

ES-UK NEWSLETTER

July 2008

ElectroSensitivity UK

charity number 1103018 www.es-uk.info

- for everyone sensitised by electro-magnetic radiation -

YET MORE SCIENTISTS TELL GOVERNMENTS TO WAKE UP!

In January a top Australian neurosurgeon warned governments that electro-magnetic radiation was worse than smoking or asbestos.

In April a top Australian cancer expert warned that mobiles were no longer safe.

In April the Russian National Committee on Non-Ionizing Radiation Protection said that the health of future generations of children is under threat from mobile phone handsets.

In May Friends of the Earth in Germany recommended limits of 2.0 to 0.02 V/m.

In June the International Commission on ElectroMagnetic Safety made an urgent call for lowered limits, stating that non-thermal EMF bio-interactions have been proven.

In June 20 scientists and cancer experts appealed in France to limit mobile phones.

And all this in 2008 so far!

Last year it was the German government urging reduction in electro-magnetic radiation, and the European Union Environment Agency, and 21 top international scientists in the BioInitiative Report warning that present radiation limits are far too high.

And what has happened since? Has the UK government acted on these warnings? Has it shown any sense of duty to its own people?

Why? Why? Why?

Why do we have to suffer the radiation from other people's mobile phones?

Why can't we stop neighbours inflicting pain with their WiFi radiation trespassing into our homes?

Why can phone masts be allowed to cause suffering as we drive or walk near them?

Why should manufacturers have the right to produce transmitters which can sensitise members of the general population to electro-magnetic radiation?

Why should sensitised people be forced to move from their home or country to escape harmful radiation?

Why are governments and regulators still not protecting their own citizens?

Why? Why? Why?

What do you think?

Write with your views; tell your MP!

See inside about government regulators.

ES and moral responsibility for illness caused by EM radiation

Who is responsible for all the illness caused by electro-magnetic radiation?

Could it be:

- governments which allow radiation transmitters,
- international committees which set safety levels,
- doctors who know the dangers but keep quiet,
- scientists who invent radiation transmitters,
- manufacturers who produce them,
- businesses which use them,
- consumers who buy them,
- or even those who suffer cancers, mental illness or ES because of them?

With other forms of environmental pollution, such as passive smoking, asbestos or nuclear radiation, it is the government which is responsible for preventing pollution. The polluters pay if they break the law or wilfully endanger life.

The dangers of non-thermal electro-magnetic pollution have been known since the 1860s and studied from the 1930s. Some governments have reacted wisely, imposing limits such as 1 μT or 0.02 V/m (= 0.0000001 mW/cm²), but many have not, including the UK government. They often claim they cannot do so until an international advisory committee like ICNIRP takes action. Yet ICNIRP admits that its limits do not cover sub-thermal EMR, but only the thermal or heating effects based on Schwan's arbitrary assumptions and limit in 1955 of 10mW/cm² (194 V/m). This limit was adopted by the US ANSI in 1966 and ICNIRP has now changed it only to 1mW/cm² (61 V/m). So who should require the self-elected members of ICNIRP to take human health seriously? It must be national governments. ICNIRP is under the aegis of the World Health Authority but both groups are controlled by governments. Both groups have now lost scientific credibility because they appear unwilling to act on the research evidence accepted by most scientists. Authorities not fit for purpose should be replaced.

Governments, therefore, desperately need to refer to another international commission on sub-thermal electro-magnetic dangers. This should be easy. The 52 scientists signing the ICEMS Venice resolution have taken a clear lead, as have the 21 international experts behind the BioInitiative Report of 2007. Medically trained scientists are essential, since the danger of electro-magnetic radiation is medical. They need to understand the quantum effects which EMR has on human bio-electro-magnetics. The role of physicists is to produce electrical devices operating within safety limits set by biologists.

Most governments have been willing to act over global warming; they should now act on the much bigger environmental threat of radiation pollution. The responsibility, of course, lies with national governments. Their role is to promote the well-being of their citizens, not to make them ill from avoidable pollution. Until this happens, it is all too clear who is directly responsible for the unnecessary suffering and deaths we see around us today.

The problem of inappropriate advice is illustrated by the report that a consulting expert to ICNIRP, Dr David Black of Auckland University, told a Fiji news source in April 2008 that 'non-ionised radiation as that from mobile phones and base stations does not cause cancer', and 'it is very unlikely that any significant adverse effects will now be found'. He added that 'it is safe for children to use mobile phones'. Scientists worldwide wonder whether he has read the research on numerous EMR health dangers. They are also puzzled why he appears ignorant of the warnings given in many countries about the dangers of mobile phones especially for children.

Even more significantly, it has been shown that both ICNIRP and IARC have developed close industry links which seem to have influenced their maintenance of lenient limits, against their own rules of impartiality (evidence from D. Maisch, *JACNEM*, 2006; J. Huff

and L. Tomatis). An unwillingness to accept scientific evidence can also be seen in the way ICNIRP still averages power flux density measurements over 6 minutes, thus omitting new research on the biologically dangerous electrical peaks of pulses. Likewise the Interphone study's weak definition of a regular user seems designed to skew results. Perhaps the key discovery – well known to ES people - is how EM damage is cumulative.

The table below attempts to list groups according to the two attitudes possible to the health dangers of sub-thermal electro-magnetic radiation. There is no room for simply precautionary advice. If the scientific evidence now available is accepted, action in the form of new safety limits is inevitable. Although the Maastricht Treaty requires governments to adopt a precautionary approach where necessary, if that is interpreted as advice not to use mobile phones or WiFi, it would be inadequate for two reasons.

1. Unlike most chemical pollution or the health dangers of smoking or asbestos, an individual person has no means of protecting him/herself fully from passive exposure to radiation. The health danger is ambient radiation from other people's phones, neighbours' WiFi, nearby phone masts or digital broadcasts.
2. The most vulnerable groups in society, especially children and the elderly, are unable to control their own electro-magnetic environment. They cannot, therefore, act on government advice to avoid radiation pollution or to protect themselves from it.

Thus, for this type of environmental pollution, a government has to take action for all its citizens and not simply give advice. In moral and practical terms there is no middle way. Either a government joins the majority scientific viewpoint and takes immediate action, or it waits indefinitely for yet more scientific evidence with no clear idea of when it will eventually be persuaded by the evidence. The latter viewpoint entails unnecessary suffering and deaths. The UK health buck stops with the UK prime minister. He is aware of the issue and has, for instance, the BioInitiative Report of 2007. He must now act.

some 'Wait for more illness' groups	some 'Act now' groups
<ul style="list-style-type: none"> • UK government • ICNIRP (International Commission on Non-Ionising Radiation Protection), • WHO (World Health Authority) • HPA (Health Protection Agency, UK) and its EMF discussion group 	<ul style="list-style-type: none"> • ICEMS (International Commission for Electromagnetic Safety), • BioInitiative (21 leading scientists) • RNCNIRP (Russian National Committee on Non-Ionising Radiation Protection), • over 20 resolutions and appeals by international scientists and doctors, • French appeal of 20 scientists 6.08, • German Federal Office for Radiation Protection, • EEA (European Environmental Agency), • governments of Italy, Switzerland, Russia, China, • Electro-Sensitivity sufferers' groups worldwide, • US National Institute for Environmental Health Sciences, • ISIS (Institute of Science in Society), • IDEA (Irish Doctor's Environmental Association), • BUND (Friends of the Earth, Germany)

RNCNIRP (April 2008): *'Our duty is not to damage children's health – our future – doing nothing.'*

ES, resonance, pulse modulation frequencies and microwave hearing

People with ES know that they can absorb or 'feel' radiation **anywhere** on their bodies and not just the head. Even exposing a single arm or hand to EMR outside a protective shield for 30 seconds can cause significant physiological changes elsewhere in the body.

Among the many pathways by which electro-magnetic radiation affects different parts of the body, Charles Claessens and Dr Andrew Goldsworthy have been debating how far **listening to the sound** of the particular frequencies to which ES people respond can trigger ES symptoms. In particular it could be the **audible low frequency modulations** and harmonics, and not just the high frequency carriers, which are picked up by some people with ES. These LF signals could be sensed by cells in the ear each resonating at different frequencies and sending signals to the brain when it detects its resonant sound frequency. The frequencies could be applied as sound or as an electro-magnetic signal. Claessens' recorded modulations of HF signals as audio files (20-20,000 Hz), MP3, are at <http://www.milieuziektes.nl/Pagina109.html> (Take care – some seem to have an effect!). It may be relevant that in 2002 many crystals were found in the pineal gland (part of the brain linked with melatonin) very similar to the **piezoelectric crystals** (crystals reacting physically to electrical fields) in the inner ear. If many such crystals exist in the human body, these crystals may pick up incoming electro-magnetic waves, making much of the body resonate like an early 'crystal' radio receiver or a single antenna. One common ES symptom is **microwave hearing**, a buzzing or clicking in the ears, especially at 5 kHz.

Frequencies of 10-20 Hz are thought to interfere with human resonance and the brain's own bio-signalling frequencies. These could, perhaps, be related to some ES symptoms. Some **low frequency brain wave associations** are as follows. Alpha relates to sleep, beta to thinking, and gamma to dizziness and panic. 16 Hz causes **calcium leakage** in the brain; calcium ions are vital to neural activity. Calcium atoms resonate at 38.7 Hz. Calcium and potassium can be ionised by visible and UV light. According to the principle of cyclotronic resonance, ELFs can disrupt key cellular ion exchange processes through charged particles. This seems to apply to the resonant frequency of potassium, at 20 Hz.

The human **audible frequency range** in air is 16 to 20,000 Hz (20 kHz), with wavelengths from 22 m to 17mm; 1,500 Hz (1.5 kHz) has a wavelength of 1m and 150 kHz 1cm. An octave is where the higher frequency is double the lower. Middle C is 250 Hz. The normal human ear can, apparently, detect the difference between 440 and 441 Hz. If the ear can detect both audible and similar EMR frequencies, therefore, it could explain why EMR can produce some ES symptoms. Locusts and grasshoppers can hear at 50-100 kHz, bats and dolphins at 150 kHz, and moths up to 240 kHz. **Mixed radiation**, in frequencies, sources or modulation, can cause increased ES pain. **Ultrasound in water**, as used for medical diagnosis, at 1.5 MHz has a wavelength of 1mm.

Amplitude modulation is said to be especially **bio-active**, as are **square pulse** or packet waves compared with sine or triangular waves. The resonant frequency of the human skull is said to be about 400 MHz, and that for a standard man of 1.75m height is 86 MHz, while natural Schumann resonances occur at 7.8 Hz and higher harmonics.

<i>Frequency</i>	<i>Frequency Name</i>	<i>Wavelength</i>	<i>Wavelength Name</i>	<i>Use</i>
3 – 3000 Hz	ELF - Extremely Low	100,000–100 km	Long Wave	power lines
3 – 300 kHz	(V)LF – (Very) Low	100 – 1 km		
300 – 3000 kHz	(AM – Amplitude Modulated)	1000 – 100 m	Medium Wave	AM radio
3 – 30 MHz	HF – High	100 – 10 m	Short Wave	
30 – 300 MHz	VHF - Very High (FM – Frequency Modulated)	10 – 1 m		(VHF) (FM)
0.3 – 300 GHz	UHF - Ultra High	1 m – 1 mm	Microwaves	cellphones, WiFi, etc.

