
5	Leukemia, skin melanoma and bladder cancer near TV and FM transmitter	Dolk 1997
5	Biochemical and histological changes in liver, heart, kidney, and brain tissue	Belokrinitskiy 1982
10	**1% of FCC guideline**	
10	Damaged mitochondria, nucleus of cells in hippocampus of brain	Belokrinitskiy 1982a
10	Impaired memory and visual reaction time in people living near transmitters	Chiang 1989
10	Decreased size of litter, increased number of stillborns in mice	Il'Chevich (reported in McRee 1980)
10	Redistribution of metals in the lungs, brain, heart, liver, kidney, muscles, spleen, bones, skin, blood	Shutenko 1981
1000	**FCC Guideline, 6-minute occupational exposure and 30 minute public exposure based on heating**	

Table 2. Reported biological effects associated with radio frequency radiation. Data from Firstenberg. Shaded sections were not part of the original report.

20. Assuming, arguendo, that guidelines were protective of children, since the measurement of Portland Public School's laptops revealed in excess of **2.0 µW/cm^2**, a child could only be exposed for **41.7 hours**, or less than **42 school days** [=500/2.0/6 hours] according to Table 1. Similarly, the school's WI-FI routers measured as high as **1.65 µW/cm^2**, allowing for exposure of **50.5 school days** before exceeding guidelines [=500/1.65/6 hours]. However, there is no safe amount of radiation for children. Many peer-reviewed studies conclude harm at levels and durations below these levels, and to humans less vulnerable than schoolchildren, and under less coercive circumstances than school WI-FI. Per the many variables contributing to biologic effects, as stated earlier, there is no safe amount of radiation for children. The late physics Professor Neil Cherry PhD of Lincoln University, New Zealand, stated it best:

> Electromagnetic fields and radiation damage DNA and enhance cell death rates and therefore they are a Ubiquitous Universal Genotoxic Carcinogen that enhances the rates of Cancer, Cardiac, Reproductive and Neurological disease and mortality in human populations. ***Therefore there is no safe threshold level. The only safe*** *exposure level is zero, a position confirmed by dose-response trends in epidemiological studies.* http://www.neilcherry.com/.

21. The Environmental Protection Agency has recommended that electromagnetic radiation (which includes WI-FI radiation) be classified as a 'probably human carcinogen.' United States Environmental Protection Agency, Evaluation of the Potential Carcinogenicity of Electromagnetic Fields, External Review Draft, No. EPAl600/6-901005B, October 1990. The following is a statement from Norbert Hankin PhD, EPA Environmental Scientist, December 19, 2000:

> This * * * should not be overlooked * * * the potential for an impact by wireless communications technology on a child's educational process, i.e., by possibly affecting learning ability. [It] stems from recent studies involving short-term exposures that demonstrated subtle effects on brain functions, produced by low-intensity, pulse-modulated radiofrequency radiation * * * [E]ven a slight degree of impairment of learning ability over years of exposure * * * may negatively affect the quality of life that could be achieved by these individuals when adults.

22. If WI-FI is not turned off in the Portland schools children will be exposed over a thirteen-year period to 15,600 hours of so-called 'low-level' microwave radiation. The term 'low-level' is not accurate since the radiation received from WI-FI is billions to trillions of times higher than natural background levels at the same frequencies. Even the industry-funded INTERPHONE study showed that exposure of *adults* to cell phone radiation, for more than 1,640 hours over a ten-year period (which is 30 min per day of intermittent exposure for cell phone use v. 6 hours per day of constant exposure in a school with WI-FI) resulted in a 40 to 80 percent increased risk of brain tumors [http://www.ncbi.nlm.nih.gov/pubmed/17636416]. Cell phone MW radiation is very similar in frequency and nature to WI-FI MW radiation, though by frequency and duration not quite as harmful as that of WI-FI. Any effects that occur to adults are more likely to occur, and to occur more severely, in children from WI-FI. A constant, chronic exposure, such as WI-FI deploys, is likely to be more damaging than the intermittent duration of cell phone usage.

Studies

23. Through my studies, I have personally seen and/or become aware of thousands of military (and therefore previously classified) documents as well as hundreds of Eastern European and Russian studies showing adverse health outcomes of radio frequency and microwave exposure. The results from these early studies are confirmed by more recent studies. Some of the studies that I may offer as evidence include the following. They are classified according to effects: neurological/sleep/learning/behavior/electrohypersensitivity; stress/hormones/blood-brai n-barrier/immune system/enzymes; cardiac; reproduction; cancer/DNA damage/anti-oxidants/death and are ordered according to whether they are human studies; animal (*in vivo*) studies; or *in vitro* studies. Within each category the studies are in alphabetic order according to author. Attached as Addendum 'A,' are some of the studies on which I have based my

conclusions and opinions.

Electro-hyper-sensitivity

24. A condition identified by Russian researchers many decades ago, Microwave Sickness, is generally referred to in the West as Electro-Hyper-Sensitivity (EHS). These names are sometimes used loosely as a catch-all for a variety of adverse health outcomes of RF/MW radiation, other than cancer and genotoxicity. But they should not be confused. In EHS, either a single, acute or a long-term, low-level exposure to electromagnetism, including RF/MW radiation, induces limbic sensitization, producing abnormal brainwave spikes, such that successive exposures amplify the person's responses to electromagnetism over time. By this mechanism, a person has difficulty functioning in a society with inescapable RF/MW radiation (and ELF or extremely low frequency fields). Again, this is to be distinguished from other temporary effects of RF/MW radiation in non-sensitized persons, and by way of other mechanisms. After EHS has been induced, symptoms are retriggered by ever lower levels of RF/MW radiation (and/or ELF fields). The phenomenon thus represents *injury* into an ongoing condition, and is not merely a set of isolated symptoms.

25. Because EHS is induced by exposure, there is a growing population worldwide that is adversely affected by lower-intensity electromagnetic frequencies. The World Health Organization (WHO) defines EHS as:

> * * * [a] phenomenon where individuals experience adverse health effects while using or being in the vicinity of devices emanating electric, magnetic, or electromagnetic fields (EMFs) * * * EHS is real and sometimes a debilitating problem for the affected persons, while the level of EMF in their neighborhood is no greater than is encountered in normal living environments. Their exposures are generally several orders of magnitude under the limits in internationally accepted standards.

26. Symptoms of EHS include cognitive dysfunction (in memory, concentration, problem-solving); balance, dizziness and vertigo; facial flushing, skin rash; chest pressure, rapid heart rate; depression, anxiety, irritability, fatigue, poor sleep; body aches, headaches; ringing in the ear (tinnitus) and more. It is estimated that three percent of the adult population is severely affected and another 35 percent has moderate symptoms. Since prolonged exposure to RF/MW and ELF can result in sensitization and EHS, it is imperative that children's exposure to RF/MW radiation, such as from WI-FI, be minimized, particularly at school, given the many hours per year that attendance is required.

27. Mount Tabor Middle School, with a population of approximately 600 children, may already have 18 (3 percent of the school population) or more who are severely affected by RF/MW radiation and up to 210 children (35 percent) who have moderate symptoms. This does not include those children who are not specifically sensitized into EHS, but do have symptoms. These consider that the percentages of children with EHS would be the same as those in adult populations. Since the percentages might actually tend to be higher in children, these numbers are conservative. The Portland schools should look to identify those children, whether with EHS or not, who suffer symptoms in response to WI-FI. In so doing, administrators and teachers may, in then accommodating these students, find improved school work, cognitive and social functioning.

Children

28. Children are more sensitive to environmental contaminants, and these include RF/MW radiation. The Stewart Report (2000) recommended that children not use cell phones except for emergencies. The cell phone exposes the head to pulse-modulated (PM) MW radiation. A wireless computer (WI-FI) exposes the entire upper body to PM MW radiation; and if one has the computer on one's lap, it exposes reproductive organs as well. Certainly this is not

desirable, especially for younger children and teenagers. For this reason adults need to discourage the use of wireless technology by children. That does not mean that students cannot go on the Internet. It simply means that access to the Internet needs to be through wires rather than through the air.

29. Children generally are very susceptible to MW radiation; as they do not have developed nervous or immune systems. As well, their skulls are thin and their bones (which are producing stem cells that make their immune systems and all other parts of their bodies) are soft, allowing microwaves to penetrate easily (Cherry 1999, http://www.emfguru.org/EMF/genotoxic/Genotoxic-EMR-paper.htm, scroll down to figure 45).

30. Some parents in Collingwood (Ontario, Canada), observed their children being exposed to WI-FI and returning from school with headaches, nausea, dizziness, difficulty concentrating, weakness, pressure in the head, and a racing or fluttering heart). These symptoms occur only in classrooms with WI-FI. They do not occur in portables that do not have WI-FI, and they do not occur in homes that do not have wireless technology.

31. The heart palpitations are perhaps the most serious: several students have experienced sudden cardiac arrest. The incidence of this in the Collingwood region seems abnormally high for a small community in Canada; and such symptoms should be extremely rare in children. One student was encouraged to have exploratory heart surgery. However, her parents provided her a MW-free environment at the end of the school year and her symptoms disappeared. No surgery was required.

32. Students and teachers at a private school in Collingwood were encouraged to do research on the best Internet technology for the school. They decided wired Internet access was superior to wireless for many reasons. They now use power line adaptors instead of WI-FI and are satisfied with the results.

Direct Effect

33. I conducted a study that showed immediate and dramatic changes in both heart rate and heart rate variability associated with microwave exposure to a frequency of 2.4 GHz at levels well below (0.5 percent) federal guidelines (1000 μW/cm^2). Havas *et al*., *Provocation Study using Heart Rate Variability shows Radiation from 2.4 GHz Cordless Phone affects Autonomic Nervous System*, Eur J Oncol Library, Vol 5 at 28, http://www.magdahavas.com/wordpress/wp-content/uploads/2010/10/Havas-HRV-Ramazzini1.pdf; see also, video demonstrating the direct effects of cordless phones on heart rates, http://www.youtube.com/watch?v=_EI9fZX4iww.

34.

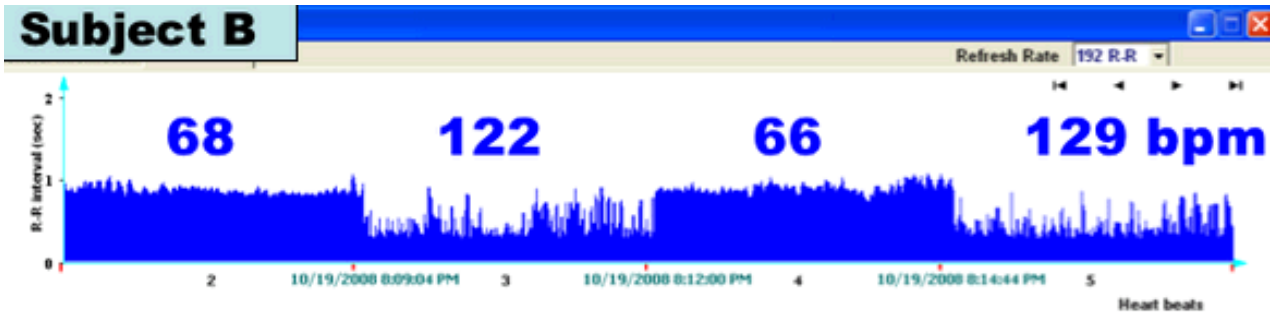

Figure 2. The sympathetic nervous system up regulated and the parasympathetic nervous system down regulated during exposure, which is the typical 'flight-or-fight' stress response. Feelings of anxiety as well as pain or pressure in the chest were associated with the rapid or irregular heart beat among some of the participants tested. http://www.magdahavas.com/2010/10/21/new-study-radiation-from-cordless-phone-base-station-affects-the-heart/.

35. The study documents that some individuals are hypersensitive to specific frequencies, and supports reports people make when they are exposed to RF/MW radiation. The reactions include heart irregularities, a rapid heart rate, up-regulation of the sympathetic nervous system, and down-regulation of the parasympathetic nervous system. These are biological effects and do not involve heating. One potential outcome is that the body goes into a fight-or-flight response when exposed to very low levels of MW radiation at the same frequency used for

WI-FI. Since children are generally more susceptible to environmental hazards than are adults, I would expect that children's hearts are generally more affected as well. *This video shows a WI-FI router directly affecting an adult heart rate: www.youtube.com/watch?v=KN7VetsCR2I !*

36. Heart irregularities, including out-of-hospital sudden cardiac arrest, are becoming increasingly common. At least some of these phenomena may be related to increasing exposure to RF/MW radiation from wireless devices and infrastructures, as documented for the first time in this study. A child must not be exposed to a technology that causes tachycardia or arrhythmia. Under certain circumstances with undiagnosed heart problems and with a demand on the heart (during exercise for example) the outcome can be deadly.

37. In addition to heart abnormalities, there is evidence of damage to sperm for males who use a laptop computer in WI-FI mode. WI-FI laptops can affect sperm motility and damage DNA. By allowing MW radiation through WI-FI in schools, adults may be adversely affecting children's ability to reproduce, as well as and the very genetics of future generations.

Removal of WI-FI

38. Most people do not want to live near either cell phone towers or WI-FI antennas because of their MW radiation. Yet when WI-FI (wireless routers) are used inside buildings, many antennas are placed inside as well as outside the building. This is much worse with respect to exposure levels, duration and coercive occupational conditions, since building occupants are closer to the sources of emission and cannot remove themselves from the radiation.

39. Libraries in France are removing WI-FI because of the refusal of MW radiation by the scientific community, library employees and patrons.

40. The Vancouver School Board passed a resolution in January 2005 that prohibits construction of cellular antennas within 1,000 feet from school property.

41. Palm Beach, Florida, Los Angeles, California, and New Zealand have all prohibited cell base stations and antennas near schools by reason of safety, based on the fact that children are more susceptible to pulse-modulated MW radiation. Clearly if antennas do not

belong near schools, they certainly do not belong *inside* schools! The only route to safety is to have wired rather than wireless Internet.

42. The Superintendent of Education, Area 3 (Mr. John Dance) hired a consultant to measure MW exposure in two schools: Mountainview Elementary School (where the children were complaining of ill health) and Collingwood Collegiate Institute (see Muc Report at http://www.magdahavas.com/wordpress/wp-content/uploads/2011/06/SCDSB-Feb-9-2011-B-F-Use-of-WI-FI.pdf). In the Mountainview School, levels above FCC guidelines were measured (1,342 $\mu W/cm^2$ or 1.342 mW/cm^2, NOTE: These are the same values expressed by different units); and this intensity of radiation was downplayed because it was close to the computer. Yet this is precisely where children sit and work for many hours per day: close to computers! Fifty percent of the locations measured in these two schools exceeded the radiation levels that affected adult hearts in our cardiac study. Testing at Collingwood Collegiate was after school hours; hence these measurements likely underestimate real-life exposure levels. The school with levels above federal guidelines is the same school where children were complaining of ill health!