Radiation Device <i>(Access and Modulation)</i>	Carrier Frequency 1 kHz = 1,000 Hz 1 MHz = 1,000 kHz 1 GHz = 1,000 MHz 1 THz = 1,000 GHz	Modulation: <i>pulse rate</i> <i>line/continuous spectrum</i> 1 Hz = 1 oscillation per second	Brain Frequencies 1-4 Hz = delta 4-8 Hz = theta 8-12 Hz = alpha 12-30 Hz = beta 30-100 Hz = gamma 100-300Hz = lambda
UMTS, 3rd generation mobile phones, 3G (WCDMA, QPSK) some satellite, from 2002 as noted in Stewart Report	1,900-2200 MHz	10 Hz, 15 Hz (pilot signal), 100 Hz (weak) 0-3.8 MHz, 1.5 kHz	alpha, beta, lambda, all
Tetra fixed (DQPSK) Tetra handset	380-385 MHz 390-395 MHz	0.98 Hz (multiframe) 16.66 Hz (ground) 17.64 Hz (AM frames) 70 Hz (slots)	delta, beta beta gamma
WiFi , computer wireless modem (802.11b) (GSMK)	2450-2483.5 MHz	10-100 Hz (standby) 10-250 Hz (transfer)	alpha, beta, gamma lambda
spy camera	2400-2480 MHz		
WiFi , computer wireless modem (802.11h)	5150-5350 MHz, 5470-5725 MHz	10-100 Hz (standby), 10-250 Hz (transfer)	alpha, beta, gamma lambda
TENS pain relief		70 Hz	gamma
DECT phones (Frequency Hopping Spread Spectrum)	1800-1900 MHz	100 Hz	lambda
digital baby monitors	2450 / 900 MHz		
analogue baby monitors	27/40/49-50 MHz		
mobile phones, GSM 900 , from 1991	890-915 (uplink), 936-960 (down)	8 Hz 217 Hz	alpha lambda
WIMAX , broadband laptops	53 μ s window, 20 μ s window	350 Hz (with TDD) 0.1 - 7 MHz	all
HSPA , broadband mobiles, development of UMTS, 3.5G (CDMA, QPSK), from 2006		500 Hz, 1.5 KHz, 15 KHz	
xMax (weaker but wider WIMAX)	6 kHz	10 MHz spectrum in 900 MHz band	
Bluetooth (GSMK)	2400-2483.5 MHz	1600 Hz	
mobile phones, GSM 1800 , from 1991 (GSMK)	1710-1785 (upl'k), 1805-1880 (down)	1733 Hz	
RFID , Electronic Article Surveillance	2-10 MHz (eg 7-8)		
Human Area Networking , skin conductance, 1996-	10 MHz		
VHF TV	54 - 88 MHz		
VHF FM radio	88 - 108 MHz		
digital fire detection system	173 MHz		
digital alarm system	315 MHz		
car: Remote Keyless System , from 1983	433 MHz		
digital command /detector system	418/433/459 / 868 MHz		
UHF TV	470-854 MHz		
analogue radio mikes (unused TV channels)	470-854 MHz (under 695 MHz from 2009)		
digital radio mikes (Frequency Hopping Spread Spectrum)	900 MHz or 2400 MHz		
Microwave Motion Detection Units	10.5 GHz, 24 GHz	1-3 kHz pulse , 20-120 Hz Doppler shift	

ES and Light Sensitivity

The EU has a 'Scientific Committee on Emerging and Newly Identified Health Risks' (SCENIHR). It is investigating 'light sensitivity' since so many people are complaining about feeling ill when they use energy-efficient compact fluorescent lights.

Dr Magda Havas, a scientific adviser to ES-UK, throws some light on this topic.

Governments around the world are banning energy inefficient light bulbs in an attempt to reduce consumption of fossil fuels and the emission of greenhouse gases. However, the energy efficient light bulbs that are currently available may be harming both the environment (mercury content of bulbs is high) and human health (electromagnetic pollution).

The newer compact fluorescent light bulbs generate *radio frequency radiation* as well as *ultraviolet radiation* and many still generate heat, although less of it. These frequencies have been associated with adverse health in numerous peer-reviewed scientific studies and a growing number of people are complaining that these bulbs make them ill.

Ultraviolet Radiation

Fluorescent light bulbs contain mercury, which emits UV radiation when it is electrically excited. This UV radiation then interacts with the chemicals on the inside of the bulb to generate light. Tube fluorescent bulbs have diffusers that filter the UV radiation. The new compact fluorescent light bulbs do not have these prismatic diffusers and hence people using CFL are exposed to UV radiation. UV radiation has been linked to skin cancer and various skin disorders. Those who have skin problems may be particularly sensitive to this radiation.

Radio Frequency Radiation

According to General Electric their typical electronically-ballasted CFL operate in the 24-100 kHz frequency range. This range is within the radio frequency band of the electromagnetic spectrum and is classified as Intermediate Frequency (IF5) by the World Health Organization. There is concern about electromagnetic interference (EMI) associated with IF and recently studies have shown that IF are biologically active and can have adverse health effects.

A 15 watt CFL produced by General Electric emits radio frequencies directly through the air and generates IF on wires which causes dirty electricity. Background values for power quality (dirty electricity) were between 63 and 67 GS units, but the CFL raised the readings to 298 GS units. Several CFL bulbs gave readings above 1000 GS units. A recent study of cancer clusters in a school in California associated the increased risk of cancer among teachers to dirty electricity. Teachers who taught in classrooms where the dirty electricity was above 2000 GS units had a 5-fold increase risk of cancer (risk ratio 5.1) that was statistically significant. Teachers who never taught in those classrooms had a risk ratio of 1.8.

Recommendation to Governments

Instead of promoting compact fluorescent light bulbs, governments should be insisting that manufacturers produce light bulbs that do not produce radio frequency or UV radiation and that are safe for the environment and for human health. Alternative light bulbs are available that are much more energy efficient than CFL, do not contain mercury, do not produce radio frequencies or UV radiation, and do not make people sick. Unfortunately these CLED bulbs are still too expensive for residential use.

Back to the Dark Ages?

From Peter Hunt of the Lighting Association to David Price of Spectrum.

After incandescent light bulbs are banned, 40W candle and golf-ball lamps will remain on sale.

ES and the Olympics

People with ES know that they can sometimes feel a little weaker physically after prolonged exposure to radiation like WiFi and mobile phones. In fact the first name given to the non-thermal health effects of electro-magnetic radiation, in 1869, was 'neurasthenia' - muscle or endurance weakness, or enervation. The term neurasthenia in this sense is no longer used in the west, but is in Russia, where EMR health effects have always been taken seriously. Such a change in endurance can be small, perhaps 1%, but still pervasive, chronic and possibly transgenerational, like many other EMR effects.

A veteran cross-country runner has said that most long-distance runners are now less fit than before. This seems strange, given ever-increasing emphasis on fitness training, gyms and healthy eating. The 4 cross-country records, however, in a local UK secondary school are all dated up to 1997-98, with none in the last 10 years. In 1998 digital mobile phones became common in the UK, increasing exposure to dangerous pulsed EMR.

Two factors stand out in international athletic records over the last decade, according to the 2008 *Guinness World Records*, especially in long-distance running and endurance sports which depend little on new techniques or equipment. Firstly, of the new records since 1997, for each of the 8 groups of track or field, men or women, outdoor or indoor, except for men's field events, between 33% and 88% were gained by just 3 countries: Kenya, Ethiopia, and Russia. In contrast, at the 1960 Olympics, there was only one African medalist. In 1988 Kenyans won 4 medals and in 1992 they won 8 out of 18 long-distance medals. The number of Kenyans in the top 50 long-distance lists, 1990-2000, increased by 150%. Secondly, only about half the athletic records have been broken since 1997, despite the improvement over previous decades and more effective training. Even the Kenyans have not recorded exceptional times. In the Boston marathon, the world's oldest, the longest gap between records for men was 12 years, 1994 to 2006, both Kenyan winners. The difference in time was only one second in over 2 hours, suggesting a similar performance rather than an amazing advance. In 2007 all 4 top runners were Kenyan, with other countries slipping backwards in relative terms.

The smaller number of records and the smaller number of countries involved in records could suggest widespread environmental pollution. Research into physical differences in black and especially Kenyan athletes has apparently revealed only reduced lactic acid in the blood and smaller body size, both of which could relate to less man-made EMR exposure. Many parts of Kenya and Ethiopia are still without electrical infrastructure, meaning less general EMR pollution. In addition, these three countries have had a slower uptake of mobile phones than many western countries, typifying a reduced growth in general electro-pollution. In the UK 2% of the population were mobile subscribers in 1992, 30% in 1999 and 75% by 2006. In 1999 0.04% of Kenyans were mobile subscribers, 2.9% in 2002 and 23% in 2007. For Ethiopia, with twice the population, the figures were 0.13% in 2005 and 0.93% in 2005. For Russia, with twice the population again, the figures were 0.014% in 1994, 0.54% in 1999, 5.6% in 2001, 25.1% in 2003 and 86% in 2006. Russia still has lower EMR safety limits than most of the west.

The warning in the US government 1971 report, *Program for Control of Electromagnetic Pollution of the Environment*, thus appears relevant in highlighting this almost forgotten factor of low-level radiation. 'The consequences of undervaluing or misjudging the biological effects of long-term, low-level exposure could become a critical problem for the public health, especially if genetic effects are involved.' Meanwhile football or rugby teams from small and remote countries like Croatia and Fiji, which have probably had less EMR exposure in recent generations, can continue to hold their own against much bigger but more polluted nations. Future Olympic winners, therefore, may need to train, live and bring up the next generation in remote areas away from masts, WiFi and mobile phones, and wearing proverbial tin hats to stop the effects of satellites too!

Dangerous water towers

by Dr Andrew Goldsworthy

There is a growing tendency to mount mobile phone base station antennas on water towers. This may seem convenient, but it carries a hidden risk because the radiation may also affect the water to make it *biologically active*.

Weak pulsed radiation is routinely used in electronic water conditioners to remove lime scale from plumbing. The mechanism of the conditioning effect is still controversial but it depends on the presence of impurities and does not work with all water supplies. It appears to involve changes in the pattern of ions bound to colloids, which alter their surface charge and make them more attractive to calcium ions.

However, the treated water has biological effects similar to those from exposure to weak electromagnetic radiation, perhaps due to its removing calcium ions from cell membranes, just as it removes lime scale from water pipes and boilers.

Laboratory experiments with yeast cultured in electromagnetically conditioned water showed that its biological effects depended on the length of time for which the water was conditioned. In our hands, treating London tap water for 30 seconds or less (as it would be when passing through a domestic water conditioner) resulted in its stimulating cell division in yeast but caused no obvious harm. However, treatment for longer than this (as it would be if a water storage tank were to be irradiated) inhibited cell division, suggesting that it may now be toxic (Goldsworthy *et al.* 1999).