Advisories

43. Advisories to limit cell phone use have been issued by various countries and organizations including the United Kingdom (2000), Germany (2007), France, Russia, India, Belgium (2008) as well as the Toronto Board of Health and the Pittsburgh Cancer Institute (July 2008). While these advisories relate to cell phone use, they apply to WI-FI exposure as well since both use pulse-modulated microwave radiation. Boston public health physicians and scientists (1997) called for a 'halt' to pulse-modulated microwave radiation-based cell phone infrastructure based on the 'biological plausibility of harm.' WI-FI infrastructure and WI-FI-connected computers expose large parts of the body to this radiation especially when uploading or downloading information. Attached as Addendum 'B,' is the Boston Petition.

44. Attached, as Addendum 'C,' is a summary of 18 appeals or resolutions released by expert scientific groups around the world since the 1997 Boston Petition, regarding the biological and health effects of both low frequency electromagnetic fields (EMF) associated with electricity and RF electromagnetic radiation (EMR) generated by wireless devices. Anyone who reads these cannot be left with the illusion (or delusion) that this form of energy is without adverse biological and health consequences at levels well below existing guidelines. Children are particularly vulnerable. It is irresponsible of governments to maintain the status quo in light of thousands of studies that have been published and statements by these experts.

Conclusion

45. It is important that children be exposed to the important education, life experiences, and social structures that public education offers, but they must not be risking their health to do so! Children must not be exposed to a constant background of pulsed microwave radiation from WI-Fi (or other sources) while at school. Most parents don't have the option of home-schooling or finding a school free of WI-FI. Most teachers are discouraged to speak out against school board decisions, and most municipalities are unaware of the growing literature about the harmful effects of this technology. This needs to change. Municipalities must keep their public schools free of WI-FI.

46. Access to the Internet is possible through wires or through the air (wireless). The wireless option (WI-FI) exposes people in that environment to microwave radiation, which is a possible human carcinogen. Wired Internet is available at low cost. At least 3 options currently exist: Ethernet cable, which is present in many schools; fibre optics that offer fast reliable service but may be inappropriate in some districts; and the power line adaptor that is perhaps the most cost-effective option. This last option is faster, more secure, more energy efficient, less expensive than WI-FI and does not exposure people to microwave radiation. Under the

Americans with Disabilities Act, an accommodation is ‘reasonable’ based on minimal cost. And this ‘accommodation’ serves not one but all building occupants, so is highly valuable. Innocent children, who are wards of their parents and of the schools, deserve every legal protection from adults who make unwise decisions. Adult decision-makers are both morally responsible for their actions and should also be held legally liable where harm occurs and since wired alternatives to WI-FI are available.

47. Portland Public Schools use of WI-FI will expose young children (and their teachers) to microwave radiation for 6 hours each school day, 5 days a week, for 40 weeks each year. This exposure will be 1200 hours each year, year after year. Never in history have children been exposed to this much microwave radiation. Indeed, if I wanted to conduct such human experiments at Trent University using these levels and durations of exposure to microwave radiation, they would be deemed unethical and I would be denied permission to proceed!

48. In my own work, I use wired Internet access at home and, whenever possible, I use wired Internet access at Trent University, although wireless is available. So we are not limiting access to the Internet if we use wired connections; with wired connections, we are simply flowing the radiation through wires rather than through the air and through the bodies that are in the area.

49. The two most important environments in a child’s life are the home (especially the bedroom) and the school. For this reason it is imperative that these environments remain as electromagnetically clean as possible, and therefore as free as possible from MW radiation.

50. It is hard to imagine that Portland parents are required to give permission with signed consent forms for student bus trips and photographs but are not consulted and asked for permission to expose their children to pulse-modulated MW radiation.

51. Based on the evidence that leading scientists have assembled in the past decade, if Portland Public Schools continues to use wireless internet (WI-FI), some students and teachers in its schools (an estimated 3% to 35% of the adult population and possibly a higher percentage of students) will become ill. Heart problems may be aggravated, other internal and external body injuries may be caused, and various pre-existing medical conditions may be worsened. Children and adults with undiagnosed, undetected heart problems may die. All students, teachers and administrators will be affected to some degree, even if their symptoms are not consciously attributed to the exposure or positively diagnosed. Portland Public Schools must be willing to make a decision that protects and does not harm the health and lives of those for whom it is responsible. It should not leave the Board open to legal action from families of children with heart and other MW radiation-related problems. There may be class-action lawsuits; the Board's decisions may jeopardize the long-term financial sustainability of the school board.

52. Submitted herewith as Addendum 'D' is a KeyNote presentation that I will use during my testimony.

53. I will receive $250 per hour for my time (plus expenses) from this date forward and that money will be used to support research in this area.

54. I reserve the right to amend to add new relevant studies as they may arise and pending analysis, additional testing, and recently received voluminous discovery.

55. The Internet is an important learning device that should not be taken away. I simply urge that its access be made available through wires rather than WI-FI. Surely when it comes to threats of serious or irreversible damage to the health of students and teachers, not to mention privacy matters where students deserve in their formative years freedom from surveillance and hackers, using wired systems is of minimal cost and not too much to ask. There is no place for wireless Internet in schools—especially since wired Internet access is safer, faster, and more secure than wireless.

Dated this 21st day of December, 201

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Curriculum Vitae

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1 BIOGRAPHICAL INFORMATION

1.1 Contact Information

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1.2 Degrees

B.Sc. Honors Biology, University of Toronto, 1971-1975
Ph.D. Department of Botany & Institute for Environmental Sciences, University of Toronto, 1975-1980

1.3 Awards, Scholarships, Fellowships

Academic

NSERC University Research Fellowship, 1983-1988
NSERC NATO Postdoctoral Fellowship, 1981-1983
Ann Wintercorbyn Prize, 1981, Department of Botany, University of Toronto
NRC Graduate Scholarship, 1975-1977, 1978-1979
Gulf Oil Scholarship, 1975
Bell Canada Scholarship, 1975

Nominations for . . .

Symons Award for Excellent in Teaching: 2002, 2003, 2004, 2005, 2010
Award for Educational Leadership and Innovation: 2010-11

Non-Academic

Certificate of Appreciation, Department of Veterans Affairs, USA in collaboration with Michael E. DeBakey VA Medical Center, Texas, March 31, 2008.

Certificate of Appreciation, Uxbridge Community Care, May, 1989.

2 ACADEMIC HISTORY

Employment and Positions

2002-present	Member, Centre for Health Studies [originally Institute for Health Studies], Trent University, Peterborough, Ontario.
1995-7 &1992-4	Board of Governors, Trent University, Peterborough, Ontario.
July 1993-1994	Senate, Trent University, Peterborough, Ontario.
Nov 1990-pres	Cross Appointed to Biology Department, Trent University, Peterborough, Ontario.
Aug 1989-pres	Associate Professor, Science Education and Environmental and Resource Studies, Trent University, Peterborough, Ontario.
June 1985-1989	Cross Appointed to Faculty of Forestry, University of Toronto, Toronto, Ontario, Canada.
Sept 1983-1988	NSERC University Research Follow/Assistant Professor, Institute for Environmental Studies, University of Toronto, Toronto, Canada.
Feb 1981-1983	NSERC NATO Postdoctoral Fellow, Section of Ecology and Systematics, Cornell University, Ithaca, New York, USA, in laboratory of Professor G.E. Likens.

3 PUBLICATIONS

Year	#	Reference	Type
2011	134	**Havas, M.,** D. Stetzer, E. Kelley, R. Frederick, and S. Symington. Compact Fluorescent Light Bulbs, Electromagnetic Emissions, and Health. Science of the Total Environment (accepted with minor revisions).	R

[8]	133	**Havas, M.** Open Letter to the Honourable Aglukkaq (Federal Minister of Health) and Ms Pieterson (Director-General, Environmental and Radiation Health Sciences Directorate, Health Canada needs to issue warning about wireless baby monitors. October 24, 2011, 6 pp	L
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	128	**Havas, M.** September 2011 Update regarding: Veronica Ciandre, 2 Regal Road, Toronto, Ontario, September 30, 2011, 2 pp	ET
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2010	126	**Havas, M**. Expert Report Re: 411 Saint-Francis Blvd, Chateauguay, Quebec, Rogers vs City of Chateauguay, December 15, 2010, 18 pp.	ET
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	122	**Havas, M**. Urgent need to revise Safety Code 6 as it does not protect the health of Canadians. Expert Testimony to the House of Commons Standing Committee on Health regarding Radio Frequency Radiation and Health, April 20, 2010, 8 pp.	ET
	121	**Havas, M.** Comparison of Industry Canada measurements on February 18, 2010 and those take by Dr. Havas on February 13, 2010 at 2 Regal Road, Toronto, March 16, 2010, 3 pp,	T
2009	120	**Havas, M,** 2009. Open Letter to Parents, Teachers, School Boards Regarding Wi-Fi Networks in Schools, 2 pp.	L

[3]	119	**Havas, M**. 2009. Letter to the Editor, Toronto Star, February 1, 2009 response to "Jury's out on link between migraines, fluorescent tubes." by Joe Schwarcz.	L
	118	**Havas, M**. 2009. Breast Cancer and Occupational Exposure to Electromagnetic Fields. Response to Request from Heidi Evelyn, Tribunal Counsel Office, Workplace Safety and Insurance Appeals Tribunal, Jan 7&9, 2009; February 9, 2009, 42 pp.	ET
2008	117	**Havas, M**. 2008. Are Cell Phones Safe? An Ounce. Prevent Cancer Now. Fall 2008, page 1	P
[11]	116	**Havas, M**. 2008. Breast Cancer and Occupational Exposure to Electromagnetic Fields. Report to the Workplace Safety and Insurance Appeals Tribunal. Expert Testimony, November 18, 2008, 20 pp.	ET
	115	**Havas, M.** 2008. Letter to the Editor, Walrus Magazine, comment on Cellphone Games, September 11, 2008 article by Melinda Wenner.	L
	114	**Havas, M.** 2008. Letter to the Editor, BBC News, UK, RE: The bulb hoarders. http://news.bbc.co.uk/2/hi/uk_news/magazine/7480958.stm	L
	113	**Havas, M**. 2008. Radio Frequency Readings on Triangle Mt., Colwood, BC, June 25, 2008. 4 pp., Appendix to "Independence of Advisory Bodies," Environmental Petition, Auditor General of Canada, submitted by Sharon and Dennis Noble, Colwood, BC.	G/T
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	111	**Havas, M**. 2008. Request that first generation DECT Phones be Banned in Canada, Environment Petition, Auditor General of Canada, 15 pp.	G/T
	110	**Havas, M.** and T. Hutchinson. 2008. Environmental and Health Effects of Compact Fluorescent Lights. Environment Petition, Auditor General of Canada, 15 pp.	G/T
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2007	106	**Havas, M.** 2007. "Stray Voltage" Ground Current Problems, Prepared for Ontario Energy Board Panel on Stray Voltage, November 22, 2007.	G/T
[4]	105	**Havas, M.** 2007. Analysis of Health and Environmental Effects of Proposed San Francisco Earthlink Wi-Fi Network, Commissioned by SNAFU (San Francisco Neighborhood Antenna Free Union) and presented to Board of Supervisors, City and Country of San Francisco, 51 pp.	NR
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2006	102	**Havas, M.** 2006. Electromagnetic Hypersensitivity: Biological effects of dirty electricity with emphasis on diabetes and multiple sclerosis. Electromagnetic Biology and Medicine, 25: 259-268, 2006	R
[8]	101	**Havas, M.** 2006. *Dirty Electricity: An Invisible Pollutant in Schools*. Feature Article for Forum Magazine, OSSTF, Fall, 2006.	P
	100	**Havas, M.** 2006. *Response to: Evaluation of the Stetzer Filters*. Open Letter to Health Canada. October 2006. 5 pp.	L
	99	**Anon.** 2006. *Ground Current Pollution Act, 2006*. Mpp2006.080.e5-CW, Private Member's Bill, First Reading October 3, 2006. *Helped draft Private Member's Bill on Ground Current Pollution*.	G
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	96	**Havas, M.** 2006. Open letter to Mayor and Aldermen, Milwaukee Wisconsin. Health Concerns of WiFi.	L
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2005	94	**Havas, M.** 2005. *Response to BCTC (British Columbia Transmission Corporation) information request to TRAHVOL,* British Columbia Transmission Corporation ("BCTC") Certificate of Public Convenience and Necessity Application for the Vancouver Island Transmission Reinforcement Project, 20 pages, November 10, 2005.	ET
[8]	93	**Havas, M.** 2005. *Response to BCUC (British Columbia Utilities Commission) information request to TRAHVOL,* British Columbia Transmission Corporation ("BCTC") Certificate of Public Convenience and Necessity Application for the Vancouver Island Transmission Reinforcement Project, 5 pages, November 7, 2005.	ET
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	87	**Havas, M.** Letter: Office of the Secretary, Federal Communication Commission, Washington DC, Proceeding WT Docket No. 04-356 and 02-353. 3 pages, January 24, 2005.	L
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[9]	85	**Havas, M**. 2004. *Don't put cell towers on school property*. Northern Virginia Journal, November 16, 2004, page 12.	P
	84	**Havas, M.** and D. Stetzer. *Dirty electricity and electrical*	NR