If a similar effect were to occur in water towers fitted with mobile phone antennas, it could have adverse effects on public health. Because the conditioning effect on water can last up to several days, this gives ample time for it to be distributed widely through the water mains and so present an even greater threat to the public than the antennas themselves. **This needs urgent attention by the water companies since, unlike the mobile phone operators, they have no legal immunity from prosecution for distributing a potentially toxic product.**

ES – practical advice

From Freda and David

WiFi detectors

WiFi detectors measure the strength of WiFi signals by showing up to 5 lights. I am particularly sensitised to 2.45 GHz wireless networks and have had a Raytac for 2 years. It has been incredibly helpful. The detector is small enough to hang on a keyring. For 5 GHz another detector will be needed. These detectors do not deal with phones, of course. (Aldi is now selling a Tevion WiFi detector for £5.99. This seems identical, except in cosmetic appearance, to the Raytac WiFi Detector sold at Maplins for £15.00.)

Beware!

Southern Electric and other energy suppliers may soon write offering a 'Free energy monitor worth £45 to reduce your energy costs'. In fact it will not reduce your energy costs one penny. It is simply a system saving *them* the cost of reading your meter and it transmits a wireless signal 24/7 to your meter and back to their base. [The same type of system used for prepayment meters.] It sounds a good idea, not having them call to read your meter, but it is not without problems. You will be bombarded day and night by a signal similar to wireless broadband computers which are causing people to suffer headaches, insomnia, memory loss, and other stressful conditions. I recently had to screen my bedroom from a WiFi broadband wireless signal coming from a building about 50 metres away in order to ensure a good night's sleep.

Electrosmog

More and more literature includes the dangers of electrosmog and how to combat it. One such book is Janey Lee Grace's *Imperfectly Natural Home* (Orion, £14.99). It suggests acquiring lots of house plants, apparently recommended by Nasa-funded scientists as the best for cleaning indoor air. 'One plant per each piece of electronic equipment is ideal.' [If you have as many electronic devices as our house, perhaps an indoor forest! – ed.]

ES, opticians and glasses

Does anyone think that optical tests for glasses can be inaccurate for people with ES because of changes in the eyes if there is electro-magnetic radiation in the building or on the way to the opticians? It has long been known that EMR affects the eyes in particular and at high levels can cause cataracts. Sandi comments that for several years running her husband's new glasses and her reading glasses have been too strong, so they have worn their old ones instead.

Another comment comes from someone with ES affected eyes, who says that what really helps is old glass-lensed *Reactolite* glasses. Apparently the light changes are done with silver in the lens and so the silver also protects from microwaves. New plastic ones do not work, since they do not have the silver protection.

Give the ES-UK Newsletter to your local library!

Thanks to an ES-UK supporter for the following suggestion:

To promote maximum awareness of EHS issues and the hazards of electrosmog, try asking your local library if they would display the *ES-UK Newsletter* in the reference section. Many librarians are interested in such issues. Even a photocopy would do – or your own after you've read it! By writing to ES-UK with an appropriate donation you could arrange for a copy to be sent direct.

ES in a school pupil

The following was taken from an internet article:

A 13 year old pupil at Fredriksdalskolan, Lidköping in Sweden, has become severely affected by electrohypersensitivity. 'My only chance of getting back to school is if my classmates switch off their mobiles.' When he comes close to computers and mobile phones, his skin becomes red and inflamed and he feels terrible. He has now been forced to stay at home from school for two months.

EMR and children

Amy Worthington has written a thoughtful, comprehensive and powerful review of the EMR dangers facing children:

Generation X-Ray: Child victims of Technological abuse, in the *Idaho Observer*, May 2008. <http://proliberty.com/observer/20080508.htm>

She asks fundamental questions: 'How could our desire for wireless convenience so totally suspend our innate survival instincts that we would ignore well-established science plus common sense and finance conditions on this planet that portend our slow and painful deaths without dignity? More embarrassingly, what happened to us that we would so readily allow our children to suffer wireless addiction, sealing their fates to short, sickly, neurologically-impaired lives? ... the disservice we are doing to future generations is unprecedented in the history of mankind.'

She reviews the evidence that 'Wireless radiation is not only neurotoxic and carcinogenic, but also grossly teratogenic (causes the abnormal development of the embryo).' She also provides promotes reasonable proposals: 'The 2007 *BioInitiative Report* recommends that cell phones be reconfigured to work only with wired headsets or on speaker mode, so that eye and brain irradiation can be prevented. At the very least, consumers should demand that these safety features be incorporated into their wireless devices.'

It's worth a read – or passing on to others concerned about the next generation.

ES and the media

On 5th May **Channel 5's** *The Complainers* featured Sarah Dacre. It left the viewer thinking Dom Joly was aware of a pervasive danger connected to EMR. They covered the need for specialised shielding and Dom walked off in a headnet.

Allergic to the 21st century was due to be repeated on **More4** on 2nd July.

The Italian Electro-Sensitivity Association

The *Associazione Italiana Elettrosensibili* (A.I.E.) was founded in 2005. Its president is a medical doctor and its vice-president is a cardiologist. Its website is:

<http://www.elettrosensibili.it/default.asp>

There was recently a showing on a major Italian TV channel of the important BBC *Panorama* programme from 2007 about the dangers of WiFi.

Request

The following request is not checked or approved by ES-UK. Readers should exercise their discretion about kinesiology.

Hi there, volunteers needed for a non-invasive treatment for electrosensitivity.

If you are a London or Essex-based electrosensitive person and would like to take part in a study of electrosensitivity and a possible solution to it call me on 01206 302340 or email me pontachelo@yahoo.com . The study will be conducted over the next 5 months.

The findings and write-up of my dissertation will be completed by December. Each treatment will last approx 1hr per week for a minimum of 3 weeks. I am very hopeful that the kinesiology treatment will be as successful on other people as it has been for me. Namaste Pontachelo

Thanks

Sandi thanks many involved with ES-UK:

As one of the team answering the ES-UK help line, I have to say I am touched by the efforts you are making to help yourselves. Our role is to support and advise you and your responses have been wonderful. Many of you write to GPs and MPs and other people; some are able to raise awareness in their communities or help ES-UK to help you.

A small group has got together to discuss ways of finding somewhere safer to live and to raise awareness of the fact that we desperately need recognition of ES, safe zones and a safer technology. There are some interesting ideas being investigated.

ES/EHS people are camping out in fields, cellars and other odd places, whilst others move from place to place seeking respite. We all know that the radiation situation has got far worse this year and that it is hard to find a small space that is relatively free of these technologies. It is even harder when we don't function properly due to too much radiation around us and affecting us, so you really have done well.

You won't get any comfort from knowing that GPs are supposed to be monitoring ES, according to the Health Protection Agency, but perhaps it will spur us on to try even harder! So might this: one ES-UK supporter has managed to get a half page article in a local paper:

http://www.ilkleygazette.co.uk/features/featuresbehindnews/display.var.2388395.0.new_technology_blamed_for_ilkley_students_living_nightmare.php

Well done and thanks to all of you for working with us,

Sandi

International conferences

On 24-25th May the 1st **Hellenic Conference on the effects of EM radiation** took place in Thessaloniki, Greece. All the speakers highlighted the need for much more stringent exposure criteria, based on experimental or epidemiological data. Dr Goldsworthy presented his paper *The Cell Phone and the Cell* – see the Mast Sanity website or <http://tinyurl.com/5ru6e6> .

On 23rd May representatives of **Netzwerk Risiko Mobilfunk** met at Mainz. The Network was founded in 2006 with groups from the whole of Germany. Sarah Dacre (ES-UK Trustee) and Andrea Klein from the UK joined the 50 delegates representing regional umbrella organisations (the Network is divided into branches for each federal state). In addition, there were 7 organisations representing ES sufferers, delegates representing environmentally active political parties, a representative of BUND (the German branch of Friends of the Earth), a representative of the Protestant Church, and 3 representatives from Switzerland, 2 from the UK, and one each from France, Luxembourg and Italy.

Dr Volker Schorpp spoke on the effects of mobile phone radiation on trees, Prof Karl Richter on the Competence Initiative and Uwe Dinger on Diagnose Funk. Several issues arose, including media censorship - many quoted 'friendly' journalists admitting they were not allowed to report openly about the issue; the legal system was skewed with judges in phone mast cases being 'brought into line'; the need to protect children; and the advantage for campaign groups to be constituted as a registered charity.

Some related websites are:

<http://www.kompetenzinitiative.de/downloads/kompetenzinitiativeprorgammengl.pdf>,

www.netzwerk-risiko-mobilfunk.de,

<http://www.buergerwelle.de/cms/content/view/57/70/>,

http://www.naturalscience.org/html/youth_and_mobile_phones.html (a leaflet about the dangers of mobile communications aimed at children and young adults by the World Foundation for Natural Sciences, an international network of Franciscan Christian scientists),

<http://www.priartem.com/> (France),

<http://www.diagnose-funk.ch/> (Switzerland),

www.emfdata.ch (Switzerland),

<http://www.der-mast-muss-weg.de/011waswirwollen01.htm> (Stuttgart),

<http://www.umweltphysik.com/html/kontakt.htm> (Dr. Leberecht von Klitzing's Wiesenthal Project, for treating electrosensitivity, and implementing mobile phone installations with exposures as low as 10 microWatt/m² outdoors and 1 microWatt /m² indoors, corresponding to the second Salzburg precautionary values),

<http://www.puls-schlag.org/index.htm> (Dr. Volker Schorpp's evidence of tree damage caused by mobile phone radiation).

The Network estimates that there are 15,000 mobile phone campaign groups in Germany. People there stay committed to keep working on the issue. Through the Network, groups receive centrally planned and produced action packs from Network representatives which they can implement in their own community. Group members pay annual subscription fees to their registered associations, which allows them to fund their activities (although some groups receive grants as they are registered charities).

The **Mobile Phone Symposium** organised by **BUND** (Bund Umwelt-und Naturschutz, the German branch of Friends of the Earth) took place on 24th May. BUND presented their new *Position Paper regarding Electrosmog*. It asks for a **moratorium** on any further expansion of the technology, **changes in planning law** to give more power to local communities, a **massive lowering of the exposure standards** (damage prevention standard of 10,000 µW/m² or 2.0 V/m, protection standard of 100 µW/m² or 0.2 V/m, precautionary standard of 1 µW/m² or 0.02 V/m), new **legislation to regulate industries** using the frequencies, change in the regulation process of how frequencies are allocated, transparent and independent science and a binding, open and public debate about risk evaluation, which would include representatives of all stakeholders and social groups. The symposium was oversubscribed with 250 delegates.

ES – a scientist's experience

This account (from the internet) shows the difficulty even a research scientist finds in recognising ES.

EXPERIENCE OF WILLIAM J. BRUNO

I'm a Ph.D. physics researcher who applies physics to biology. My research is cited in textbooks, and in 2003, I served on a committee of the World Health Organization in Geneva, Switzerland, trying to prevent epidemics.