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	83	**Havas, M.,** S. Shum, and R. Dhalla. *Passenger exposure to magnetic fields on go-trains and on buses, streetcars, and subways run by the Toronto Transit Commission, Toronto, Canada*. Biological Effects of EMFs, 3rd International Workshop, Kos, Greece, 4-8 October, 2004, pp.1065-1071.	NR
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	79	**Havas, M.** *Biological Effects of Low Frequency Electric and Magnetic Fields*. Derek Clements-Croome (Ed.). 2002. Electromagnetism and Health, Taylor & Francis Books, Ltd., London, England. 25 pp.	C
	78	**Havas, M.** *Cleaner power keeps schools healthy*. View from Trent, Peterborough Examiner, Peterborough, ON, February 12, 2004	P
2003	77	**Havas, M**. *Health Effects Associated with Power Lines*. Expert Testimony presented at Sumas 2 Hearing in Abbottsford B.C. July 2003.	ET
2002	76	Woodfine, D.G., **M. Havas**, and J. Acreman. 2002. *Nickel and copper tolerance of phytoplankton isolated from a recovering lake near Sudbury, Canada*. Geochemistry, Exploration, Environment, Analysis, Vol. 2 203-207	R
[6]	75	**Havas, M**. *Intensity of Electric and Magnetic Fields from Power Lines within the Business District of Sixty Ontario Communities*. Science of the Total Environment 298:183-206.	R
	74	**Havas, M**. *Cell phone headaches, cell tower blues*. View from Trent, Peterborough Examiner, August 9, 2002.	P
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[5]	69	**Havas, M**. *Electricity's role in cancer an eye opener*. View from Trent, Peterborough Examiner, October 12, 2001	P
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2000	65	**Havas, M.** and D. Hanna. *Magnetic Fields in Peterborough Schools: the findings and strategies to reduce exposure*. Presented to the Peterborough-Kawartha-Pine Ridge School Board, Health and Safety Committee, October 2000.	T
[4]	64	**Havas, M**. Biological effects of non-ionizing electromagnetic energy: A critical review of the reports by the US National Research Council and the US National Institute of Environmental Health Sciences as they relate to the broad realm of EMF bioeffects. Environmental Reviews 8:173-253.	R
	63	**Havas, M.** Valley of Desolation, no vacation paradise. View from Trent, Peterborough Examiner, July 28, 2000.	P
	62	Woodfine, D.G., R. Seth, D. Mackay, and **M. Havas**. Simulating the response of metal contaminated lakes to reductions in atmospheric loading using a modified QWASI model. Chemosphere 41:1377-1388.	R
1999	61	**Havas, M.** People learn in different ways. How do you learn? Answer in simple test. View from Trent, Peterborough Examiner, August 27 1999	P
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1996	59	**Havas, M.** University Accountability. View from Trent, Peterborough Examiner, April 1996	P
1995	58	**Havas, M.,** D.G. Woodfine, P. Lutz, K. Yung, H.J. MacIsaac, and T.C. Hutchinson. Biological Recovery of Two Previously Acidified, Metal-Contaminated Lakes near	R

		Sudbury Ontario, Canada. Water, Air and Soil Pollut. 85(2): 791-796	
[7]	57	**Havas, M.** and B. Rosseland. Response of Zooplankton, Benthos, and Fishes to Acidification: An Overview. [Invited Paper] Water, Air and Soil Pollut. 85(1): 51-62.	R
	56	**Havas, M**. and E. Advokaat. Can Sodium Regulation be used to Predict the Relative Acid-Sensitivity of Various Life-stages and Different Species of Aquatic Fauna? Water, Air and Soil Pollut. 85(2): 865-870.	R
	55	Woodfine, D.G. and **M. Havas**. Pathways of Chemical Recovery in Acidified, Metal-Contaminated Lakes near Sudbury, Ontario, Canada. Water, Air and Soil Pollut. 8 797-803.	R
	54	Regoczei, S. and **M. Havas**.. Group Problem Solving: If we could save the earth, how would that be done? Proc. 4th Can. Conf. on Foundations and Applications of General Science Theory. Knowledge Tools for a Sustainable Civilization. Ryerson Polytechnical University, Toronto, June 8-10, 1995, 9 pp	NR
	53	Loney, R.K., P. Northrop, and **M. Havas**. Enviro Mystery Revisited. Eighth Instructional Show & Tell for Ontario Universities and Colleges, May 29, 1995, University of Guelph, Guelph, Ontario.	NR
	52	**Havas, M.** Aluminum. In: Paehlke, R. (Ed.) Environmental Review	NR
1994	51	**Havas, M.** Recovery and Rehabiliation of Large-Scale Ecosystems: Rapporteurs Report. <u>In</u>: Rapport, D. and P. Calow. Evaluating and Monitoring the Health of Large-Scale Ecosystems, NATO Advanced Research Workshop, Chateau Montebello, Quebec, Canada, October 10-15, 1993, 10 pages.	R
[3]	50	Brakke, D., J.P. Baker, J. Bohmer, A Hartmann, **M Havas,** A. Jenkins, C. Kelly, S.J. Ormerod, T. Paces, R Putz, B.O. Rosseland, D. Schindler, and H. Segner. How does Acidification affect Biota and What are the influences of Biota on the Process of Acidification? <u>In</u>: Dahlem Workshop on Acidification of Freshwater Ecosystems, Berlin, September 27 to October 2, 1992.	R
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1993	48	Woodfine, D.G., D. Mackay, and **M. Havas**. Using QWASI	NR

		Model to Predict Fate of Copper and Nickel in Two Metal Contaminated Lakes near Coniston, Ontario. In: Nriagu, J.O. and R.J. Allan (eds.), International Conference, Heavy Metals in the Environment (Vol.2), Toronto, September 1993, pp 379-382.	
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[3]	46	**Havas, M**. Environmental Education: Changing Role of the University. Seminario Internacional Sobre El Ambiente, Toluca de Lerdo, Estado de Mexico, February 22-25, 1993, 16 pp.	NR
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1991	43	**Havas, M**. (Ed.), Environmental Report Card, *KEYnotes* 1(2): 12 pp.	R
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		Ontario.	
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	20	**Havas, M.** Groundwater quality and acid-sensitivity in south-central Ontario. Contract No. 1325, Health and Welfare Canada, 176 pp.	G
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1985	18	**Havas, M.** and G.E. Likens. Toxicity of aluminum and hydrogen ions to *Daphnia catawba, Holopedium gibberum, Chaoborus punctipennis,* and *Chironomus anthrocinus* from Mirror Lake, New Hampshire. Can. J. Zool. 63:1114-1119.	R
[6]	17	**Havas, M.** Aluminum bioaccumulation and toxicity to *Daphnia magna* (Straus) in soft water at low pH. Can. J. Fish.Aquat. Sci. Can. J. Fish. Aquat. Sci. 42:1741-1748.	R
	16	**Havas, M.** and G.E. Likens. Effects of aluminum on sodium regulation by *Daphnia magna* at low pH in soft water. Proc. Nat. Acad. Sci. 82:7345-7349.	R
	15	**Havas, M.** and D.W.H. Walton. Fate and transport of radionuclides in freshwater ecosystems. In: Harwell, M.A. and T.C. Hutchinson, The Environmental Consequences of Nuclear War. Volume II, J. Wiley & Sons Ltd., Chichester, pp 3-50 to 3-56.	C
	14	**Havas, M.**, T.C. Hutchinson, and G.E. Likens. 1985. Acid rain research. Environmental Science and Technology 19:4-26.	L
	13	**Havas, M.**, T.C. Hutchinson, and G.E. Likens. 1985. Comment on "Red Herrings in Acid Rain Research" Environmental Science and Technology 19:646-648.	L
1984	12	**Havas, M.,** T.C. Hutchinson, and G.E. Likens. Red herrings in acid rain research. feature article Environmental Science and Technology 18:176A-186A.	R
[3]	11	**Havas, M**., T.C. Hutchinson, and G.E. Likens. Effect of low pH on sodium regulation in two species of *Daphnia*. Can. J. Zool. 62:1965-1970.	R

	10	Contributed to: New Perspectives in Ecotoxicology, Levin, S.A. and K.D. Kimball (Eds.), Environmental Management 8:375-442.	R
1983	9	**Havas, M**. and T.C. Hutchinson. The Smoking Hills: Natural acidification of an aquatic ecosystem. Cover article Nature 301:23-27.	R
[2]	8	**Havas, M.** and T.C. Hutchinson. Effect of low pH on the chemical composition of aquatic invertebrates from tundra ponds at the Smoking Hills, N.W.T., Canada. Can. J. Zool. 61:241-249.	R
1982	7	**Havas, M**. and T.C. Hutchinson. Aquatic invertebrates from the Smoking Hills, N.W.T.: Effect of pH and metals on mortality. Can. J. Fish. Aquatic Sci. 39:890-903.	R
[4]	6	Sheath, R.G., **M. Havas**, J.A. Hellebust, and T.C. Hutchinson. Effects of long-term natural acidification on algal communities of tundra ponds at the Smoking Hills, N.W.T., Canada. Can. J. Bot. 60:58-72.	R
	5	**Havas, M.** and T.C. Hutchinson. Long-term consequences of acidification: The Smoking Hills Study. In: Johnson, R.E. (Ed.), Acid Rain/Fisheries, Proc. Intern. Symp. on Acidic Precipitation and Fishery Impacts in Northeastern North America, Cornell University, Ithaca, N.Y., August 2-5, 1981, pp 352-353.	A
	4	Munn, R.E., D. Mackay, and **M. Havas.** Impacts of coal on natural environmental systems. In: Chadwich, M.J. and N. Lindman (Eds.), Environmental Implications of Expanded Coal Utilization, Pergamon Press, Oxford, pp 230-272.	C
1981	3	**Havas, M.** Physiological response of aquatic animals to low pH. In: Singer, R. Ed.), Effects of Acidic Precipitation on Benthos, Proc. Symp. Acidic Precipitation on Benthos, 1980, North American Benthological Society, Hamilton, N.Y., pp 49-65.	C
1980	2	Hutchinson, T.C. and **M. Havas** (Eds.), Effects of Acid Precipitation on Terrestrial Ecosystems. NATO Conference Series, Series 1, Ecology Vol 4, Plenum Press, N.Y. 654 pp.	B
1978	1	Hutchinson, T.C.. W. Gizyn, **M. Havas**, and V. Zobens. Effects of long-term lignite burns on arctic ecosystems at the Smoking Hills, N.W.T. In: Hemphill, D.D. (Ed.), Trace Substances in Environmental Health XII:317-332.	R

4. CONFERENCES/WORKSHOPS/LECTURES/INVITED TALKS

Year	#	Presentation
2011	265	Havas, M. Wi-Fi in Schools–Is it Safe? Ontario English Catholic Teachers' Association, Toronto, Ontario, November 3, 2011
[23]	264	Havas, M. Zoomer Radio, Toronto, October 27, 2011.
	263	Havas, M. Symptoms of Electrohypersensitivity. MediConsult Convention 2011, Museum of Contemporary Art, San Diego, California, , October 2, 2011.
	262	Havas, M. Therapeutic pulsed magnetic fields travelogue. MediConsult Convention 2011, Museum of Contemporary Art, San Diego, California, , October 2, 2011.
	261	Havas, M. Electrosensitivity and Electrosmog Exposure, MediConsult Convention 2011, Museum of Contemporary Art, San Diego, California, , October 1, 2011.
	260	Havas, M. The History of RF Microwave Radiation, MediConsult Convention 2011, Museum of Contemporary Art, San Diego, California, , October 1, 2011.
	259	Havas, M. and R. Connolly. Therapeutic pulsed magnetic fields travelogue. MediConsult Convention 2011, Science Centre, Toronto, Ontario, September 25, 2011.
	258	Havas, M. Electrosensitivity and Electrosmog Exposure, MediConsult Convention 2011, Science Centre, Toronto, Ontario, September 24, 2011.
	257	Havas, M. The History of RF Microwave Radiation, MediConsult Convention 2011, Toronto, Ontario, September 24, 2011.
	256	Havas, M. Smart Meters, Broadband and WHO, Milagro, Tucson, Arizona, July 17, 2011.
	255	Havas, M. Workshop on EHS and various diagnostic technologies, Joshua Creek, Oakville, Ontario, July 9, 2011.
	254	Havas, M. and S. Symington. Wi-Fi in Schools, Community Centre, Bobcaygeon, Ontario, May 30, 2011.
	253	Havas, M. 2-hour Lecture on low EMF buildings, course at Fleming College, Peterborough, Ontario, May 18, 2011.
	252	Havas, M. How to minimize your exposure to potentially harmful electrosmog, Peterborough Wellness Expo, Evinrude, Peterborough, Ontario, May 7, 2011
	251	Havas, M. Women's Business Network, Speakers Group, Peterborough, Ontario, May 5, 2011.
	250	Havas, M. Switzerland, April 25 to 30, 2011

249 Havas, Windturbines, dirty electicity, and ground current, Lakeville, Connecticut, April 16, 2011.

248 Havas, D. Davis, and S. Sinatra, Panel Discussion, Total Health Show, Toronto, Ontario, April 8-10

247 Havas, Taming the Microwave Dragon, How to survive in a Wireless world, Total Health Show, Toronto, Ontario, April 8-10

246 Havas, @, Atlanta, Georgia, April 1-4, 2011.

245 Havas and Symington, Wi-Fi in Schools, Buckhorn Community Centre, March 1, 2011.

244 Havas, Health Committee Toronto, WiFi in Schools: Health Issues, Feb 14, 2011

243 Havas, Ground Current, Ripley Ontario, February 11 to 13, 2011.

2010 242 Havas, Dirty Electricity, Microwaves and Ground current Joshua Creek, Oakville, December 4, 2010.

[35] 241 Havas, Workshop, HRV and live blood, Joshua Creek, Oakville, December 4, 2010.

240 Havas, 2010, Introduction to Devra Davis, University of Toronto, Toronto, November 23, 2010

239 Havas, 2010, History of Microwave Research. San Francisco Commonwealth Club, November 18, 2010

238 Havas, 2010, Microwave Exposure in Schools. San Francisco Commonwealth Club, November 18, 2010

237 Havas, 2010. Weston A Price Conference, Pennsylvania, November 14, 2010.

236 Havas, 2010. Israel, Tel Avive, October 27, 2010

235 Havas, 2010. Israel, Tel Avive, October 26, 2010

234 Havas, 2010. Israel, Tel Avive, October 26, 2010

233 Havas, 2010. Evenrude Centre talk on WiFi in Schools, Peterborough, ON, October 20, 2010.

232 Havas, 2010. Kingston Club of the Canadian Federation of University Women, Queens University, Kingston, October 13, 2010.

231 Havas, 2010. Montreal, Best Western Europa, September 26, 2010.

230 Havas and Cline, 2010. Webinar, September 10, 2010.

229 Havas, 2010, LA Cancer Conference, September 5, 2010.

228 Havas, 2010. Talk, Los Angeles, California, September 2, 2010.

227 Havas, 2010. Barry Trower and History of EMFs, University of Toronto, Aug 24, 2010.

226 Havas, 2010. Crystal Beach, Ontario, August 9, 2010.

225 Havas, 2010. Webinar with Dr. John Cline in BC via skype. June 11, 2010.

224 Havas, 2010. WiFi in Schools. Collingwood, Ontario, June 10.

223 Havas, M. 2010. William Rae Conference, Dallas Texas, May 3-6, 2010.

222 Havas, M. and C. Rees. 2010. Full Signal. Long Island, NY, May 5, 2010

221 Havas, M. and C. Rees. 2010. Full Signal. New York City, NY, May 4, 2010

220 Havas, M. and C. Rees. 2010. Electrosensitivity, How do diagnose it. Kinghardt Academy, Madison, NY, May 1, 2010

219 Havas, M. and C. Rees. 2010. Full Signal. New York City, NY, April 29, 2010

218 Havas, M. and C. Rees. 2010. Congressional Briefing, Washington, DC, April 28, 2010

217 Havas, M. 2010. Lecture: Electrosmog and Electro-Sensitivity, Johns Hopkins, Baltimore, Maryland, April 27, 2010

216 Havas, M. 2010. HESA House of Commons Committee, Ottawa, presentation via phone, Baltimore, Maryland, April 27, 2010

215 Havas, M. 2010. Workshop on Monitoring Electrosmog at Johns Hopkins, Baltimore, Maryland, April 26, 2010

214 Havas, M. 2010. Proposed Roger's Antennas on Condominiums in Brampton, Ontario. April 7, 2010.

213 Kroh, C. and Havas, M. 2010. Is the government doing enough to protect our health? Panel Discussion. Total Health 10, Toronto Metro Convention Centre, Toronto, March 14, 2010.