About that time, in my early 40s, I started having dull headaches every afternoon at work. By 2005 I had trouble concentrating at the computer, when my ears would ring. I came home from work exhausted, yet had terrible trouble sleeping. By the end of 2006, my ears always rang. I had trouble remembering colleagues' names and following technical conversations. After two or three hours of sleep I'd be wide awake, but still exhausted. My face became contorted. The doctors said the ringing was caused by nerve damage, and they confirmed my memory problems, but knew of no cures. Then, I noticed that my ears rang louder upstairs. One night, approaching bed, I remembered being told that having electronics near the headboard is unhealthy. I unplugged my clock radio, hoping. The ringing didn't change, but within seconds, a muscle in my face that I had not been aware of suddenly relaxed. I began sleeping better as I unplugged more and more of our computer gear, digital surround sound and electronically enhanced appliances. Our daughter, then in pre-school, also began sleeping straight through the night! Fixing a wiring error in the house helped me further, and a sense of well-being returned.

The ear ringing was gone sometimes, but turning on a dimmer switch could start it again. Also, it would get suddenly louder seconds after I drove near certain cell-phone towers. I questioned whether this effect might be psychological, but found it could happen with towers not in view. Some towers were so well disguised that I only confirmed their presence later using a microwave meter.

The microwaves produced by cell phones, towers and WiFi networks are millions of times stronger than the microwaves emitted by the sun and stars. The visible and UV light from the sun contains more energy, but our bodies have defense and repair mechanisms to cope with that. We have no natural defenses against microwaves. I realized that the slight sensation I got in my head when using a cell phone or our cordless could be a danger sign. I decided to stop using all microwave including WiFi wireless Internet. My memory has recovered, my mind is clear, and I sleep well, with only occasional ringing in my ears. If I go somewhere far away from electricity and microwave transmitters for a day, my ears don't ring, and I feel great again. I know other people, including kids, with chronic headaches, ear ringing and sleep disturbances. Some have tried turning off their WiFi and had remarkable improvements.

As a scientist who cares about public health, I'm disturbed to realize that the regulations meant to protect us from over-exposure to microwave radiation are completely inadequate and based on faulty assumptions. Research clearly demonstrates negative health effects, from behavior changes to devastating incurable diseases, caused by microwave and other electromagnetic exposure well below the current limits. It's time we paid attention to this research, much of which has been buried in the literature for years or even decades. We must stop accepting our declining neurological health as a normal part of modern life, and we must not allow decades of harm as happened with asbestos, DDT, tobacco and trans fats. Those interested to learn more can find an index of hundreds of studies at www.electricwords.emfacts.com and other links at www.whifry.org .

WILLIAM J. BRUNO, Santa Fe.

ES – Hard to escape the silent antagonist

This account by Tiffany Mayer comes from St Catherine's Standard, Canada, June 2008. By kind permission.

Sue Parsons can't escape it. Everywhere she goes, it's there. A silent and invisible antagonist that essentially leaves her housebound. But even there, the reprieve is minimal.

Parsons has been diagnosed with electrohypersensitivity, an illness caused by exposure to electromagnetic fields - any wired or wireless technology or device - with symptoms that mimic chronic fatigue or fibromyalgia. That means even the most seemingly benign items we've learned not to be able to live without - cordless phones, computers, televisions, microwaves, cellphones, wireless Internet - take their toll on Parsons' physical health, leaving her in pain and in a mental fog. And even the most seemingly benign activities, like grocery shopping, are exercises in agony. The freezers, lighting, scanners and other customers gabbing on their cellphones, can throw her balance and make her feet feel like lead.

Parsons, who does administrative work in Brock University's Alumni Relations department, has to work from home because all of the electromagnetic fields at the university and the 55 transmitters emitting radiation atop Schmon Tower put her in a daze, caused seizures and left her fatigued. (Brock has recently formed a joint health and safety sub-committee to further investigate potential adverse health effects of exposure to electromagnetic fields).

Parsons has certain spots in her house where she is less affected: the chair on the side of her dining room table farthest from the TV and kitchen; a small corner of her backyard. When she can't get outside, sometimes she'll just turn off the power in her house for a few hours. 'It's scary. It's very scary,' Parsons said about her condition. 'I actually think I'm lucky in a way. I can feel it. I can get away from it.'

But not everyone can, in part because they may not even be aware of what's causing them to feel physically and mentally zapped, she said. She's even encountered those who doubt her condition. 'There's always people refuting it and saying, 'You're crazy.' They'll get a funny look on their face (when I tell them) like you're a crackpot,' Parsons said. 'It's almost like I need to carry (my diagnosis) around so people believe me.' As technology advances, though, and, in particular, more cities consider going wireless, Parson fears others will be bombarded with more electromagnetic radiation and, eventually, become as sick as she is. 'Someone told me it's the largest unwilling human experiment ever. It not only affects humans, but affects nature,' Parsons said. 'We need stricter safety standards. We need protection. There's no protection against it.'

Petitions

Enclosed with the Newsletter is a **Petition** to the Prime Minister to **(1) investigate ES / EHS, (2) monitor the effects of EMR, (3) satisfy the rights of ES people and (4) provide safe zones or replace the harmful technology.**

Please make use of it. It can be copied to MPs, Health Minister and others.

There is also an internet **petition against WiFi in schools**, another aspect of the whole worthy cause of safeguarding the health of children. You can sign it on:

<http://petitions.pm.gov.uk/school-wi-fi/>

See page 18 for the **BioInitiative Petition**.

My ES Story

by 'Anna O.'

I need to start at the beginning because I feel it is all relevant to my story. I was born in 1961 after a traumatic 48 hour labour (and hypothyroid mother?) and finally forceps during a general anaesthetic. Apart from the first few weeks, I was a typical 60's bottle-fed baby, sleeping all night from very early on. I was the eldest of three girls and had all the usual vaccinations and childhood illnesses. We were brought up in the country on a farm in Sussex, having a healthy, happy, active childhood in a secure and loving family.

From my mid teens onwards I lacked concentration, energy and had, to a degree, an inability to absorb and retain information. It took a while before I realised I did not have the same stamina as my peers. I was unable to finish my Bronze Swimming Medal and could not run far in athletics. I was always cold during outdoor activities in winter. Coordination was not very good either – I was last to be picked for the netball team!

I left school and began nurse training in 1979, opting for SEN, since academically I did not feel up to doing the SRN training. I married in 1980 and nursed until 1993, having three children during this time, after which the physical and mental demands of this work with a young family became too much for me.

In 1990 I had a course Hepatitis B vaccines. I was unaware until recently that it was this that probably had a devastating effect on my health. It was also at this time I had my third child Justine and I have always believed that the pregnancy must have been the trigger. We also had a car accident in 1990 which gave me whiplash for which I saw various osteopaths for treatment.

It was at this time I started to notice that pain and stiffness had developed in both arms around the elbow joints. This made carrying bags of heavy shopping almost impossible. Other symptoms appeared, such as fatigue, muscle and joint pain (mainly upper body), debilitating headaches, itchy and dry skin, allergies and sensitivities, food intolerances, low/falling blood pressure, stinging eyes, constantly feeling cold, IBS, heavy and painful menstrual bleeding and short cycle, light/sound sensitive, slightly blurred vision, dulled senses, feelings of unreality, urinary frequency and many more.

A few weeks after the first vaccine (I had actually just conceived my third baby though was not aware at the time) I was very ill with acute sinusitis. I had never had this before and have suffered with sinusitis for many years since. All went well with the pregnancy and delivery and the baby was fine, although she has suffered greatly from ear infections and had grommets three times and eventually a tonsillectomy.

Over the years, particularly the last eight, I have seen many specialists both within the health service and privately at great cost to ourselves. I have gained clues along the way ruling out all other possibilities. All tests have shown nothing abnormal. Except one. This was done by a highly qualified osteopath who was known also for his expertise in kinesiology. He confidently guaranteed my health problems were due to my mercury fillings and, thankfully, I followed his advice and had them removed by a mercury-free dentist in 1999, followed by chelation therapy. He told me it would take some years to recover and only 7 years later did I notice any significant change in my health.

Last year my right arm recovered. Puzzled as to why one recovered and not the other, I saw another osteopath who was also a naturopath. He treated my left arm with ultrasound, tiny electric shocks and laser light. Positive this sophisticated treatment would work, I happily went away only to find that I then developed a burning searing pain which I had never experienced before. This pain lasted for six months. He was at a loss to explain why, although little did he know this was a whole new ball game!

I began to be much more aware of what aggravated my arm and noticed it was better after a night's sleep, but hurt soon after getting up, even though I had done nothing strenuous. It also was more noticeable when I checked my emails in the mornings!

One day I just looked at my arms and wondered what was different. If anything, the right should be worse as I am right handed and the right would have more wear and tear. It didn't make sense. I then realised that I had been constantly wearing a metal watch. So I removed it but after three weeks there was no change and so, rather disappointed, (but I am used to this!) I put it back on again. The pain got worse, especially when I used the computer in the morning, whereas it had felt much better after a night's sleep with no watch on. I then removed my watch permanently and two months later the arm had recovered completely. The watch had somehow been preventing my arm from healing. Now, after 18 years, my arms are pain-free. A kinesiologist recently told me she thought it was the energy from the battery but I wonder if it also had something to do with the metal strap as well.

Now, of course, I know that I am electrosensitive and that the DECT cordless phone has been affecting me. Since throwing this away and turning off our WiFi router at night I have felt much better. I had been sleeping in the same room for a year as our WiFi pc and the phone in a vain effort to improve the quality of my sleep!!

Our 9 year old labrador also has been a different dog. Her depression and stiffness are gone, she is behaving like a young dog again and her coat is lovely. I am convinced it was affecting her also. No-one can argue that this effect is psychosomatic!

Also, when in front of the computer, I have been getting a tingling sensation on my right shoulder for a few years. It is always in the same place and I never get it at any other time and sometimes I feel quite sick too. Recently I developed a metallic taste in my mouth. This gets worse after a few minutes on the phone, computer, in the car, or when under fluorescent lighting. These lights are a big problem for me and make me feel very lightheaded and give me feelings of unreality within about few minutes; sometimes I feel nauseous too. Spending more than a few minutes in large departments stores and supermarkets is not pleasant. I am almost certain now that our new lap-top triggered the metallic taste and since greatly restricting pc use and having nutritional supplementation, this has improved.

Travelling in the car affects me and after about 45 minutes I start to feel slightly unwell. I never drive on motorways or long journeys for this reason. I have been driving for over 26 years and know my limitations well. I also find this is worse in my husband's modern company car than my basic old Skoda.

I have no skin rashes, do not suffer from eczema, asthma or hayfever, yet I know I have allergies to dust mites, and pollen. After a few minutes of wearing my metal-framed glasses my eyes sting, but this eases quite quickly when I remove them. I was told at my opticians that this was likely to be the metal frames which contain nickel. I have also noticed this is worse in front of the computer. Nickel is another metal which my osteopath told me I was sensitive to. I now wear only plastic frames.