212 Havas, M. 2010. Mobile Phones, Antennas, Computers, and Compact Fluorescent Lights . . . What you need to know to protect your health. Total Health 10, Toronto Metro Convention Centre, Toronto, March 14, 2010.

211 Havas, M. Electro-hyper-sensitivity (EHS): An emerging health issue. University of Ottawa, Ottawa, ON, March 3, 2010.

210 Havas, M. 2010. Electrosmog and Electrosensitivity. Health Impacts of Exposure to Wireless Radiation, Lakehead University, Thunder Bay, Ontario, February 22, 2010.

209 Havas, M. 2010. Electrosmog and Electrosensitivity: What you need to know to protect your home environment. Electrosmog: Introduction and Training. Toronto, January 23, 2010.

208 Havas, M. 2010. Ground Current in Urban Environments. Electrosmog: Introduction and Training. Toronto, January 23, 2010.

2009 207 Havas, M. 2009. Electro-hyper-sensitivity and the Nerve Express and Electro-Interstitial Scans. LD Symposium 2009, Miami, Florida, December 10-12, 2009.

[27] 206 Havas, M. Health Effects of Low Frequency Electromagnetic Fields. RETA, Edmonton Alberta, November 24, 2009.

205 Havas, M. Live Blood Analysis. MRS 2000 Meeting, Toronto, Ontario, November 21, 2009.

204 Havas, M. Evidence of Harm from Electromagnetic Radiation. Electromagnetic Radiation Impacts on Human Health. EMR Policy Institute Scientific Conference. Colorado School of Mines, Golden Colorado, November 8, 2009.

203 Havas, M. and J. Marrongelle. Heart Rate Variability (HRV): A diagnostic tool fro detecting chronic fatigue, adrenal exhaustion, and electrical hypersensitivity (EHS). Holistic Health Now Conference, American Holistic Medical Association. Cleveland Ohio, November 6, 2009.

202 Havas, M. Live Blood Analysis. A Public Lecture, Frequency Matters. Bridgenorth, Ontario, September 26, 2009.

201 Havas, M. Cigarettes and Cell Phones: What do they have in common? Stinson Beach, California, September 20, 2009.

200 Havas, M. Cell Phones and Cigarettes. What do they have in common? San Leandro High School, San Leandro California, September 18, 2009.

199 Havas, M. and D. Fancy. Conference call with Health Canada regarding Standards. August 31, 2009.

198 Havas, M. Public Meeting regarding Rogers Tower. Marmora, Ontario,August 27, 2009.

197 Havas, M. and D. Fancy. Meeting with Health Canada regarding Radio Frequency Radiation Standards, Ottawa, Ontario, August 5, 2009.

196 Havas, M. The Truth about Wired and Wireless Technology. Royal Roads University, Victoria, BC, July 22, 2009.

195 Havas, M. An Inconvenient Truth: Climate Change. Consequences of Convenience: Electrosmog. Gabriola Island, BC, July 20, 2009

194 Havas, M. Consequences of Convenience. Langley ,BC, July 17, 2009.

193 Havas, M. Transmission Lines and Health. Sto:Lo Nation. BC, July 14, 2009.

192 Havas, M. Wireless Technology-the tobacco of the 21st Century. Ontario Health Promotion Summer School, University of Toronto, Toronto, Ontario. July 9, 2009.

191 Havas, M. Public Health SOS: The Shadow Side of the Wireless Revolution. Ontario Health Promotion Summer School, University of Toronto, Toronto, Ontario. July 8, 2009.

190 Havas, M. What Health Care Professionals need to know about Electro-Smog and Electro-Sensitivity. Integrating Biophysics-based Technologies in Clinical Practice, Phoenix Arizona, May 8, 2009.

189 Havas, M. What Health Care Professionals need to know about Electromagnetic Pollution and Health. Rural Life and the Healthy Employee, IHLP, Education Symposium, Medical Laboratory Technologists, Stratford, May 6, 2009.

188 Havas, M. Our love affair with wireless technology and the consequences. U-Links Centre for Community-Based Research, Haliburton County, April 20, 2009.

187 Havas, M. Our love affair with wireless technology and the consequences. Women's Institute Bailieboro-Cavan-Milbrook-North Monaghan, Ontario, April 7, 2009.

186 Havas, M. Electrical Pollution on Farms: Poor power quality and stray voltage effects on humans and animals. National Mutual Insurance Convention, Toronto, Ontario, March 26, 2009.

185 Havas, M. Electro-smog and Electro-hyper-sensitivity: How to protect yourself, your family, and your community. University Women's Club, Toronto, Ontario, March 12, 2009.

184 Havas, M. When "green" is not enough. What do windmills and CFL bulbs have in common? Sir Sanford Fleming College, Lindsay Ontario, January 30, 2009.

183 Havas, M. Rapid Aging Syndrome & Electrosmog: Part 2. Physicians Meeting, Renfrew Ontario, January 23, 2009.

182 Havas, M. Electrial Sensitivity. University of Ottawa, Ottawa, Ontario, January, 23, 2009

181 Havas, M. Wind Turbines & Health: The effect on Individuals, Prince Edward County, Picton Ontario, January 15, 2009.

2008 180 Havas, M. Hearing on Breast Cancer and Magnetic Field Exposure, Bell Canada, Expert Testimony, Toronto, Ontario, December 16-17, 2008.

[31] 179 Havas, M. When "green" is not enough. Lecture, First Year Environmental Science Course (ERSC 100), Trent University, Peterborough, Ontario, December 2, 2008.

178 Havas, M. Poor Power Quality & Stray Voltage Effects on Human and Animal Health, Ontario Mutual Insurance, Annual Meeting, University of Guelph, Ridgetown Campus, Ridgetown, Ontario, November 27, 2008.

177 Havas, M. Why do residents near wind turbines get sick? Wind Turbines Make Waves. Township Council Public Meeting, Dawn-Euphemia Township, Florescent & District Community Centre, Florence Ontario, November 17, 2008.

176 Havas, M. EMFs Electromagnetic fields--an emerging health issue.

CAUT Health and Safety Conference, Ottawa, Ontario, November 7-9, 2008.

175 Havas, M. Electro-smog & Electro-sensitivity: what you need to know to protect yourself. RCEN, Canadian Environmental Network, Annual General Assembly, Richmond Hill, Ontario, October 23-26, 2008.

174 Havas, M. Electromagnetic Factors in Health: What do Scientists know about the effects of wireless technologies about humans, animals, and nature? Panel on Health & Environmental Concerns of the Wireless Revolution. Bioneers, Boulder Colorado, October 18, 2008.

173 Havas, M. Electrosmog & Electrosmogitis (Electro-hyper-sensitivity). HRV & EIS Workshop, Mississauga, Ontario, October 9-11, 2008.

172 Havas, M. Health Effects of Electrosmog. Round Table Discussion, Budapest, Hungary, September 26-28, 2008.

171 Havas, M. Rapid-Aging Syndrome and Electrosmog. Renfrew United Church, Renfrew, ON, 10:30 am, August 29, 2008.

170 Havas, M. Electrosmog and Electrohypersensitivity. Ottawa Area Physicians, Kanata ON, 7 pm, August 28, 2008,

169 Havas, M. Electromagnetic Fields: Best Kept Secret. Ontario English Catholic Teachers' Association. The Way Forward: Putting the Act into ACTion. Biennial Conference on Health, Safety and the Environment. Toronto, August 13-15, 2008.

168 Rees, C. and M. Havas. Meeting with Marc Sorenson regarding design of a Health Spa for those with EHS, Navada Fitness Institute, Hidden Canyon, Nevada. July 30-Aug 2, 2008.

167 Ripple, J., M.Havas, and R. Lear. Meeting with Senator Boxer's Staff--Megan Miller regarding Health Concerns of WiFi and WiMax, Marin County, July 25 2008, noon-2 pm.

166 Ripple, J., M.Havas, and R. Lear. Meeting with Assemblyman Huffman's Staff regarding the Banning of Compact Fluorescent Lights. 3501 Civic Center Drive, Suite 412, Marin County, July 25, 2008, 3-4 pm.

165 Havas, M. Public Forum, Cell/Transmission Towers, Colwood Pentecostal Church, Colwood, Vancouver Island, BC, June 25, 2008.

164 Havas, M. Cell Towers and Your Health. PACT Precautionary Approach to Cell Towers, Richmond Hill, ON, May 12, 2008.

163 Havas, M. Wind Farms and Health. Community Centre, Summerside, PEI, noon, May 3, 2008.

162 Havas, M. Transmission Lines and Health, Duffy Theatre, University of PEI, Charlottetown, PEI, 7 pm, May 2, 2008,

161 Havas, M. Transmission Lines and Health, Members of the

Legislative Assembly, Charlottetown, PEI, noon, May 2, 2008,

160 Havas, M. Transmission Lines and Health, French School, Summerside, PEI, 7 pm, May 1, 2008.

159 Havas, M. A Tale of Two Pollutants: Dirty Electricity & WiFi. Natural Building, Health Building, Building Biology Conference, Nashville, TN, April 19-20, April 19, 2008.

158 Havas, M. Electromagnetic Pollution & Health. Natural Building, Health Building, Pre-Conference Seminar, Building Biology Conference, Nashville, TN, April 19-20, April 18, 2008.

157 Havas, M. Best Kept Secret. Women's institute, Warsaw Town Hall, Warsaw, ON, April 16, 2008.

156 Havas, M. Dialogue on Electromagnetic Fields and Health. THINK^2: A Symposium on Academic Safety and Risk, Brock University, April 8-9, 2008.

155 Havas, M. Cell Towers and Schools: Tip of the Iceberg. Coalition for Healthier Schools, 90-minute Conference Call, April 4, 2008.

154 Havas, M. Electro-hyper-sensitivity (EHS): An Emerging Public Health Issue. Michael, E. DeBakey Veterans Affairs Medical Center, Houston Texas, March 31, 2008.

153 Lai, H., S. Milham, M. Havas, and L. Kelley. We are all exposed! Biological and Health Effects of Electromagnetic Fields (EMF), Radio Frequency Radiation (RFR), and Dirty Electricity (DE). City Club, San Francisco, Breakfast Meeting Panel Discussion, Sponsored by Council on Wireless Technology Impacts, March 21, 2008.

152 Havas, M., C. Sage, D. Carpenter, C. Rees. The Shadow Side of the Wireless Revolution. A Health Policy Discussion on an Emerging Global Public Health Issue. Panel Discussion, Commonwealth Club, San Francisco, California , March 19, 2008.

151 Havas, M. Electromagnetic Radiation, Peterborough, March 3, 2008.

150 Havas, M. An Inconvenient Truth, Part 2: Our Love Affair with Wireless Technology, Lecture Sponsored by The Lewis School, Princeton Public Library, New Jersey, February 12, 2008.

2007 149 Newton, J. and M. Havas, Meetings with Congressional and Senate Staff about EMR Regulations and Guidelines. Washington DC, December 3-7, 2007.

[17] 148 Havas, M. Health Concerns associated with Electromagnetic Pollution. Gave talks at 5 Churches, Jamaica, October 29-30, 2007.

147 Havas, M. Radio Frequency Radiation & Health. New Mexico Bioneers Conference, Santa Fe, New Mexico, College of Santa Fe, October 19-21, 2007.

146 Newton, J. and M. Havas. Meetings with Congressional and Senate Staff about EMR Regulations and Guidelines. Washington, DC, October 15-18, 2007.

145 Havas, M. 2007. Ground Current on Farms, Ecological Agriculture Course, Trent University, Peterborough, ON, October 4, 2007.

144 Havas, M. 2007. The link between cancer and exposure to electromagnetic energy. Cancer Conference, Ottawa, Ontario. May 25-26, 2007.

143 Havas, M. 2007. Panel Discussion on WiFi, RFR, and our Health. World Congress on Integrated Medicine, Sante Fe, New Mexico, May 4-6, 2007.

142 Havas, M. 2007. Electromagnetic Hygiene in Schools. Pegasus School, California, April 23, 2007.

141 Havas, M. 2007. Ground Current Pollution Act Bill 154: Why should we care? Chattam, Ontario, April 18, 2007.

140 Havas, M. Radio Frequency Radiation, Cell Phone Towers and your Health. Public Meeting, Charlottetown, PEI, April 17, 2007.

139 Havas, M. Electromagnetic Hygiene in the Home. Holistic Health, SSF, March 20, 2007.

138 Havas, M. Radio Frequency Health Concerns and WiFi at Trent. Committee on Technology for Teaching and Learning (COTTL), Trent University, March 8, 2007.

137 Havas, M. 2007. Shifting Paradigms: Flat earth/round earth and our concept of electromagnetic power. Ontario College of Art and Design, Toronto, March 7, 2007.

136 Havas, M. 2007. Dirty Electricity in Schools. Teacher Education Program, Trent University, March 7, 2007.

135 Havas, M. 2007. Is the electricity in your home making you sick. Health Freedom Expo, Long Beach, California, March 2-4, 2007.

134 Havas, M., B. Fraser, and R. Frederick. 2007. Ground Current Pollution Act 154, Council Chamber, Toronto City Hall, Toronto, Ontario, January 29, 2007.

133 Havas, M. Gilbert, F, Macfarlane, R., and R. Bradley. 2007. Panel discussion on WiFi. Wireless Communities Summit, Toronto, Ontario. January 23 & 24,

2006 132 Havas, M. Radio Frequency Health Concerns and WiFi at Trent. COTTL, Trent University, December 18, 2006

[19] 131 Havas, M. 2006. *Electromagnetic Pollution and Your Health*. Bermuda, October 14, 2006.

130 Havas, M. 2006. *Ground Current on Farms*. Guest Lecture: Ecological Agriculture, Trent University, Peterborough, ON, October 5, 2006.

129 Havas, M. 2006. Health Effects of Dirty Electricity. Dane County Chapter, Save Our Unique lands Coalition Against Electromagnetic Pollution, Pitchburg, Wisconsin, July 27, 2006.

128 Havas, M. 2006. Electromagnetic Pollution and Your health. Trent/Shad Valley Program, Trent University, Peterborough, ON July 6, 2006.