Since 1993 I have only worked part-time in jobs that are not too demanding. I have to pace myself carefully. If I overdo it or eat things I should not, it takes me some time to get back to normal - whatever that is!

I cannot take many of the supplements I need as I get ectopic heart beats if I am not careful. These I now know are chemically/electrically induced and not caused by stress. Stress makes this condition worse but it is not the cause and it is highly offensive to be told this.

The menopause, which has not even started yet, has also often been blamed for my symptoms for the last ten years. This assumed cause, too, is also extremely frustrating. And it could not be said to a man, so it is rather discriminating!

I have gone to great lengths to get myself well over all this time and most things I have tried have had no or little effect. EMR and everyday chemicals have been there all the time, leeching my energies and preventing me from getting well. I should also add that one doctor I saw some years ago, who was actually my GP at the time, told me to increase my intake of salt significantly because my blood pressure was low. Since I could see the logic, I tried this. The muscle pain became much worse. Since salt is an electrical conductor this possibly would not have been a very good idea – but I am no scientist!!!

The total hopelessness I felt last year on the day a doctor kindly told me I had to learn to accept that I was 'not very robust' and that there was nothing else it could be, was enough to make it cross my mind briefly that I did not want to live like this any longer. I picked myself up again and in January 2007 wrote in desperation to the British Society for Ecological Medicine and got a letter of diagnosis back from Dr Sarah Myhill. She has been a wonderful support to me since..This pointed me in the right direction and, after further research of my own, I now have a very good understanding of what is wrong. By acting on this knowledge, many of my symptoms are either gone or subsiding.

In April 2007 I learned from Glaxo, via my GP practice nurse, that the vaccines I had in 1990 (and no doubt many others) contained Thiomersal (mercury) which would, I am sure, have been total overload to an already weakened immune system. Glaxo have even admitted that this could have sensitised me. I have no doubt now that this was the trigger. One major point, however, is the fact that I worked as a nurse in a hospital dental unit for 5 years prior to this, having lots of contact with mercury, so I could have been 'sensitised' anyway. Any sceptics should watch the film made by the International Academy for Oral Medicine and Toxicology, *Smoking Teeth*. This actually shows the harmful mercury vapour coming from mercury fillings and how it affects every organ of the body. It crosses the placenta and also affects the unborn foetus. Most people seem to cope with this but it is now known that a small percentage do not. It seems that little or no research has been done on this sub-group of the population. Interestingly, once it was known this research was onto something, funding was drastically cut.

I believe I was born with a damaged immune system, possibly due to my own mother's mercury fillings. Don't they now say pregnant women should not eat peanuts, as it can sensitise the baby? Surely mercury poisoning is the same but worse. I also have good reason to believe that my mother was deficient in iodine causing her to be hypothyroid at this time, perhaps making her unborn children seceptible to auto-immune type disease.

Much of my time and energy in recent months has been spent in trying to raise awareness among the public, professionals and the government. I have been to see my MP. I have the support of many professional people. Recently I have met another ex-dental nurse who is campaigning in the UK for recognition of mercury-exposed personnel. A nurse in Norway has just succeeded in this there.

Recently (and very worryingly!) I have learnt that there is a global epidemic of iodine deficiency. I also know that routine blood test often miss 'subclinical hypothyroidism'. Since I have had very clear symptoms of hypothyroidism since my teens (I am now 46), I strongly suspect that this has been the problem with my own history, my family's and some mysteries about my own children's health. Aged 20 I even went to my GP saying I thought that I had a problem with a underactive thyroid. Needless to say, I was laughed out of the surgery! However, a normal blood test resulted.

Since taking supplements that unknowingly to me contained both iodine, in the form of chlorella, and potassium iodide (in a liquid vitamin/mineral supplement), the brain fog of

18 years cleared almost immediately and I am feeling much more alert and have less muscle pain. If this, as some might think, is psychosomatic, why, despite my positive attitude, is iodine the only thing to make any difference in 18+ years? It now all makes sense. If iodine is needed to remove or absorb metal toxins from the body and there is a deficiency of iodine, the toxins will build up and allergies and sensitivities will develop. I believe I have found the cause and, with this treated, I hope the other symptoms will become at least less troublesome. Many of my symptoms are fading or gone. My monthly cycle seems to have regulated itself and for about the first time ever is pretty much normal and pain free. The ectopics stopped almost as soon as I started the supplements containing iodine 6 months ago. These were so bad a while ago that I ended up in A & E. After investigations, nothing abnormal was found and it turned out to be caused by a herbal supplement I was taking – Ginkyo Biloba! I now use the very occasional ectopics as a very good indicator when I eat/do something that does not agree with me and they now rarely happen. The cardiologist I saw had no idea about this and when I tried to show him an article I had found he refused even to look. He shrugged his shoulders and sent me on my way – another anxious lady!

With regard to the vaccines, there is no record whatsoever of me ever even having them since the Occupational Health Dept at the hospital where I was working have since destroyed all my records. My GP has no record either.

It has been a long and lonely road. My family has only recently become convinced of my situation and this has caused problems at home. In the end the desperate need to be believed became almost as bad as the illness itself. The self-doubt constantly creeps in and you start to wonder if you should give in and take the only thing on offer - pills. I always knew deep down that this was not the answer. Now, at last, ears are pricking up and people are listening.

But most importantly, I have support from friends who truly understand because they are sufferers themselves, though I have also lost some friends, mostly in the medical and dental professions! It is mainly only when something like this affects you or someone close that you understand. I value those people tremendously. Rather ironically, many of my new friends I have made through the computer! Web-sites such as Diana Buckland's MCS Global, ES-UK, WDDTY and GMTV Jabs Forum provided the knowledge and contacts I needed. I have learnt so much from these organisations and these contacts and friends are invaluable. I have had more support in the last year than I have in my whole life!

I have recently had a letter published in my local paper in response to a mobile phone mast front-page article. I work in a museum and my boss is finding this very interesting, along with some colleagues. A few have asked me to take my detector to their home to check for EMR. One has even asked me where she can get a low emission phone from after she ditched her DECT! I am soon to have a meeting with our Health & Safety Officer from our local council because of my concerns about two DECT phones we use at work.

I realise that my ES/MCS symptoms are not severe and are very subtle and slow to come and go. This is why it has been so difficult to pin-point ES as being a problem for me. However, I do know that ES/MCS has, without a doubt, been a problem for me for many years and it has been enough to badly affect the quality of my life. I realise that many people are being made extremely ill by both chemicals and EMR, both so difficult to avoid. Because of this I am very keen to raise awareness and do what I can to help ES-UK and the sufferers it supports.

[Editor's comment:

Thank you to Anna for sharing your problems of living with ES.

If other readers are willing to write about their own experiences, please do so.]

The BioInitiative petition

We, the undersigned, find that current government limits do not protect the public from adverse health effects from electromagnetic radiation (EMR) emanating from devices such as power lines, cell phones and wireless internet devices and their associated antenna sites, TV and FM broadcast towers and radar.

Most of the existing limits on this form of radiation are 1 to 4 thousand times too lenient to prudently protect humans from adverse health effects ranging from Alzheimer's and other neurodegenerative diseases, reproduction problems, sleep reduction, learning, memory, slowed ability of the body to repair damage, interference with immune function, cancer and electrohypersensitivity.

Based upon the scientific evidence set forth in *The BioInitiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF)* and a large body of additional research, we recommend that the following limits of electromagnetic radiation be set to not exceed:

I. Extremely-low frequency (ELF). Power Lines, appliances, interior electric wiring and other ELF-radiating devices:

A. Homes, schools and places where children spend large amounts of time:

1 milligauss (1mG) for new construction; 1 milligauss (1mG) for all existing occupied space retrofitted over time.

B. All other construction: **2 milligauss (2mG)**.

II. Long-term (cumulative) Radiofrequency Radiation (RF)

A. Outdoor Pulsed- such as cell phone antennas, radar, TV and FM broadcast antennas, wireless internet antennas: **one tenth of a microwatt per centimeter squared or 0.614 volts per meter. (0.1 μ W/cm² or 0.614 V/m)**

B. Indoor Radiofrequency Radiation (RF) such as cell phones, wireless internet equipment and the radiation that permeates buildings from outdoor sources. One hundredth of a microwatt per centimeter squared or **0.194 volts per meter (0.01 μ W/cm² or 0.194 V/m)**. Typically, RF power density from higher frequency outdoor sources such as UHF television or cell phone antenna base stations drops by a factor of ten when it permeates buildings. Lower frequency signals such as lower channel VHF TV and FM are not as severely attenuated as the higher frequencies.

Future research may demonstrate that these recommended levels are not protective enough; therefore, public policy makers should remain open to lowering them as the scientific evidence accumulates.

Statement of support from the European Environmental Agency: Radiation risk from everyday devices assessed, 17 Sep 2007 :

The EEA has contributed to this new report with a chapter drawn from the EEA study, 'Late lessons from early warnings: the precautionary principle 1896-2000'.

'There are many examples of the failure to use the precautionary principle in the past, which have resulted in serious and often irreversible damage to health and environments. Appropriate, precautionary and proportionate actions taken now to avoid plausible and potentially serious threats to health from EMF are likely to be seen as prudent and wise from future perspectives. We must remember that precaution is one of the principles of EU environmental policy,' says Professor Jacqueline McGlade, Executive Director of the EEA.

Current evidence, although limited, is strong enough to question the scientific basis for the present EMR exposure limits, according to the BioInitiative Working Group.

News on electro-sensitivity to electro-magnetic radiation

Radiation effects on humans were observed in the 1860s and Radiation Sickness or Electro-(Hyper) Sensitivity was described by medical scientists in the 1930s. Peer-reviewed provocation tests can show 100% accuracy if conducted appropriately. Recent research has identified skin protein changes, blood changes, reduced intracortical facilitation and higher skin conductance in people sensitive to sub-thermal EMFs. Sweden and Canada already recognise ES as a disabling condition and the World Health Authority reckons that 2-3% of the general population is electro-sensitive. Electro-sensitivity produces a wide range of symptoms; for instance, in 1978 it was shown that depression can be associated with ambient strengths of EMR.

Dr Havas has shown how **dirty electricity** elevates blood sugar among especially ES diabetics, naming it **environmental Type 3 Diabetes**. It may explain Brittle Diabetes.

In May, 'allergy month', Dr. Todd Rosengart, Chief Cardiothoracic Surgery at Stony Brook University Medical Hospital and Chief Medical Advisor of MDX Medical of Vitals.com, a website listing 720,000 doctors, said, 'In addition to the typical pollen-producing allergies ... gadgets may be the culprit of **certain allergy symptoms**'. In addition to skin rashes, fatigue and headaches, cell-phone use can increase sensitivity to common allergens with worse reactions like watery eyes or a runny nose. Cell phone users with skin allergies may be sensitive to metals like nickel, one of the leading reactors of skin allergies.