127 Havas, M. 2006. Electromagnetic Pollution and Electrical Hypersensitivity. American Society of Dowsers, Vermont, June 22, 2006.

126 Havas, M. 2006. Electromagnetic pollution: What can you do to have a cleaner environment and protect your health? Aurora, ON, June 14, 2006.

125 Havas, M. 2006. Health Effects of Dirty Electricity. Nassau, Bahamas, June 8, 2006.

124 Havas, M. 2006. Radio Frequency Antennas. Simcoe, Ontario, June 6, 2006.

123 Havas, M. 2006. Simcoe Cell Tower Rogers, Simcoe, ON. Public Meeting, Town Hall, April 19, 2006.

122 Havas, M. 2006. Part 2: No Place to Hide: Wireless Technology. Total Health Show, Toronto, ON, April 1, 2006.

121 Havas, M. 2006. Panel Discussion: Energy Medicine. Total Health Show, Toronto, ON, April 1, 2006.

120 Havas, M. 2006. Part 1: Electromagnetic Hygiene: Dirty Electricity in homes and schools. Total Health Show, Toronto, ON, April 1, 2006.

119 Havas, M. 2006. Biological Effects of Dirty Electricity with Emphasis on Diabetes and Multiple Sclerosis. Precautionary EMF Approach: Rationale, Legislation and Implementation, 5th ICEMS International Workshop, Benevento Italy, 22-25, 2006.

118 Havas, M. 2006. Biological Effects of Dirty Electricity. Peterborough Public Library, Peterborough, ON, February 16, 2006.

117 Havas, M. 2006. Electromagnetic Pollution: No place to hide! Markham ON, February 15, 2006.

116 Havas, M. 2006. Dirty Electricity, Electrical Hypersensitivity and your Health. Toronto, ON, February 13, 2006

115 Havas, M. 2006. Electromagnetic Pollution and Your Health. Sir Sanford Fleming College, Peterborough, ON, February 6, 2006.

114 Havas, M. 2006. Dirty Electricity, Diabetes and Multiple Sclerosis. Cenre for Health Studies Research, Trent University, Peterborough, ON, January 25, 2006

2005 113 Havas, M. 2005. Electrical Pollution & the Need for Better Health Guidelines. Meeting with Belinda Stronach, **Aurora, Ontario**, December 14, 2005.

[29] 112 Havas, M. 2005. Electromagnetic Sensitivity and Electromagnetic Pollution, Faculty of Medicine, University of Toronto, **Toronto**, **Ontario**, December 9, 2005.

111 Havas, M. 2005. *Dirty Electricity, what it is, what it does, and what we can do to protect ourselves*. Nutritionists Network Group Meeting, **Richmond Hill**, **Ontario**, November 15, 2005.

110 Havas, M. 2005. *Cell Tower Radiation and Fire Fighter Exposures*. Health and Safety for the Professional Fire Fighter, The IAFF John P. Redmond Foundation Symposium on the Occupational Health and Hazards of the Fire Service. **Honolulu Hawaii**, October 23-27, 2005.

109 Havas, M. 2005. Health and Safety Round Table Question Period, Health and Safety for the Professional Fire Fighter, The IAFF John P. Redmond Foundation Symposium on the Occupational Health and Hazards of the Fire Service. **Honolulu Hawaii**, October 23-27, 2005.

108 Havas, M. 2005. *Dirty Electricity, Diabetes, Multiple Sclerosis, Electrical Hypersensitivity and Sick Building Syndrome . . . Is there a connection?* Occupational Hygiene Association of Ontario, **Toronto,** October 20, 2005

107 Havas, M. 2005. *Electrical Pollution: No Place to Hide*. SWEEP, Safe Wireless Electromagnetic and Electrical Policy, Breast Cancer Research and Education Fund and the Niagara Healthy Environment Initiative, **St. Catharines, Ontario**, October 15, 2005.

106 Havas, M. 2005. *Radio Frequency Radiation and Adverse Biological Effects*. **Salisbury, North Carolina**, October 13, 2005.

105 Havas, M. 2005. *Earth Energy, Life Energy, and Techno Energy Interactions. How is electromagnetic Technology affecting Life on our Planet? It's a Shocker!* Toronto Dowsers, Latvian Centre, Credit Union Drive, **Toronto**, October 11, 2005.

104 Havas, M. 2005. *Electromagnetic Pollution*. Ontario Ministry of Health, **Toronto**, September 20, 2005

103 Havas, M. 2005. *Health Effects of Dirty Electricity*. **Bermuda**, September 3, 2005.

102 Havas, M. 2005. *Radio Frequency Radiation: Cell Phone and Cell Towers*. **Bermuda**, September 3, 2005.

101 Havas, M. 2005. Cell Phones, Electricity and your Home. Trent-Shad Valley Program, Trent University, **Peterborough, Ontario**, July 18, 2005.

100 Havas, M. 2005. *Effects of Electrical Pollution and Radio Frequency Radiation*. STOP (Stop Transmission lines Over People), Parent Information Session, St. Justin Martyr Parish Hall, **Markham, Ontario**, June 20, 2005.

99 Havas, M. 2005. *Health Effects of Dirty Electricity*, Public Lecture, St. Johns Church, **Peterborough, Ontario**, June 16, 2005.

98 Havas, M. and A. Olstad. 2005. *Dirty Electricity Study at Fillmore-Central Elementary, Middle & High School*. **Minnesota**, June 2, 2005.

97 Havas, M. 2005. My research with Dirty Electricity. Dr. Tel-Ore, **Minneapolis Minnesota**, May 31, 2005.

96 Havas, M. 2005. *Electrical Pollution: A Serious Environmental Problem*. Breast Cancer Research and Education Fund and the Niagara Healthy Environment Initiative, **Port Dalhousie, Ontario**, April 30, 2005.

95 Havas, M. 2005. *Electrical Pollution in the Home*, Sir Sanford Fleming College, **Haliburton**, **Ontario**, April 29, 2005.

94 Havas, M. 2005. Dirty Electricity. United Church, **Peterborough, Ontario**, April 26, 2005.

93 Havas, M. 2005. *Electrical Pollution in the Home*. Healthy Buildings Conference, **Cambridge, Ontario**, April 6-7, 2005.

92 Havas, M. 2005. *Electrical Pollution: Part 1. Electromagnetic Fields*. Medical Officer of Health, **Newmarket, Ontario**, April 1, 2005

91 Havas, M. 2005. *Dirty Electricity and Graham/Stetzer Filters*. Naturopathic Doctors, **Peterborough, Ontario**. March 10, 2005.

90 Havas, M. 2005. *Electrical Pollution*. Deputy Minister of Rural Affairs, **Toronto, Ontario,** February 24, 2005.

89 Havas, M. 2005. *Electrical Pollution*. Task Force, **Markham, Ontario**, February 23, 2005.

88 Havas, M. 2005. *Environmental Contaminants and Health: Dirty Electricity and Electrical Hypersensitivity*. Sir Sanford Fleming College, **Peterborough, Ontario**, February 14, 2005.

87 Havas, M. 2005. *Health Effects of Dirty Electricity*. Bio Ag. Conference, **Wellesley, Ontario**, January 27, 2005.

86 Havas, M. 2005. *Health Effects of Dirty Electricity*. Barbados Radiation Conference, Sherbourne 2005. Conference Centre, **Barbados**, January 18, 2005.

85 Havas, M. 2005. *Radio Frequency Radiation: Cell Phone Antennas*, Barbados Radiation Conference, Sherbourne Conference Centre, **Barbados**, January 18, 2005.

2004 84 Havas, M. 2004. *Health Concerns Associated with Part 1. Radio Frequency Radiation, Part 2. Magnetic Fields (ELF), Part 3. Dirty*

Electricity. Public Seminar, **Tobago**, November 20, 2004.

[10] 83 Havas, M. and D. Stetzer. 2004. *Health Concerns Associated with Dirty Electricity and Power Frequency Fields*. Public Seminar, Port-of-Spain, **Trinidad**, November 17, 2004

82 Havas, M. 2004. *Health Concerns Associated with Radio Frequency Radiation*. Public Seminar, Port-of-Spain, **Trinidad**, November 17, 2004

81 Havas, M. 2004. *Dirty Electricity and Electrical Hypersensitivity (EHS): Five Case Studies*, Bio-Ag Conference, **Wellesley, Ontario**, November 10, 2004.

80 Havas, M. 2004. Dirty Electricity and Multiple Sclerosis, MS Society **Pickering, Ontario**, November 2, 2004.

79 Havas, M. 2004. Dirty Electricity and Multiple Sclerosis, MS Society **Oshawa, Ontario**, November 2, 2004.

78 Havas, M and J. Mackay. *Street level magnetic fields within the City of Kingston, Ontario, Canada*. Biological Effects of EMFs, 3rd International Workshop, Kos, **Greece**, 4-8 October, 2004.

77 Havas, M., M. Illiatovitch, and C. Proctor. *Teacher and student response to the removal of dirty electricity by the Graham/Stetzer filter at Willow Wood School in Toronto, Canada*. Biological Effects of EMFs, 3rd International Workshop, Kos, **Greece**, 4-8 October, 2004.

76 Havas, M. and D. Stetzer. 2004. *Graham/Stetzer Filters Improve Power Quality in Homes and Schools, Reduce Blood Sugar Levels in Diabetics, Multiple Sclerosis Symptoms, and Headaches. Children with Leukemia* International Conference in **Westminster, London**, September 6-10, 2004.

75 Havas, M. 2004. *Wireless Communication Antennas on Fire Halls: Dumb and Dangerous! International Association of Fire Fighters Conference,* **Boston**, August 2004.

2003 74 Havas, M. *Health Effects Associated with Power Lines*. Expert Testimony. National Energy Board Hearing regarding Sumas Energy, **Abbottsford, BC**, July 2003

2002 73 Havas, M. National Research Policy Conference, Ottawa, ON., October 22-25, 2002

[15] 72 Havas, M. *Cell Phone Towers and their Biological Effects*. Behind the Scenes, Trent University, **Peterborough, Onbtario,** October 19, 2002

71 Havas, M. *Electromagnetic Fields in Schools: What can be done to reduce exposure*. Health and Safety Conference, **Toronto**, **Ontario**, August 15, 2002.

70 Havas, M. *How to reduce your exposure to wired and wireless electromagnetic energy*. Invited Speaker, Presented at People and the

Planet Conference, Sierra Club of Canada, Queen's University, **Kingston, Ontario**, June 3-9, 2002

69 Havas, M. Health Concerns Associated with Wireless Telecommunication.. Invited Speaker, Public Lecture, Caledonia, PEI, May 29, 2002.

68 Havas, M. *Mapping Magnetic Fields in the School Environment*. **Guelph Ontario**, May 24, 2002

67 *Electromagnetic fields (EMF) and Electromagnetic Radiation (EMR): An overview of Health Concerns and a Call for Action*. Presented to the Standing Committee on Environment and Sustainability, **Parliament Hill, Ottawa, Ontario,** May 21, 2002

66 Havas, M. *Biological Effects of Low Frequency Electromagnetic Fields,* **London, England,** May 16-17, 2002

65 Lund-Lucas, E., R. Silvestri, M. Havas, D.J. Cunningham, and L. Thomas. 2002. Everything students should know about Thinking and Learning. Destination Success 2002: Building Accessible Learning Communities, Sponsored by Learning Opportunities Task Force, Ministry of Training, Colleges & Universities, Government of Ontario & Georgian College; **Barrie, Ontario**, May 6 & 7, 2002.

64 Havas, M. *Electromagnetic Fields in a School Environment, the Need for Mapping*. Presented to School Health and Safety Officers, **Mississauga, Ontario**, May 3, 2002.

63 Havas, M. *Sources of electromagnetic fields in the home*. Presented to Environmental Homes, **Grand Valley, Ontario**, April 27, 2002.

62 Havas, M. *Corporatization of the University*, Smith Conference Room, Trent University, **Peterborough, Ontario**, April 6th.

61 Havas, M. *Electromagnetic fields in the home and childhood cancers: An overview from Wertheimer to Wartenberg*. Presented at the International Centre for Electromagnetic Biocompatibility (ICEB) Conference, **Montreal, Canada,** March 6-8, 2002

60 Havas, M. Rapporteur, Simply Water? Workshop, Trent University, **Peterborough, Ontario,** February 18-20, 2002

59 Havas, M. Expert Testimony on the health effects of power line electromagnetic fields. Mendota Heights, Public Meeting, Planning Commission, **Minnesota**, January 2002.

2001 58 Havas, M. *Electromagnetic fields and breast cancer*. Eyes Wide Open, Conference on Breast Cancer, **Peterborough, Ontario**. October 2001.

2000 57 Havas, M. Toronto Round Table on Cell Phone Towers, RFR, Public Meeting with Panel Discussion, City of Toronto Department of Health, **Toronto, Ontario,** February 7, 2000

[2] 56 Havas, M. Expert Testimony of the Biological Effects of Power Line electromagnetic fields, **Mendota Heights, Minnesota**, Public

Meeting, January, 2000.

1999 55 Havas, M. Power lines on London Street Peterborough and the Literature on Health Effects. Presented to the PUC, **Peterborough, Ontario**, June 22, 1999.
[1]

1995 54 POSTER: Acid Reign '95 Conference, **Gothenburg, Sweden**, June 1995. 1) Can Sodium Regulation be used to Predict Relative Acid Sensitivity of Aquatic Fauna?; 2) Biological Recovery in Two Previously Acidified, Metal-Contaminated Lakes, near Sudbury, Ontario, Canada; 3) Chemical Response of Two Previously Acidified, Metal-Contaminated Lakes, near Sudbury, Ontario, Canada.

[3] 53 PLENARY SPEAKER: Acid Reign '95 Conference, **Gothenburg, Sweden**, June 1995.

52 LECTURE: at the KEY Workshop on Biodiversity in Ontario, August 1995. Solving Environmental Problems: A framework.

1994 51 INVITED SPEAKER: conference in **Kathmandu, Nepal**, March 1994. Environmental Education in Developing Countries.

[4] 50 LECTURE: at the KEY Workshop on Chemicals in the Environment, **Regina**, July 1994. Environmental Science and Decision Making

49 LECTURE: at the KEY Workshop on Biodiversity, **Ontario**, August 1994.
Solving Environmental Problems: A framework.

48 PARTICIPANT: First International Symposium on Ecosystem Health and Medicine: Integrating Science, Policy and Management. **Ottawa, Ontario**, June 19-23, 1994.

1993 47 PARTICIPANT: Evaluating and Monitoring the Health of Large-Scale Ecosystems, NATO Advanced Research Workshop, **Montebello, Quebec**, October 10-15, 1993.

[4] 46 POSTER: International Conference on Heavy Metals in the Environment, in **Toronto**, September 1993.

45 LECTURES: at the KEY Workshop on Chemicals in the Environment, Regina June 1993, **Sarnia** August 1993; 1) DDD: A Case Study; 2) Environmental Decision Making; 3) Solving Environmental Problems: A framework.

44 INVITED SPEAKER: conference in **Toluca, Mexico**, February, 1993.

1992 43 LECTURES: at the KEY Workshop on Chemicals in the Environment, **Regina** July 1992, **Sarnia** August 1992.

[2] 42 LECTURES: at the KEY Workshop on Chemicals in the Environment, **Regina** July 1992, **Sarnia** August 1992; 1) DDD: A Case Study; 2) Environmental Decision Making; 3) Solving Environmental Problems: A framework.

1991 41 LECTURES: at the KEY Workshop on Chemicals in the Environment, August 16-25, 1991. 1) View of Environmental Issues

		from a Scientist's Perspective; 2) DDD: A Case Study
1990	40	SEMINAR: "Science Reporting and Journalism", Campbellford District High School, Your Science Future, **Cambellford, Ontario**, November 14, 1990.
[4]	39	LECTURES/DISCUSSIONS: at the KEY (formerly SEEDS) Workshop on Chemicals in the Environment, August 18-25, **Mississauga, Ontario**, 1) Environmental Problems: An Overview; 2) Acid Rain: An Historical Perspective; 3) DDD: A Case Study; 4) Agricultural Practices: synthetic vs organic chemicals
	38	CONFERENCE PRESENTATION: Enviro Mystery: An Educational Computer Game, Third International Show & Tell for Ontario Universities and Colleges, May 28-29, 1990, oral presentation and computer demonstration, with Robert Loney; **Guelph Ontario**.
	37	SEMINAR: Scientific Research in the Canadian Arctic, Science Day, Trent University, **Peterborough, Ontario**, April 10, 1990.
1989	36	LECTURE: Science in the Canadian Artic. Environmental and Resource Studies, Trent University, **Peterborough, Ontario**, July 1989.
[3]	35	LECTURES: at the SEEDS Workshop on Chemicals in the Environment, August 5-12, **Kingston, Ontario,** 1) Acid Rain: An Overview; 2) DDD: A Case Study
	34	TELEVISION INTERVIEW (TVO): Panel Discussion on Sustainable Development, **Toronto**, **Ontario**. May 1989.
1988	33	POSTER PRESENTATION: Needle Chemistry as an Early Warning Indicator of Decline in Balsam Fir, Red Spruce, and Norway Spruce. Forest Decline Symposium, October 20-21, 1988, **Rochester, N.Y.** (with R. Loney, M. Scott, and T.C. Hutchinson)
[4]	32	POSTER PRESENTATION: Influence of Climate and Air Pollution on Decline of Sugar Maple in Eastern North America. Forest Decline Symposium, October 20-21, 1988, **Rochester, N.Y.** (with R. Loney)
	31	THREE LECTURES: at the SEEDS Workshop on Chemicals in the Environment, August 12-21, 1988, **Sarnia, Ontario**. 1) Chlorinated Hydrocarbons-Friend or Foe? A Case Study; 2) Principles of Chemistry as they Pertain to the Environment; 3) Principles of Ecology as they Pertain to Chemicals in the Environment
	30	INVITED LECTURE: Later Life Learning: "Scientific Developments and Inventions at the University of Toronto, Topic was "Acid Rain in the Canadian Artic", March 10, 1988, Innis College, U of T, **Toronto, Ontario**.
1987	29	ORAL PRESENTATION: Can Aquatic Mosses and Macrophytes be used as Bioindicators of Metal Pollution? Intern. Conf. Heavy Metals. September, 1987, **New Orleans**.

[5]	28	LECTURE: Use of DDD in Clear Lake-a Case Study. SEEDS Workshop on Chemicals in the Environment, August, 1988, **Sarnia, Ontario**
	27	LECTURE: Science Careers for Women. Open Doors for Tomorrow, Peel's Career Conference for young women, Glenforest Secondary School, **Peel County, Ontario** May 9.
	26	ORAL PRESENTATION: Does hemoglobin enhance the acid tolerance of aquatic invertebrates? International Symposium on Ecophysiology of Acid Stress in Aquatic Organisms, Jan 13-16, 1987, **Antwerp, Belgium**.
	25	ORAL PRESENTATION: Effects of calcium and pH on aluminum toxicity and bioaccumulation by *Daphnia magna*. International Symposium on Ecophysiology of Acid Stress in Aquatic Organisms, Jan 13-16, 1987, **Antwerp, Belgium**.
1986	24	ORAL PRESENTATION: Chemical recovery of 2 lakes near Coniston, Ontario. SLANT/TRESLA meeting,April 11-13, 1986, **Peterborough, Ontario**.
[3]	23	SEMINAR: Aluminum toxicity in aquatic invertebrates, Department of Biology, Trent University, **Peterborough, Ontario**, February 28, 1986.
	22	ORAL PRESENTATION: Aluminum toxicity and salt regulation in aquaticinvertebrates, Society of Canadian Limnologists (SCL), Conference held n **Ottawa, Ontario**, January 7 & 8, 1986.
1985	21	POSTER PRESENTATION: "Aluminum localization in aquatic plants and animals", **Muskoka** Acid Rain Conference, Sept 15-20, 1985.
[5]	20	POSTER PRESENTATION: "Recovery of acidic metal-contaminated lakes near Coniston Ontario", with T.C. Hutchinson, **Muskoka** Acid Rain Conference, Sept 15-20, 1985.
	19	SEMINAR: "Aluminum toxicity, uptake and localization in aquatic invertebrates", Department of Biology, McMaster University, **Hamilton, Ontario,** August 29, 1985
	18	PARTICIPANT: Impact of Nuclear Winter on Natural Ecosystems, Workshop, SCOPE, **Toronto**, March 1985.
	17	ORAL PRESENTATION: "Does hemoglobin enhance acid tolerance of aquatic invertebrates?", SLANT/TRESLA Conference, **Quebec**, April 12-15, 1985.
1984	16	ORAL PRESENTATION: "Aluminum uptake and toxicity to Daphnia magna at low pH in soft water." 11th Annual Aquatic Toxicity Workshop, **Vancouver, B.C**., November 13-15.
[3]	15	INVITED SPEAKER: Physiological effects of acidity and associated water chemistry (aluminum) on freshwater invertebrates Department of Biology, Dalhousie University, **Halifax**, **Nova Scotia,** October 18.
	14	INVITED SPEAKER: Acid rain and the future of Ontario Lakes Dallington Public School, **Toronto**, Ontario, April.

1983	13	INVITED SPEAKER: Natural and Manmade Acid Rain Audubon Society, Darien, **Connecticut**, U.S.A., February 3.
[2]	12	INVITED SPEAKER: Aluminum toxicity to aquatic invertebrates Norwegian Institute for Water Research, **Oslo, Norway**, May.
1982	11	INVITED SPEAKER: Causes of Acid Rain and Acid Deposition Conference on Acid Rain, Pennsylvania Environmental Council, 14th Annual Meeting, Lock Haven State College, , **Pennsylvania**, October 21.
[4]	10	INVITED SPEAKER: Effects of acid rain on aquatic animals Acid Rain Effects Workshop, JASON MITRE Corporation, Cornell University, **Ithaca, N.Y**., Sept 30 to Oct. 1.
	9	LECTURES: Neutron Activation Analysis as an Analytical Tool. Section of Ecology and Systematics, Cornell University, **Ithaca, N.Y.**
	8	LECTURE: Response of aquatic invertebrates to acidification Aquatic Entomology Course, Cornell University, **Ithaca, N.Y**.
1981	7	PARTICIPANT: Ecotoxicology Workshop, Ecosystem Research Center, Cornell University, **Ithaca, N.Y**., November 2-5.
[5]	6	POSTER PRESENTATION: Acid/Rain Fisheries Symposium, Northeastern Division of the American Fisheries Society, Cornell University**, Ithaca, N.Y**., August 2-5.
	5	SEMINAR: The Smoking Hills and Sudbury: Two case studies Department of Biology, State University of New York College, **Cortland, N.Y**., April
	4	SEMINAR: Does hemoglobin reduce acid-stress of Daphnia magna? Entomology Seminar, Cornell University, **Ithaca, N.Y**., March.
	3	SEMINAR: Extreme acidification at the Smoking Hills: Chemical and Biological Consequences Section of Ecology and Systematics, Cornell University, **Ithaca, N.Y**., February.
1980	2	PARTICIPANT: Effects of sulphur and nitrogen oxides on plants International Workshop on Environmental Implications and Strategies for Expanded Coal Utilization, UNEP/Beijer Institute, **Moscow**, **USSR**, October 20-24.
[2]	1	SEMINAR: Toxicity of metals at low pH to aquatic invertebrates. Department of Botany, University of Toronto, **Toronto**.

5 WEBSITE ARTICLES

I have two websites www.magdahavas.com and www.magdahavas.org. The dot com website is an educational website designed to inform the public about electrosmog and electrosensitivity. The dot org website is a more formal website that provides a list of my publications. Both websites went live on October 14, 2009.

Below is a list of articles (blogs) on the website in reverse chronological order.

DATE	#	TITLE
Dec 2011	140	Dr Oz on PEMF therapy and pain relief, in prep.
Oct 2011	139	Want to learn more? Course on Electrosmog & Electrosensitivity
[4]	138	Health Canada needs to issue warning about Wireless Baby Monitors
	137	Peterborough City Council disagrees with cell tower site
	136	Advice for Health Canada regarding Wi-Fi, cell phone antennas, and other forms of radio frequency emitting devices
Sept 2011	135	Ontario School replaces Wi-Fi with Wired Internet
Aug 2011	134	Open Letter to Steve Jobs
[3]	133	Cell Phones and Head Blemishes in Adolescents: Is it Melanoma?
	132	How to properly read a scientific paper–Adolescent brain tumours and mobile phones.
July 2011	131	Mercury in broken CFL bulbs can exceed safe exposure levels for humans!
[3]	130	Conflict of Interest: The Wireless Industry and ICNIRP
	129	Health Canada confused about WHO Classification
June 2011	128	International Experts' Perspective on the Health Effects of Electromagnetic Fields (EMF) and Electromagnetic Radiation (EMR)
[5]	127	KPRD School Board silences opposition to WiFi in Schools
	126	Workers Health and Safety Centre, Radiation from Cell Phones
	125	School boards gagging dissent over WiFi, Peterborough
	124	WHO's new classification of RFR: What does this mean for Canada?

May 2011	123	May 2011: A month in review–IARC, WHO radio frequency possible human carcinogen; PACE dangers of electromagnetic fields
[2]	122	CN Tower Edgewalk: Thrill seekers may get more than they paid for. Pick of the Week 26
Apr 2011	121	Pick of the Week 25: Review of International Microwave Exposure Guidelines form 1957 to 1968
Mar 2011	120	Multiple Sclerosis and Dirty Electricity
[3]	119	Pick of the Week 24: Microwave Radiation affects the Heart
	118	Cell phones affect brain–what about cell towers?
Feb 2011	117	Cell Phone Study Warning
[9]	116	Musing #2: Truth Speaking vs Fear Mongering
	115	Musing #1: WiFi in Schools–a Ticking Time Bomb
	114	Pick of the Week 23: Research on Biological effects of Radio Frequency Radiation in Eurasian Communist Countries, 1976
	113	Pick of the Week 22: A Very Important Symposium!
	112	Pick of the Week 21: Physical Basis of Electromagnetic Interactions with Biological Systems
	111	Pick of the Week 20: Early Research on the Biological effects of Microwave Radiation: 1940-1960
	110	Pick of the Week 19: Index of Publications on Biological Effects of Electromagnetic Radiation (0-100 GHz)
	109	Oregon introduces cellphone radiation legislation
Jan 2011	108	Swiss Government's advice about Mobile Phone Use
[4]	107	Multiple Sclerosis and Electrohypersensitivity
	106	Havas Report on Smart Meters for CCST
	105	Population Control and Microwave Radiation
Dec 2010	104	Taming the Microwave Dragon
[7]	103	WiFi in Alberta Schools: A debate
	102	Science 101: Weight-of-Evidence and Weight-of Warning
	101	Canada House of Commons Microwave Radiation now Available
	100	Smart Meter Installation Challenged
	99	Are Wireless Smart Meters Safe?
	98	Pick of the Week #18: Effect of Microwaves on the Central Nervous System 1965–German translation

	97	Wireless Smart Meter Kills Plant
Nov 2010	96	School Board threatens to fine Parents and expel Students because of WiFi concerns
[9]	95	If WiFi harms trees, what about children?
	94	Wireless internet via LED "Smart" Lighting
	93	Pick of the Week #17: Power Frequency Electromagnetic Fields
	92	Brain Tumour risk and Mobile Phone use
	91	DECT Baby Monitors may be Dangerous
	90	Non-thermal Effects and Mechanisms between EMFs and Living Matter
	89	Important Review on Biological Effects of Antennas by Levitt and Lai 2010
	88	Pick of the Week #16: Russian Translation Microwave Radiation influence on Man and Animals (1970)
Oct 2010	87	New Study: Radiation from Cordless Phone Base Station affects the Heart
[6]	86	Free Fiber for Swiss Schools–WiFi Warnings
	85	Pick of the Week #15: Russian Translations on Biological Effects of Magnetic Fields and Radio Frequency Radiation.
	84	Pick of the Week #14: Proposal for Legislation: Non-ionizing Radiation (1979)
	83	Is induction Cooking Safe?
	82	Pick of the Week #13: Microwave Studies with Human Subjects, 1966.
Sept 2010	81	Open Letter to Medical Officer of Health about WiFi in Schools
[12]	80	Disconnect–The Corruption of Science
	79	Pick of the Week #12: Why Pulsed Microwave Frequencies are more Harmful.
	78	Is What Space Super WiFi Dangerous?
	77	OAHPP Comments on WiFi and Health
	76	Pick of the Week #11: Potentially Harmful Radio Frequencies used in the Packaging and Food Industry
	75	Lady Gaga–Lupus and Electrosensitivity?
	74	Pick of the Week #10: Navy Tested Microwaves on Military Volunteers