The April Newsletter reported on the **2008 Regensburg University study** showing '**significant cognitive and neurobiological alterations**' among 89 EHS patients. In the pilot study of 2007 Landgrebe accepted that provocation studies often fail to show a causal relationship between EMF exposure and symptom formation, but believed that neurophysiological examinations highlight baseline deviations in people claiming to be ES. By measuring transcranial magnetic stimulation in 23 subjective ES patients, compared with 49 controls, he found that ES patients showed **reduced intracortical facilitation**, while motor thresholds and intracortical inhibition were unaffected. He deduced that **altered central nervous system function** may account for ES symptom manifestation, as postulated for similar multi-symptom illnesses. Langrebe's research supports Karinen's in Finland showing EMFs at SAR 1.3 W/kg significantly affected proteins in the skin of 10 volunteers. These EMF and molecular approaches appear more effective than the latest inconclusive psychologists' provocation study under Cinel, where the only common subjective symptom was dizziness – well known to many ES sufferers!

Dr. Carlo of the US Science and Public Policy Institute has announced a **new online EMR health and safety course**, EMR 101, from EMR University (www.emruniv.com). It provides an overview of the scientific and medical issues regarding EMR exposure.

The *Mail on Sunday* of 20th April reported Brighton-based holistic GP Dr Milind Jani as saying: 'Brain function is based on electrical activity, so **it would be daft** not to think that electromagnetic waves from mobiles and computers don't affect us. Just because you can't see the repercussions immediately doesn't mean there isn't a subtle effect.'

De Ruyck showed that 'enhanced **chromosomal radiosensitivity** is a marker of genetic predisposition to head and neck cancer, and the genetic contribution is highest for oral cavity and pharynx cancer patients and for early onset and non-smoking patients'.

Dr Andrew Goldsworthy has published on the Internet, *The Biological Effects of Weak Electromagnetic Fields* (2007), which deals with **biological effects of EMFs on humans and animals** and draws attention to the remarkable similarity between the symptoms of electro-sensitivity and those of **hypocalcemia** (low blood calcium), and *The Cell Phone and the Cell* (2008, <http://tinyurl.com/5ru6e6> or the Mast Sanity website).

News on extremely low frequency electro-magnetic radiation (power lines, power appliances)

The discovery in 1979 of the link between Extremely Low Frequencies and childhood leukaemia has led several governments to adopt sub-thermal limits. Other countries have still to take action to prevent harm. More recent studies are beginning to associate ELF's and other diseases, especially adult leukaemia, brain cancer and Alzheimer's.

Ammari (2008) showed that rats exposed to static magnetic fields had altered emotional behaviours and **cognitive impairments**, or at least substantial attention disorders.

Falone found that 10-day exposure to sinusoidal 50Hz 0.1 mT fields caused a significant **weakening of antioxidant defence systems** in the brain of aged rats.

Huang shows 20 or 60 Hz have an enhancing, but 30, 40 and 50 Hz have an **inhibitory**, effect on mung beans' **early growth**, especially 50 Hz. with little effect at 10 Hz.

Liu has shown that **ELF MF** exposure 4 hours per day increased **anxiety-like** behaviour in rats, but exposure 1 hour per day did not.

Sharifian's study indicated that **ELF MF** could influence the **RBC antioxidant activity** and might act as an **oxidative stressor**. The influence of magnetic field on the antioxidant activity of RBCs might occur even at the recommended levels of exposure.

Bellieni has shown that **very low EMFs from a baby's incubator motor** halved the variability of 27 babies' heart rates. According to the *IoS*, Professor Cynthia Bearer of Cleveland, Ohio, said that the reduced heart-rate variability could lead to 'inadequate nerve development' and cause cot deaths. Another study, Audero's on genetically modified mice, may support a 2006 study showing serotonin deficit as linked with SIDS.

Li has found that exposures of only **1.6mG** or higher for at least **2.5 hours per day** were associated with **significantly poorer semen quality**. Men exposed to >1.6mG for over 6 hours a day were x4 more likely to have substandard sperm. In 2002 Li showed that women exposed above 16mG at least once a day had higher rates of miscarriages. Dr Slesin commented that these MFs were x3 lower than the risk threshold for childhood leukemia (3-4mG). According to a previous survey, almost 15% of the U.S. population is exposed to an average of more than 2mG over a 24-hour period.

A school in Hobart, near transmission lines and with a substation in the basement, had to close its **swimming pool** because people entering the water were receiving **shocks**.

A new **bridge** in Minneapolis, Minnesota, has been shut for grounding work after cyclists reported **electrical shocks** when riding under power lines on one side of the bridge.

News on very high frequency electro-magnetic radiation (VHF radio and TV)

Until recently there were few known dangers associated with these frequencies. Only since 2002 have the dangers of radio transmitter radiation been recognised, when links were made between incidences of melanoma (skin cancer) and the location of VHF radio transmitters. Until then it was assumed that latitudinal UV exposure and genetic disposition were the key factors. The total number of transmitters in a given area, rather than the distance from a transmitter, gives the best exposure-response correlation.

Basal cell carcinoma, another type of skin cancer, is the most common form of cancer worldwide, with 50,000 new cases per year in the UK. In the last 7 years the rate of skin cancer has **increased by 48%** in the UK. Newspapers state that this is a result of cheap sun and snow holidays, and / or of increased UV radiation from a depleted ozone layer.

News on microwave electro-magnetic radiation, modulated frequency

(mobile phones, phone masts, WiFi, DECT phones, baby alarms)

In 1987 it was shown that EMR reduces melatonin. In 1988 breaches of the Blood Brain Barrier were confirmed. In 1995 the effects of calcium flux were noted, and the way EMFs can cause single and double-strand breaks in DNA, and thus cancer was discovered in rats, which was confirmed in humans in 2002. In 1997 a link between EMR and asthma was found. In 2001 mast cell degranulation from EMR exposure was shown. In 2003 links between mobile phones and brain tumours were established. In 2007 apoptois genes in neuron and astrocyte cells were shown, and changes in protein EKR and upregulation of NF-KappaB pathways. All 7 studies on transmitter masts have shown increased human ill health. In 2007 it was stated that 'scientists do not argue anymore whether mobile phones are harmful, but how harmful they are'. In 2008 delayed effects were shown, with mobile use influencing subsequent sleep patterns.

The Australian **neurosurgeon** Richard Bit-tar, speaking on TV in June, warned viewers to 'minimise the amount of time you spend with your mobile phone up against your ear'.

Hinrikus found that 450 MHz modulated at 7 to 217 Hz (but not 1000 Hz) caused significant increases in the **EEG beta rhythms** for 13-31% of subjects. He concluded that the sensitivity to microwave exposure of some subjects related not to individual ES but to '**variability of the physiological state of the brain**'.

Badre's Gothenburg study showed that 11 teenagers who used their cell phone for >15 calls or 15 texts per day have **more disrupted sleep, restlessness**, stress and fatigue, compared with 10 who made <5 calls or texts. They behaved more like larks than owls, suggesting a delayed biological clock, although their lifestyles were more frantic.

Soderqvist's study of 1261 Swedish adolescents aged 15-19 on mobile phone use stated that some of the **most frequently reported health complaints** were tiredness, stress, headache, anxiety, concentration difficulties and sleep disturbances. Regular users of mobiles had symptoms more often and poorer perceived health than less frequent users.

Friedman in 2007 showed that mobile radiation activates ERKs, mediated by ROS produced by NADH oxidase, and they directly activate MMPs which release Hb-EGF which then binds to and activates EGFR and thereby stimulates the ERK cascade. This shows for the first time a detailed **molecular mechanism for EMR-induced MAPK activation**.

Baste's study of 10,497 men in the Royal Norwegian Navy showed **significantly increased infertility** with self-reported EMR exposure and **fewer boys** born than girls.

Dr Behari of JNU's School of Environmental Sciences, India, in a recent pilot study on 20 rats, exposed to 2 hours of EMR for 35 days and found **significant double strand DNA break in sperm cells**, significantly lowered sperm count and reduction in testis size. *The Times of India* reports the Union health ministry has commissioned India's first large-scale 5-year study on mobile phone EMR under the Indian Council of Medical Research.

The Cancer Council New South Wales is to conduct a **study of breast cancer cases** at every Australian Broadcasting Corporation site in the country, after a 6-fold increase in breast cancer at the ABC Toowong studios in Brisbane in 2007, which resulted in a move from the site, even though investigators were unable to find the cause.

Manti showed **cell exchanges** increased after 24 hours modulated UMTS radiation (1.95 GHz, 0.5 W/kg and 2.0 W/kg) on X-ray-induced chromosome aberrations in lymphocytes.

Professor Moorkens of Antwerp University Hospital has shown that 1 in 10 complaints to doctors by young people is of **chronic fatigue** [*a common symptom of ES or Radiation Sickness*], and more by girls than boys. He studied 65 patients 12-25 years old who felt continuously tired for >6 months without apparent reason. The mean age for this tiredness was 16. 'No serious sickness was at the origin of this fatigue', said Prof. Moorkens. 'More than half complained of low blood pressure, cold feet and hands, pallor, unexplained perspiration or arthralgia (articular pains)' [*also ES symptoms*].

Some scientists regard as important Zhao showing in 2007 how 2-hour exposure to GSM 1900 MHz up-regulated **apoptotic** (self-destructive) pathways, especially in neuron cells.

Ahamed at Calicut, India, followed up reports of headache, dizziness, numbness in the thigh, and heaviness in the chest among mobile phone users by studying the neurological effect of EMFs radiated from MPs on **heart rate variability** of 14 males, since the heart rate is modulated by the autonomic nervous system, using scaling exponent and sample entropy as the parameters. The results indicated a 'non significant' increase in both parameters when MP is close to the chest and a decrease when close to the head.

Ammari's research on rat brains indicate chronic exposure to GSM 900MHz microwaves (SAR=6W/kg) may induce **persistent astroglia activation** (sign of a potential gliosis).

George found that heating proteins by microwaves (2450 MHz) caused more stress damage than by conventional heating, suggesting **effects additional to just heating**.

Spartari showed that **seborrheic dermatitis** was much more common among **visual display unit workers** than the control group.

Yadav showed that among 85 mobile phone users compared with 24 controls the mean frequency of micronucleated cells and total **micronuclei** in vivo were significantly higher.

Conil analysed **SAR from 20 MHz to 2.4 GHz** for adult and child models. Six adult models were used to build 5-, 8- and 12-year-old children. The standard deviation of whole-body-averaged SAR of adult models can be 40%; 'concerning **children models**, the whole-body-averaged SAR goes **over the fundamental safety limits up to 40%**.'

The **Sri Lankan** consultant oncologist of the Maharagama Cancer Hospital, Dr. Jayantha Balawardena, said that there is a **marked increase in brain cancer** among young people aged of 30 to 40 in Sri Lanka. 'Lots of young people are suffering with brain tumours. But the cause of this marked increase is yet a grey area which needs to be scientifically proved.' The consultant ENT surgeon, Dr. W. Ratnayake, said that some patients come for treatment for pain in the ear after using the mobile phones.