	73	Cell Phones and WiFi are Safe = Not
	72	Pick of the Week #9: 0.95 and 2.45 GHz most Lethal Microwave Frequencies
	71	WHO admits "conflicts of interest"
	70	Pick of the Week #8: Repacholi Revises Safety Code 6
Aug 2010	69	Barrie Trower speaks about Microwave Radiation
[7]	68	Real estate devalues when cell towers are erected.
	67	Pick of the Week #7: Hazards of Microwave Radiations–Review from 1960
	66	Digital portable phones affects the Heart!
	65	Pick of the Week $6: Clinical and Hygienic aspects of exposure to Electromagnetic Fields
	64	WiFi in Schools and the Health Effects of Microwaves
	63	Pick of the Week #5: Why the double standard?
July 2010	62	Study finds Vatican Radio causes cancer
[7]	61	WiFi "Laptops" affect male fertility
	60	Pick of the Week #4: Cancer Mortality near Air Force Bases
	59	Adding light to heat of WiFi debate
	58	Pick of the Week #3: 1967 EMR Review, copy 5/15
	57	Pick of the Week #2: Origins of 1966 U.S. Safety Standards for Microwave Radiation
	56	Pick of the Week #1: More than 2000 Documents prior to 1972 on Bioeffects of Radio Frequency Radiation.
June 2010	55	New iPhone 4 reception problem is good news.
May 2010	54	Lessons from the Interphone Study
[2]	53	Interphone Study: It's not just brain tumors!
April 2010	52	Moores Cancer Centre Doctor discusses cell phone tumour link
[5]	51	How to BRAG Rate your School
	50	CBC Podcast on the dangers of wireless technology
	49	BRAG School Report–Media Advisory
	48	Welcome to Planet Irth
March 2010	47	Live Blood Cells and Electrosmog
[4]	46	Diabetes and Electrosensitivity
	45	Wireless Concerns at Lakehead University

	44	Dr. Havas lectures at Total Health Show in Toronto
Feb 2010	43	From Zory's Archive
[4]	42	What do dancing cows and zapped dogs have in common?
	41	Cell phone antennas on apartment buildings?
	40	Google offers alternative to WiMax
Jan 2010	39	EM Hypersensitivity Awareness Month, Harbour Grace, NFL
[5]	38	Mobile-Boro Man
	37	Cell Phone Antennas and Cost of Electricity
	36	Open Letter–WiFi in Libraries
	35	Open Letter–WiFi in Schools (#2)
Dec 2009	34	University says "NO" to WiFi and Cellular Antennas
[6]	33	What is Dirty Electricity?
	32	Prevention exposes Dirty Electricity
	31	Dirty Electricity and GS Units
	30	Electrification causes "disease of civilization"
	29	New EMF website by Dr. Mercola
Nov 2009	28	Don't stand in front of the microwave
[8]	27	Power Line Protest
	26	Thousands turn up for the Power-Line Protest
	25	Residents Fight Proposed Power Expansion
	24	Edmonton Power Line Protest
	23	Prevention Magazine on CFL Bulbs
	22	Heart murmur and Portable Digital Phones
	21	Cell Phones & Cigarettes: What do they have in common?
Oct 2009	20	Open Letter: WiFi in Schools (#1)
[20]	19	WiFi Proposal for San Francisco
	18	Expert Testimony Broadcast Antenna
	17	Dirty Electricity in Schools
	16	Expert Testimony High Voltage Transmission Line
	15	Cell Tower Blues
	14	Mechanisms of Action, Dr. Andrew Goldsworthy
	13	Cell Transmission Towers

12	CWTI: Libby Kelley and Magda Havas
11	Conference: Holistic Health NOW, AHMA, Ohio, Nov 2009
10	Epilepsy 360 degrees
9	Electromagnetic Sensitivity Awareness Month
8	The Dark Side of CFL Bulbs
7	Dr. Martin Blank Lecture on EMF and Cancer
6	Rethink Breast Cancer
5	EHS Quiz
4	Cell Phones
3	Wind Power and Dirty Electricity
2	Conference: EMF Impacts on Human Health, Colorado, Nov 2009
1	Global TV–dirty electricity

6. YOUTUBE VIDEOS

Date uploaded	#	Title	Duration	Views
Mar 23, 2011	13	Multiple Sclerosis and Dirty Electricity (with Don Garbutt)	5:42	2.765
Jan 10, 2011	12	Conspiracy Theory: Population Control & Microwave Radiation	7:59	3,820
Jan 5, 2011	11	Taming the Microwave Dragon	7:12	41,039
Dec 23, 2010	10	Planet Irth	8:42	1,518
Oct 19, 2010	9	Microwave Radiation Dangers in your Home	6:20	205,570
Apr 27, 2010	8	WiFi in Schools and Health Effects of Microwave Radiation (with Bob Connolly & Rodney Palmer)	5:33	17,340
Mar 23, 2010	7	DECT Phone affects the Heart (with Jeff Marrongelle)	6:49	21,628
Mar 21, 2010	6	Diabetes and Electrosensitivity	7:12	43,160
Mar 21, 2010	5	Live Blood Analysis & Electrosmog	2:32	31,197
Feb 17, 2010	4	Cell Phone Antennas on Apartment Rooftops and their Health Effects (with	1:50	4,957

		Bob Connolly)		
Feb 17, 2010	3	Dancing Cows become Sick due to Ground Current on Diary Farms (with Bob Connolly)	0:32	2,527
Dec 5, 2009	2	What are GS Units? (with Ralph Frederick)	8:22	11,168
Nov, 2009	1	Cell Phones & Cigarettes: What do they have in Common?	7:39	59,881

7 VIDEO LINKS to Talks and Interviews (*incomplete list*)

Videos of some of my **talks** and **interviews** are available on the internet. Below is an incomplete list with number of views as of November 25,2011.

Date	#	Type	Title & URL	T	Views
Jul 27, 2011	17	Interview BC	Green Party Opposes BC Hydro's New Smart Meters, http://www.youtube.com/watch?v=WM9-q62Hglw	2:52	1282
Jul 19, 2011	16	Interview Toronto	Magda Havas Wylde on Health; http://www.youtube.com/watch?v=9LbQcxqf-8s	31:17	827
Jun 6, 2011	15	Interview BC	Face to Face with Dr. Magda Havas: The Dangers. http://vimeo.com/24733700	30:11	
May 31, 2011	14	Press Conference	Wireless Radiation Safety Council Press Conference, April 19, 2011, part 3, http://www.youtube.com/watch?v=6xeRWC-K1_Q	6:13	53
Apr 17, 2011	13	Talk Toronto	Unsafe Levels in Schools, http://www.youtube.com/watch?v=MQXJlMqHhvo	1:25	
			Microwaves and the Heart, http://www.youtube.com/watch?v=sv1E9IXUd6M	3:43	
Jan 14, 2011	12	Interview	Dr. Magda Havas, Wi-Fi Dangers; 16 by 9, Global, http://www.youtube.com/watch?v=Mxrjhu1R2BE	14:32	517
Nov 18, 2010	11	Talk San Francisco	Commonwealth Club, 11-18-10 Panel I-Magda Havas, PhD, http://vimeo.com/17270263	14:14	
			Panel I-Q&A http://vimeo.com/17268032	15:27	
			Panel III- http://vimeo.com/17263893	14:14	
Nov 17, 2010	10	Interview	The Concerned with Wi-Fi in Alberta Schools http://albertaprimetime.com/Stories.aspx?FlashVars=Video/PTR_111710.flv&pd=1698	14:21	
Sept 6, 2010	9	Talk, Burbank California	Wireless Dangers: Havas/Kelley 1 of 7; 1 http://www.youtube.com/watch?v=PzSDF1Q3_jk 2 http://www.youtube.com/watch?v=bbemtlMSVfk 3 http://www.youtube.com/watch?v=cjL-gpauVEg 4 http://www.youtube.com/watch?v=hpsef6fmdSg 5 http://www.youtube.com/watch?v=whTncnKeLcY	1-15:00 2-14:47 3-13:28 4-14:22	

			5 http://www.youtube.com/watch?v=whTpcpKeJ_Y 6 http://www.youtube.com/watch?v=Bwv1HF-5KAk 7 http://www.youtube.com/watch?v=B064tGAmmUM	5-13:04 6-13:27 7-10:55	
Aug 31, 2010	8	Interview	Wi-Fi in Schools-Chex TV-Peterborough, Ontario, http://www.youtube.com/watch?v=uEEnDwOjc7E	2:28	
Dec 30, 2009	7	Talk Colorado	EMR Magda Havas #1, Evidence of Health Harm from Electromagnetic Radiation, http://www.youtube.com/watch?v=r0yRIrN_fbY	9:23	
Dec 28, 2009	6	Talk	EMR Magda Havas #2.mov; http://www.youtube.com/watch?v=pPGINNXmOCY	9:16	
Dec 9, 2009	5	Talk	EMR Magda Havas #3.mov; http://www.youtube.com/watch?v=LcZWBF6w9Sw	8:21	
Dec 19, 2009	4	Talk	Dr. Magda Havas: The Truth about Wired and Wireless Technologies; http://vimeo.com/8283238 http://www.youtube.com/watch?v=dYjAAqUfHtE	1:29:02	
Jan 18, 2009	3	Interview	Dirty Electricity-Part 1-Rays of Rash; Global TV, 16:9, The Bigger Picture. http://www.youtube.com/watch?v=6CVLa_tRslY	8:04	57,029
Jan 18, 2009	2	Interview	Dirty Electricity-Part 2-Dirty Energy, Global TV, 16:9, The Bigger Picture, http://www.youtube.com/watch?v=A55081TOlbQ	7:17	52,951
Jul 17, 2008	1	Talk	Dr. Magda Havas: Cell/Transmission towers & your Health, http://www.youtube.com/watch?v=OmK6r0ntroE&feature=gv	59:16	

8 INTERVIEWS: TV, RADIO, NEWSPAPER *(incomplete list)*

Below is an incomplete list of interviews since 2001.

Year	Interview
2009	• Interviewed by Nigel Spence for a documentary on Wind Turbines for the BBC to be aired December 2009; Nov 2, 2009
[18]	• CBC Radio Interview, Victoria BC, Oct 6, 2009 • CFRB Radio Interview on Compact Fluorescent Light Bulbs. Sept 2, 2009 • Radio Interview with Matthew Hoffman, Aug 27, 2009 • Interview with John Maciel, July 29, 2009 • Conscious Living Radio Station, BC, July 8, 2009 • Amy Dove interview, BC, July 7, 2009 • Phone Interview regarding High Voltage Transmission Lines in Alberta. Jun 14, 2009

- CBC TV Montreal, Interview with Geeta regarding CFL bulbs. June 5, 2009
- Terri Goveia, Insurance Magazine interview on Dirty Electricity and Stray Voltage. April 28, 2009
- David Baeta, VOLT TV interview on wireless technology. March 5, 2009
- Eva Herr Radio Interview on Dirty Electricity, February 22, 2009
- Podcast Interview, Alberta, Feb 16, 2009
- Bob Lederer radio interview, Feb 14, 2009
- Patrick Timpone Radio Interview, Texas, Feb 12, 2009
- Global TV airing of interview on Dirty Electricity, 16 by 9, Feb 8, 2009
- Global TV airing of interview on RFR, 16 by 9, Jan 18, 2009
- Global TV airing of Interview on CFL Bulbs, 16 by 9, Jan 4, 2009

2006 • CHEX TV, Dirty electricity, December 4, 2006.

[18] • CBC "As it Happens", Ground Current Bill, November 16, 200

- Global TV, Ground Current, November 16, 2006.
- French documentary, dirty electricity, September 20, 2006.
- Ode Magazine with Kim Ridley, Dirty electricity and Diabetes. phone interview August 21, 2006.
- Reuters News Paper, phone interview, July 10, 2006
- French Radio, phone interview, July 4 2006.
- Chatelaine Magazine, Interview, with Maureen, May 4, 2006.
- Magazine Interview, Greek Magazine with Christina, April 18, 2006
- Book Interview with Jeffry Fawcett, phone interview, California, June 28, 2006.
- World Tonight, CHQR, Radio Interview, 20 minutes. April 3, 2006.
- Radio Interview 95.7 FM, Halifax, 1 hour interview with Bill Carr. April 3, 2006.
- Radio News 940, Radio Interview, Montreal, April 5, 2006.
- CBC Radio with Roman in Montreal, phone interview, March 30, 2006.
- Canada AM, CTV, Toronto, ON, March 29, 2006.
- Globe and Mail, Martin Middlestat, Does Power Corrupt. interview February 14 for article March 28, 2006.
- Global News, Cell Antennas and Electrical Hypersensitivity, Neil McCartney, Toronto, Ontario, January 29th, 2006.
- Wisconsin Public Radio, WiFi in the City of Milwaukee and possible health implications. January 26, 2006

2005 • Newspaper interview, The Barbados Advocate, Radiation Risks, Renee Taylor, January 19, 2005

[15] • Insight with Pam Macdonald, Transmission Lines, Rogers Cable,

Newmarket, April 6 2005

- CBC NFL Radio interview, Transformers and cancer. April 15, 2005.
- Vancouver Sun, Newspaper interview, Karen Gram, Dirty Electricity, March 8, 2005,
- Vancouver Sun, Newspaper interview, Karen Gram, Health Effects of EMFs, May 1, 2005,
- The Power Hour Radio interview, Electromagnetic Pollution, May 4, 2005.
- Insight with Pam Macdonald, Ground Current, Rogers Cable, Newmarket, April 11 2005
- Insight with Pam Macdonald, Dirty Electricity, Rogers Cable, Newmarket, June 15 2005.

- CKVR TV News, Transmission Lines, Markham, Ontario, June 20. 2005.
- Toronto Star Interview with Tyler Hamilton, Cell Phones, July 12, 2005.
- Alive Magazine interview, August 1, 2005.
- Insight with Pam Macdonald, Rogers Cable, Newmarket, October 2005.
- Toronto Star, Interview with Tyler Hamilton, Distress Signals, November 11, 2005.
- Wisconsin Public Radio, Ben Merens, Interview on Electronic Pollution with Dave Stetzer
- Fitchburg Star, Newspaper Interview with Kurt Gutknecht, Is "dirty electricity" making you sick? December 29, 2005, Vol. 30, No. 21.

2004 [5]

- Patrick Timpone Show, Radio interview with Patrick Timpone, Electrical Pollution, Austin, Texas, August 7, 2004.
- Newspaper interview, Dirty Electricity, Bangor Wisconsin, September 1, 2004,
- Radio interview, phone-in show, 3 hours, Electromagnetic Pollution you're your Health, Trinidad, November 17, 2004.
- Newspaper Interview, Trinidad, November 18, 2004.
- Jackson County Chronicle, Ken Luchterhand, Newspaper Interview, Testing the Current: Researchers look into the affects of electrical pollution on human health. Wisconsin, November 23, 2004.

2001 [1]

- Toronto Star Interview with Cameron Smith, Electromagnetic Fields in 60 Communities, September 1, 2001.

9 COURSES AT TRENT UNIVERSITY

UNDERGRADUATE COURSES AT TRENT UNIVERSITY, 1989 TO PRESENT

First Year Courses:

INTRODUCTION TO ENVIRONMENTAL ISSUES, science course for 1st year undergraduate students, 1989-2004 and 2005-present; team taught. (Course coordinator 1991-1994.)

THINKING AND LEARNING first year course, 2001-2003, course coordinator, co-taught with instructors from Psychology, Education, English, Anthropology, Native Studies, Special Needs, and Academic Skills.

Second Year Courses:

SCIENCE AND POLICY, course for 2nd year students, co-taught with Professor Stephen Bocking, 1999-2000.

DISCOVERING SCIENCE, science course for 2nd year arts students, 1992-93.

Third Year Courses:

BIOLOGICAL EFFECTS OF ELECTROMAGNETIC FIELDS science course for 3rd and 4th year students, 1995 to present.

POLLUTION ECOLOGY, environmental science course for third and 4th year students, 1994-present, co-taught with Professor Tom Hutchinson. Offered alternate years (even-numbered years)

ENVIRONMENTAL SCIENCE, for 3rd and 4th year undergraduate science students, Science Education, 1989-2008. Offered alternate years (odd-numbered years).

ENVIRONMENTAL COMMUNICATION, *(replaced Communicating Science 2003/4)* for 3rd and 4th year undergraduate science students, Science Education, 2009-present. Offered annually.

AQUATIC TOXICOLOGY, for 3rd and 4th year undergraduate students, Environmental and Resource Studies, Trent University, 1990-1991, co-taught with Professor Doug Evans.

WATER POLLUTION, for 4th year undergraduate students, co-taught with Professor Jim Buttle, 1989/90.

Forth Year Courses:

GROUP PROBLEM SOLVING, arts course for senior undergraduates, co-taught with Professor Stephen Regoczei, 1995 to 2003. Offered alternate years.

HONOURS THESIS, thesis management and communication skills for 4th year undergraduate students, 1989-present. Coordinator 2000-2004; 2011-2012

READING COURSE, various topics dealing with the environment or with education, 1989-present

Graduate Courses:

WATERSHED ECOSYSTEM GRADUATE PROGRAM, science communication for graduate students, Trent University, 1990-2003.

TECHNICAL SCIENCE WRITING, for senior graduate students, WEGP, half credit course running full year, 2003-2006.

Guest Lectures in following Trent Courses:

FIRST YEAR ENVIRONMENTAL SCIENCE, when I am not normally lecturing in this course

BIOREGIONALISM, Wadland and Whillans

HONOURS THESIS (ES401/402): four 2-hour guest lectures annually

ENVIRONMENTAL IMPACT ASSESSMENT AND ECOLOGICAL PRINCIPLES (ER308)

PHILOSOPHICAL APPROACHES TO SCIENCE (WF 500a)

ECOLOGICAL AGRICULTURE, Tom Hutchinson

WASTE MANAGEMENT, Barbara Wallace

Non-Trent Summer Course for High School Students

SHAD VALLEY SUMMER PROGRAM for exception high school students, Co-Director; Trent-Bark Lake-Shad Valley, June 1997; Co-Director again in 2005.

10 COMMITTEES

INTERNATIONAL

2011-pres	INVITED GUEST EDITOR: Special Issue *Bulletin of Science, Technology and Society*, Electrosmog, Electrosensitivity, Electrodiagnostics and Electrotherapies.
2010-pres	SCIENCE ADVISOR: Electromagnetic Radiation Research Foundation of South Africa (EMRRFSA); www.emrrfsa.org/
2006-pres.	ADVISOR: Nationaal Platform Stralingscrisico's in the Netherlands
	ADVISOR: HESE, UK
	ADVISOR: EM Radiation Trust, UK
	ADVISOR: Council on Wireless Technology Impacts
	MEMBER: International Commission on Electromagnetic Safety (ICEMS)
2004-pres.	ADVISOR: EMR Policy Institute, Marshfield Vermont.
2003-4	ADVISOR: International Association of Fire Fighters
1996-7	ADVISOR: Great Lakes Science Advisory Board Workgroup on Emerging Issues. International Joint Commission, Canada/US.
1993-96	ADVISOR: Environmental Science Program for Tribhuvan University,

	Nepal.
1988	SCIENCE ADVISOR: Public Focus; BARK (Backyard Acid Rain Kit) Program which is to be used in school across Canada and the United States.
1988	SCIENCE ADVISOR: Lakes 2000, on their Great Lakes Public Awareness Program.
1981	MEMBER: Forest Sub-Committee, US/Canada Scientific Committee on Acid Rain, Huntington Forest, N.Y., September 1-3, 1981.
1980	ADVISOR: Acid Rain Coalition, Joint US/Canadian Committee on Acid Rain, Michigan 1980.
1978	CO-ORGANIZER (with T.C. Hutchinson): NATO Advanced Institute Workshop on Effects of Acidic Deposition on the Terrestrial Ecosystem, Toronto, May 21-25, 1978.

NATIONAL

2010-pres.	CO-FOUNDER: Electro Sensitive Society, www.electrosensitivitysociety.com ADVISOR: Citizens for Safe Technology Society, www.citizensforsafetechnology.org
2009	RETA, Responsible Electricity Transmission for Albertans, Edmonton Alberta, November 2009
2006-pres.	CO-FOUNDER and ADVISOR: WEEP Initiative, Canada. www.weepinitiative.org
2005	Adviser, SWEEP (Safe Wireless Electrical and Electromagnetic Policy), July 2005
2002	PEI, Cell Phone Towers, May 2002
2002	REVIEWER: National Policy Research Awards.
1993-1998	ASSOCIATE DIRECTOR: KEY Foundation (Knowledge of the Environment for Youth).
1991-1993	EDITOR: *KEYnotes*, Environmental Newsletter sent to 17,000 educators across Canada.
1988	SCIENCE ADVISOR: Trees for Today and Tomorrow on their Tree-Decline School Program
1988	SCIENCE ADVISOR: Boy Scouts of Canada on their Tree-Decline Program
1985-1993	DIRECTOR: KEY Foundation (Knowledge of the Environment for Youth).
1988-1990	MEMBER: Science and Technology Advisory Committee, CBC.
1987	COORDINATOR: Twenty-Second Canadian Symposium on Water Pollution Research, University of Toronto, February 19, 1987.

PROVINCIAL

2011-present	MEMBER: Expert Working Group on Ground Current, Ontario Ministry of the Environmental
2006	ADVISOR: Private Member's Bill, Ground Current Pollution Act, Mpp2006.080.e5-CW in Ontario.
2005	TRAHVOL, Tsawwassen Residents Against Higher Voltage Overhead Lines, Vancouver, BC. October 2005
2004	Adviser, STOP (Stop Power lines Over People), Markham, Ontario
1988-1990	MEMBER: Environmental Appeal Board, Ontario.

LOCAL

1999-2004	EDITOR: View from Trent, in cooperation with the Peterborough Examiner, fortnightly column written by Trent Faculty. See end of this section for list of articles.
1998, 2000	JUDGE: Science Fair, Trent University, Peterborough, ON.
1996	MEMBER: Co-ordinating Committee, Conference on Environmental Health and Alternative Medicine.
1992	EVALUATOR: Science Fair Competition, Peterborough.
1989-1991	MEMBER: Peterborough Committee on Sustainable Development, Mayor's Committee.

TRENT UNIVERSITY (incomplete list)

2011-12	Student Awards, ERS
2010-11	Hill Tenure Committee, ERS
	Student Awards, ERS
2008-9	Curriculum Committee, ERS
	Hill Probationary Reappointment Committee, ERS
	Merit Committee, ERS
	Student Awards, ERS
	Website Committee, ERS
2002-pres	MEMBER: Institute for Health Studies (now Centre for Health Studies)
2002-3	CHAIR: Senate Budget Subcommittee on Graduate Studies
2002-3	MEMBER: Senate Budget Subcommittee, Trent University
2002-3	MEMBER: Senate, Trent University
2002	MEMBER: Management Committee, Oliver Ecological Centre
2002	CO-ORDINATING TEAM: Simply Water? Workshop, Trent

	University, Peterborough, On, February 18-20, 2002
2000-04	MEMBER: Interactive Learning Centre (ILC)
2000-01	MEMBER: Search Committee for Chair of ERS Program
2000-01	MEMBER: COTTL
2000-01	MEMBER: Indigenous Environmental Studies Program (IESP) Steering Committee
2000	ORGANIZER: David Shepperd Family Lecture Series with Dr. Sheela Basrur, Medical Officer of Health, Toronto and later Ontario.
1995-97	Board of Governors
	Board of Governors-Development Committee
	Senate
	Faculty Council Steering Committee
	Faculty Board
	WEGP--ERS Representative
	ERS REPRESENTATIVE: Arctic College
1994-2000	MEMBER: Health Research Group Health Research Group
1994-97	Trent International Program Committee
1996	Trent International Program--Recruitment
1995-97	MEMBER: Board of Governors, Trent University.
1995-2004?	CO-FOUNDER and MEMBER: TAcTIC, Trent Academic Technological Innovation Centre
1994-2002	MEMBER: Health Working Group, Trent University
1994-98	CO-ORDINATOR: Energy Fields Working Group, Trent University
1994	MEMBER: PEAC, President's Environmental Advisory Committee
	MEMBER: Tenure Committee for Raul Ponce, ERS Program
	MEMBER: Search Committee for Director of WEGS Program
	MEMBER: Search Committee for Chair of ERS
	MEMBER: PPP-CMT, Computer and Technology for Teaching Committee
1992-1994	MEMBER: Senate, Trent University
	MEMBER: Board of Governors, Trent University
	MEMBER: President's Advisory Environmental Committee
1992-pres	MEMBER: ERS Personnel Committee
1991-92	MEMBER: Adjusting our Focus Forum, Teaching Methods Subcommittee
1991-1993	MEMBER: Chemistry, First Year Courses Committee
	COORDINATOR: Library Acquisitions for Environmental & Resources Studies.
	COORDINATOR: Environmental Resource Centre

1990-93	MEMBER: Committee on Educational Development, (originally known as the Teaching Effectiveness Committee), Trent University Committee
	MEMBER: Visitors Committee, Lady Eaton College
1990-92	COORDINATOR: BEGIN newsletter
1990	COORDINATOR: Science in Developing Countries, Trent International Program, Trent University, Peterborough, Ontario, March 2 to 30.
1989-pres.	MEMBER: Watershed Ecosystem Graduate Program.
1989-94	COORDINATOR: Library Acquisitions for Science Education.
1989-93	COORDINATOR: Library Acquisitions for Science Education.
1989-90	MEMBER: Admissions and Scholarships

UNIVERSITY OF TORONTO

1985-87	COORDINATOR: Drinking Water Working Group (DWWG), Institute for Environmental Studies, University of Toronto.
1986-89	COORDINATOR: Ecology Seminar Series, Institute for Environmental Studies, University of Toronto.
1983-89	MEMBER: Acid Rain Working Group, Institute for Environmental Studies, University of Toronto.
1983-89	MEMBER: Metals Working Group, Institute for Environmental Studies, University of Toronto.
1983-89	MEMBER: Forest Decline Working Group, Institute for Environmental Studies, University of Toronto.
1987-89	MEMBER: Research Advisory Committee, Faculty of Forestry, University of Toronto.
1987	MEMBER: Graduate Studies Advisory Committee, Faculty of Forestry, University of Toronto.

11 INITIATIVES IN TEACHING AND & COMMUNITY OUTREACH

2002-4	EXECUTIVE EDITOR: Trent Times, Newspaper of the Trent University Faculty Association
2000-4	COORDINATOR: SPARK, NSERC funded program for student writing about research
1997	DESIGNER: Trent Research Map indicates research of Trent faculty around the globe. Also indicates where students come from (International Program)

1996	MEMBER: TacTic, Trent Academic Technological Innovation Centre, to design educational software and other educational initiatives
1994-6	COORDINATOR: Energy Fields Working Group brought together members of the Peterborough Community with Trent faculty and students to discuss energy fields. Meetings held every other month.
1992	PRINCIPLE INVESTIGATOR: Design, Development and Marketing of Education Software DDAMES; computer program development designed to enable students to interact with the virtual world and solve environmental problems.

12 REVIEWER: GRANTS AND MANUSCRIPTS

2010	The American Journal of Medical Sciences,
2008	Parlar Scientific Publications, Fresenius Environmental Bulletin, Germany,
2008	Acta Pharmacologica Sinica,
2007	British Medical Journal, London
1995	Rutledge Press,
1992	Environmental Reviews,
1986	International Association on Water Pollution Research and Control,
1985	Water, Air and Soil Pollution,
1985	Hydrobiologia,
1985	Canadian Journal of Zoology,
1984	Environmental Science and Technology,
1984	Canadian Journal of Fisheries and Aquatic Sciences,
1982	Science,
1981	National Science Foundation, (Grant Reviewer)

13 ENVIRONMENTAL ORGANIZATIONS

I am Co-founder of the **WEEP Initiative** and **the Electrohypesensitivity Society**. Both are non-profit organizations dedicated to helping people who have developed electrohypersensitivity.

I am Co-founder and Past President of the **Uxbridge Conservation Association,** which is a local non-profit organization aimed to promote a deeper understanding of and a greater appreciation for the natural environment and agricultural land. This group act as a liaison between government and local citizens, they organize lectures and field trips, they also co-ordinate projects within our community that contribute to a cleaner, safer, healthier environment for people and wildlife (1988-1991).

I was a member of the Board of Directors of the **KEY** (Knowledge of the Environment for Youth), which is a non-profit organization dedicated to educational excellence in Canada (1985-1994). One of our projects is the *Chemical Literacy Series,* which is aimed at promoting a better understanding of chemicals in the environment and is intended for teachers (kindergarten to high school) and their students across Canada. We organize workshops for teachers and co-ordinate the production of classroom material. In 1992 I became editor of *KEYnotes*, an environmental newsletter that is sent to every school in Canada (13,000) 3 times during the academic year.

14 VOLUNTEER WORK

I taught a Creative Writing course called *Writing Your Memoirs* to Senior Citizens through **Community Care** in Uxbridge (1988-92). In 1990 we wrote a "book" called *Capturing Memories*, and in 1991 we wrote a children's book. The Seniors have continued and have written several more books. They regularly contribute articles to the local newspaper (*Uxbridge Times*); give guest workshops in the Uxbridge High School; visit homes for senior citizens and read form their stories; give advice to other senior groups wanting to start a writers' group; and have appeared on *CBC Ideas*.

I also worked with chronically ill patients in the **Uxbridge Cottage Hospital** (1988-1991).

15 OTHER

For 18 years I lived on a farm and raised heritage breeds (rare in Canada of sheep (Cotswolds), pigs (British Large Black); and chickens (several breeds) along with non-heritage breeds of ducks, geese, and donkeys. We were members of the Rare Breeds Conservancy of Canada and helped maintain important and dwindling pools of genetic diversity of farm animals.