On TV, Zombolas showed **some cell phones exceed the Australian 2W/Kg SAR** limit when used in a pocket with hands-free or BlueTooth. A Nokia E65 had 3.35W/Kg SAR at 1800 MHz and 5.84W/Kg SAR at 2100 MHz. Mr Althaus, of the Australian Mobile Telecommunications Association, said 'The standards have a 50-fold safety margin'.

In the US CNN's show during May, *Larry King Live*, **3 prominent neurosurgeons** said they did **not hold cellphones next to their ears**, concerning the health risk of using cellphones beyond a decade. These were Dr. Keith Black, the neurosurgeon who treated the lawyer Johnnie Cochran before Cochran died of a brain tumour in 2005, Dr. Vini Khurana, an associate professor of neurosurgery at the Australian National University and CNN's chief medical correspondent, Dr. Sanjay Gupta, a neurosurgeon at Emory University Hospital. This followed Senator Edward M. Kennedy's recent diagnosis of a glioma, a type of tumour long associated with cellphone use. The *New York Times* reported that the American Cancer Society dismissed the link and the Food and Drug Administration said 3 epidemiology studies since 2000 have shown no harmful effects,

although it noted that the average period of phone use in these studies was about 3 years, so they were irrelevant to long-term exposure. Dr. Paul J. Rosch, clinical professor of medicine and psychiatry at New York Medical College, was worried about children: 'They may be much more affected. Their brains are growing rapidly, and their skulls are thinner.' Dr Carlo, whose invitation to appear on the programme was subsequently withdrawn, stated that 'there are more than 40 epidemiological studies with 300 instances of statistically significant increases in tumour risk but only 6 instances of a definitive absence of risk. Although they show 200-500% increases in risk, these are underestimates.'

Professor Armstrong, the **Interphone** leader in Australia, has **changed his mind** and said on TV: 'I think the evidence ... is pointing towards an effect of mobile phones on [brain] tumours. I would not want to be a heavy user of a mobile phone.' A few years ago he said: 'there is no consistent evidence that there is an increased risk of cancer,' but admitted that 'it could be 15 years before we see an effect.' He is the 2nd of the 13 leaders to urge precaution; last year the Israel leader said mobiles 'damage health'. Prof. Armstrong, the head of the ABC Toowong breast cancer cluster expert panel, had previously arbitrarily dismissed a possible EMF connection with breast cancer. He is the main spokesman on cancer in Australia and the head of the Australian Cancer Council.

The **Interphone** \$24 million project, a 13-country study co-ordinated by the WHO's International Agency for Research On Cancer. involves Australia, Japan, Israel, New Zealand, Canada and 8 European countries. It was supposed to be **completed in 2004** and a report published in **2006**. There are said to arguments over drafts, a delay which would never be tolerated for a drug study. Dr. Louis Slesin, of *Microwave News*, wrote that 'At some point, it becomes a **public health scandal** that they're not releasing it.' Dr Hardell, a Swedish cancer specialist, said in the *International Herald Tribune* on 29th June 'It's not fair to the public.' Dr. Slesin noted animosity at the annual meeting of the Bioelectromagnetics Society in San Diego: 'There's some really bad blood between various teams,' with divisions between the **Israeli and Australian** researchers, who have publicly urged people to moderate their use of mobile telephones, and researchers from the **UK and Germany**, who are wary that the data could be skewed by 'recall bias'. According to the *IHT*, Anthony Swerdlow, the leader of the UK study for Interphone who is chairman of the HPA's AGNIR and a member of ICNIRP, declined to comment about 'unpublished materials or my views about them.' The results released so far, however, from Israel, Sweden, Denmark and France suggest that heavy cellphone use of >10 years **increases risks** of tumours. Dr. Siegal Sadetzki from Israel said 'It takes at least 10, 20 or 30 years to see exposure to cancer'; while Hiroshima was bombed in 1945, the first study showing brain tumours emerged only decades later. Even the Japan study, which claimed no association between cell phones and brain tumours, dismissed its finding of almost x6 increase in glioma among heavily users of >10 years. Bruce Hocking, however, points out that the risk of meningioma is hardly raised at all and that recall bias should have equally affected the meningioma group, but it has apparently not done so. 'Therefore, the **increased risk** in the glioma group may be a **true finding**.' Moreover, at the San Diego meeting, Lloyd Morgan presented a paper, *Interphone Studies to date: An examination of poor study design resulting in an under-estimation of the risk of brain tumors*. This highlighted **multiple design flaws** in the Interphone Protocol, each resulting in an **under-estimation** of tumour risk. Apparently no one disagreed.

Divan's study of more than 13,159 Danish women has found that **mothers who used their mobile phone while pregnant** 2 or 3 times a day reported 54% more that their **children had emotional and behavioural problems** such as hyperactivity. Children whose mothers had used phones while pregnant and who had used mobiles themselves before the age of 7 suffered 80% more from behavioural difficulties compared to unexposed. (25% more emotional problems, 24% more difficulties relating to other children, 35% more hyperactive and 49% more problems with behaviour.) The risks

increased with the amount of phone use and potential radiation. One of the study's authors, Professor Leeka Kheifets of the University of California, has previously been a leading sceptic over claims that mobile phones were a health risk writing that there was no proof of 'any adverse health effect'. But they concluded there did appear to be an association between mobile phone exposure and behavioural problems, unless there were confounding factors. Radiation from mobile phones is thought to penetrate 1-2 cm into the skin and not to reach the prenatal child directly, but previous studies have shown it can affect melatonin which mothers pass on through the placenta. Professor Sam Milham said he thought the results were real; recent Canadian research on pregnant rats exposed to similar radiation had found structural changes in their offspring's brains.

Adang's Belgium thesis shows 2 hours per day, 27 V/m exposure of rats to 1-10 GHz pulsed or continuous waves causes blood modification and memory loss and **doubles mortality** (1 GHz CW 48%, PW59%, 10 GHz 61%).

Pavicic showed that the 935MHz, low-level UHF radiation affects microtubule proteins, which consequently may **obstruct cell growth** after 3h of irradiation.

From a conference on World Telecommunication and Information Society Day, Sujatha reports in the *Hindu* that 'scientific study shows that 'hot ear' syndrome as a result of long conversations could have a telling impact' and that scientists say there is **no safe threshold level of exposure**. Dr Gursatej Gandhi said EMR exposures from cell phones 'affect physiological, neurological, cognitive and behavioural changes and induce, initiate and promote carcinogenesis'. Some biological effects linked with RF radiation include RF sickness, altered EEG patterns, changes in blood pressure and decreased fertility. Dr. Gandhi suggests protection, e.g. the polymer shield. 'These results highlight a correlation between mobile phone use (exposure to RF radiation) and genetic damage and require interim **public health actions** in the wake of widespread use of mobile telephony.'

18 antennae on a disused water tower at High Acres, Kings Winford, West Midlands, have been linked to **14 cancer deaths** and **20 non-fatal cancer cases** since 2001 when transmitters were added. 4 deaths were in one road about 200m away. Ofcom admitted that the masts had the **highest radiation levels** tested in the country but said 'It is well within the safety guidelines. Health issues around mobile phones ... are an issue for the HPA.' An HPA spokesman said: 'No concerns have been raised by GPs ... contact is being made with local general practices to confirm that they do not have any specific concerns.'

Residents of Sarabha Nagar Block I in **Ludhiana** are worried about houses nearest to 2 masts where there have been **7 cancer cases**, especially women, with 3 recent deaths.

A **Citizens Initiative study** was conducted by 3 local doctors in Kempton West before and after the **installation of the T-Mobile transmitter** on a bank building. They took initial blood samples from 25 participants living within 300 metres of the mast, in November 2006 before the transmitter began operation (December 2006) and again in May 2007, 5 months after the transmission commenced. This showed a marked **increase in daytime blood serum melatonin levels**, on average by 4.5 for all 25 participants, reflecting EMF exposure and daytime tiredness. 21 of the 25 also showed a **decrease in daytime serotonin** by an average of 43%. This fits with reported symptoms of depressive mood disturbances, lethargy and listlessness, appetite disturbances, inner agitation and reduced quality of life experienced by nearly all the residents.

The *Sunday Express* reported on 29th June that Dr Roger Coghill, a member of a government advisory committee on mobile radiation, has discovered that all 22 youngsters who have killed themselves in **Bridgend, South Wales**, over the past 18 months lived far closer than average to a mast. Dr Coghill added: 'What seems to be happening is that the electrical energy is having an effect on the chemistry of the brain, depleting serotonin levels. We know that in depression **serotonin levels are low** and

that a standard treatment for depression is to give drugs to boost serotonin levels.' The HPA said: 'There is no evidence that masts do you harm.'

In **Malaysia** a telecommunications tower with more than 50 antennae and dishes was put up in a residential area 10 years ago. In a study by UiTM medical faculty Associate Professor Dr Adlina Suleiman, **more than 8%** of 170 residents interviewed in Taman Subang in Kelana Jaya were found to be **suffering from cancer**, compared to under 1% for Malaysians in general.

Many residents in **Clydesbank**, Scotland, are concerned that their recent **ill-health**, including dizziness and migraines, might be caused by the 7 masts in one area, with 2 masts operated by O2, just yards apart. One resident claims that since they were erected more than 2 years ago almost everyone who lives in the street next to one mast has seen their health suffer, with a lot of people feeling dizzy, lethargic and without energy. A spokesman for O2 said: 'There's absolutely no link between health and the masts.'

In June the preliminary results of a new pilot study, conducted at ITEM, Hannover, showed distinct **tumor-promoting** effects of **chronic UMTS exposure** (20 hours/day, 7 days/week, 24 months) beginning at the fetal stage in the offspring of ENU-treated mice.

Ning found chronic exposure to 2.4 W/kg GSM 1800 MHz may affect early **dendritic development** and the formation of excitatory synapses of hippocampal rat neurons in culture, decreasing the density and mobility of dendritic filopodia.

Hardell's **meta-analysis** of case-control studies for long-term (>10 years latency period) use of mobile phones and the risk for ipsilateral brain tumours gave 2.0 risk for glioma (4 studies), 2.4 risk for acoustic neuroma (3 studies), and 1.7 for meningioma (4 studies).

In June the *Independent on Sunday* reported yet **another study** on long-term use of **mobile phones and brain cancer, Alzheimer's and Parkinson's diseases** involving 200,000 people in the UK, Denmark and Sweden. The UK part, led by a team from Imperial College, London, under MTHR, will cost £3.1m, provided by the government and industry. Mast Sanity's website comments that 'the Government, Mobile Operators and the HPA seem determined to delay taking any action for as long as they can. We don't need another long-term study from the MTHR. The time for action is now! The long-term studies that have already been carried out are consistent. Heavy users of Mobile Phones are much more likely to get Brain Tumours of one sort or another.' It adds that 'Brain tumours now kill more **British children** than leukaemia and now brain cancer is killing more **British adults** under the age of 40 than any other cancer.' In fact Professor Challis announced this study **18 months ago**, according to *The Times* of 20th January 2007.

The US Food and Drug Administration has warned pregnant women and young children of the dangers of **dental amalgam fillings**. These contain about 50% **mercury** 'which may have neurotoxic effects on the nervous systems of developing children and fetuses'. ES sufferers and others know that EM radiation such as WiFi can seem to disturb such fillings and some ES symptoms could relate to mercury poisoning. Godfrey's study of 2003 in the *Journal of Alzheimer's Disease* suggested that people with the Apolipoprotein E epsilon-4 gene allele cannot excrete heavy metals as effectively as those with the epsilon-2 or -3 allele, and are especially at risk of building up mercury in the brain.

News on high frequency voltage transients and electro-magnetic radiation

(dirty mains electricity in household, office and school wiring)

A new way of assessing electro-magnetic radiation has been developed. This is to measure the high frequency voltage transients, or 'dirty electricity', found in the mains wiring, especially in the US. It is associated with the use of new low energy fluorescent bulbs, light dimmers etc. The authors of the report, two of the world leaders in studying this type of electrical pollution, think it could be classed as a 'universal carcinogen similar to ionizing [nuclear] radiation' because of the high number and wide variety of cancers it appears to cause.

Milham and Morgan's important study on **high-frequency voltage transients** originated in 2003 when teachers at La Quinta Middle School in California complained of high cancer rates. **16 out of 137 teachers** hired from 1988 to 2005 were diagnosed with 18 cancers. The observed to expected (O/E) risk ratio for all cancers was 2.78, while the O/E risk ratio for malignant melanoma was 9.8, for thyroid cancer 13.3, and for uterine cancer 9.2. No association with cancer incidence showed from 60 Hz MFs but a new exposure metric, high frequency voltage transients, did show a positive correlation. A cohort cancer incidence analysis of the teacher population showed a positive trend of increasing cancer risk with increasing cumulative exposure to high frequency voltage transients on the classroom's electrical wiring measured with a Graham/Stetzer meter. The attributable risk of cancer associated with this exposure was 64%. A single year of employment at this school increased a teacher's cancer risk by 21%. The authors conclude that high frequency voltage transients may be a **universal carcinogen**, similar to ionizing radiation.

High frequency voltage transients or voltage spikes occur on electric cables from interrupted supplies. They are linked to 'dirty electricity', as found with dimmer switches, fluorescent lights, low energy bulbs etc, all of which interrupt the flow of electricity from 120 to 20,000 times per second. The voltage transients can be read on a Graham/Stetzer meter (G/S meter, also known as a Microsurge II meter) giving readings in the range from 0 to 1,999 GS units. >2,000 GS units represent overload. It is assumed that the adverse health effects are by capacitive coupling which induces electric currents in the human body, with the energy coupled proportionate to the frequency.

The case school had very high GS readings with 13 of 51 measured rooms with at least one electrical outlet measuring >2,000 GS units. These readings were high compared to a total of 631 rooms in another school, an office building and private residences which were surveyed. Of these 631 rooms, 17 (2.69%) had maximum >2,000 GS units reading. Applying this percentage to the 51 rooms surveyed at the case school, one would expect 1.4 school rooms to have maximum >2,000 GS units readings instead of 13 rooms (25%).

The cancer risk of a teacher having ever worked in a room with at least one outlet with an >2000 GS units reading and employed for 10 years or more, was 7.1. In this group there were 6 teachers with 7 cancers, compared with 4 without cancers. These 10 teachers were 7.3% of the total teachers but had 39% of the cancers. For those ever working in a room with overload GS readings regardless of length of employment, 8 had cancer and 32 did not, giving a risk ratio of 5.1, compared with 1.8 for 8 teachers with cancer and 89 without who had never worked in such a room.

Another study of the health effect of voltage transients, Armstrong (1994), of transients from pulsed EMFs, found an increased incidence of lung cancer among exposed workers.

Since news of the report's publication, some former pupils at La Quinta Middle School in California have also complained of health problems.

News on power-line, mast, and WiFi planning applications

Since 1994 in the USA, EMR health dangers have not been permitted objections to the siting of masts. In practice planners in the US and UK are increasingly citing aesthetic reasons for objecting to masts and in the US municipalities can create ordinances on where masts should be sited. It seems odd that aesthetic issues are given precedence over health dangers. It would be more logical that all planners should be legally required to consider health issues in each case, as they would with other sources of pollution. For power lines, some countries and US States have legal precautionary limits.

Bar Harbor in the USA was considering following Palermo's ordinance prohibiting masts within ½ mile of a school and 1,000 feet of residences unless property owners agree.

A **Birmingham City Council** (UK) planning committee rejected a 12 m mast under 400 m from Guardian Angels Primary School, after a 254-name petition citing EMR harm. Councillor Bridle said that 'Birmingham City Council has shown again here that it will not allow these companies to do what they want against the will of the public.'

The *Chester Standard* reports that planners refused a 2.2 m mast in **Maryport** on aesthetic and **health grounds**, given that there was **fear** of a health risk.

Salisbury rejected plans for a 12m Orange mast in front of Leehurst Swan School.

According to the *Oxford Mail*, Cherwell District Council is calling on the government to **change planning laws** to allow it to reject mast applications presenting health risks.

In May a **French bishop**, Mgr Bagnard, apparently **banned masts** on churches and **cancelled contracts** with phone operators, to the great satisfaction of residents.

In **Canada** there were **protests** at Richmond Hill over the Bell Mobility tower. Locals had advised Bell that the Vancouver School Board does not allow towers within 300 m of schools and that the Toronto School Board too is pursuing a precautionary siting policy. Richmond Hill **turned down** an application from Rogers Wireless for a 30m cell tower. Some residents, who are Rogers customers, changed service providers over the issue.

The Chairman of Cyprus' House Health Committee has said that **immediate measures** must be taken to **protect the public**, and especially children, from the EMR of mobile telephone masts. Eleni Theocharous of DISY said, 'It is well known that small children, infants and embryos are very sensitive to the harmful energy of electromagnetic radiation.' Environment Commissioner Charalambos Theobemptou blamed part of the problem on the Interior Ministry's directive that 'when masts are going to be placed near schools ... the mast should be hidden so that parents ... can't see them.'

The Capital Development Authority in Islamabad is set to **remove or regularise** the cell phone towers erected on rooftops without proper safety measures posing risk to human health. The towers 'are no doubt a threat to the people, particularly during the extreme weather conditions,' the CDA Director Enforcement Capt (r) Faiz said.

A US federal judge ordered Douglas County to allow a cellular mast despite the Douglas County Commission stopping it the previous year. Commissioner Charles Jones said: 'There is virtually **nothing about the rights of the neighbors** and virtually **nothing about the role of the democratic process** in this' and hoped the county can find a 'realistic balance' concerning the rights of phone companies and the rights of taxpayers.

A **proposal in the US** is to use the 10th Amendment to safeguard health from cell phone antennas. In Oklahoma the 10th Amendment has been invoked to refuse any condition that renders the state an agent of the federal government, and thus to free the state from undue federal control of its affairs. It reads: 'The powers not delegated to the

United States by the Constitution, nor prohibited by it to the States, are reserved to the States respectively, or to the people.' The Oklahoma resolution says that the 10th Amendment defines the total scope of federal power as being that specifically granted by the Constitution of the United States and no more. It is accepted that interstate commerce, including telephony, falls under the purview of federal regulation. But the health of people is a local matter, even when it involves entities engaged in interstate commerce. There is nothing in the Constitution that grants the federal government the power to regulate health, nor to act in detriment to local health conditions, nor to abridge the power of local government or the people to **defend themselves** against health risks.

There are worries about a plan by Sonic.net to cover the JC Campus, Sonoma County, USA, with **free WiFi**. One student who has suffered from Multiple Chemical Sensitivity for 18 years is also sensitive to EMFs. 'It's not the origin of my condition, but it exacerbates it. When I come in contact with EMFs, I get headaches, dizziness and other neurological symptoms. Then later, severe insomnia.' **Sebastopol City Council recently refused** a proposal from Sonic.net to offer free WiFi to the city of Sebastopol on health grounds. Dr. Jeff Fawcett, who co-hosts a weekly health program on KPFA radio, says that EMFs are a global public health concern and there is growing scientific evidence that WiFi technology is dangerous. 'People who are sensitive to this kind of radiation experience insomnia, cognitive difficulties and neurological effects. When you blanket an entire area, people will be in a soup of radiation and not able to get out of it,' Dr. Fawcett said. Dane Jasper, CEO and co-founder of Sonic.net, has sympathy for those concerned about EMR and admits that EHS is a legitimate condition, recognised by scientists and doctors, but still wants to offer the WiFi. The ES student said, 'We are like **canaries in the coal-mine**. This is something that will affect everyone eventually.'

Linda Weltner, from Marblehead, USA, reports on **4 ways people do not hear** about how low-level, non-heating electromagnetic waves can adversely affect their health. Firstly, **citizens are prohibited** by the Telecommunications Act of 1996 from speaking at public meetings about health effects when cell-phone antennas are proposed for their towns. Secondly, the Wireless Communications and Public Safety Law of 1999 gave **cell phone companies total immunity** from product liability. Thirdly **the government stopped funding independent research** on EMR health effects and the telephone industry became the only one investigating itself. Fourthly, **the corporate press refrains from reporting the bad news**, as she found when she wrote a weekly column for the *Boston Globe*, and pointed out that the UK government was warning parents against giving cell phones to children. The column was never printed; it was deemed outside my 'area of expertise.' 'I don't even have an area of expertise,' she told her editor. 'How can I be outside it?' 'Linda,' he said, as if she were a child, 'Look at the advertising.' She looked. And saw page after page of advertising for cell phones.' She states that there is **total agreement in the scientific community** that exposure to low-intensity radio frequency waves in the microwave portion of the EM spectrum causes biological changes in living things. But the American Cancer Society and other groups dependant on corporate funding are waiting for **definitive proof that will never come**.

The Glastonbury Why WiFi campaign began in May after **Somerset County Council** installed 6 base stations in the town centre. It was led by a local psychotherapist Jane Sanders, who has suffered from accumulating ES effects since the installation.

Residents in Nelson, New Zealand, trying to stop a 3G 22m mast in Atawhai near a pre-school, the first of a network of 10, have called for a **review of national limits** for telecommunications equipment, since New Zealand was proposing to adopt 'lax ... industry-led' environmental standards. Residents want masts 1 km from all schools.

In May Castle Point Council, Essex, approved 3 new 3G mobile phone antennae, although apparently Dr Xenon Sienkiewiez, a HPA scientist, admitted there was **no scientific**

evidence to say for certain that 3G antennae did not have a harmful effect on health. UK government guidelines were published by ICNIRP before 3G technology was available.

Councillors at **Carnoustie** in Scotland **unanimously rejected** an application for a 40 foot mast near a nursery, although the planning department had recommended approval.

In May *The Inverness Courier* reported that **evidence to an enquiry** on plans by Scottish and Southern Energy for a 400kV overhead electricity line from Beauly to Denny from Dr Roger Coghill, a member of the Government's advisory body on EMFs, was ruled **inadmissible**. He was an expert witness for Wester Balblair residents and preparing to tell the hearing he believed the scheme would cause a near x5 increase in the risk of leukaemia and other disorders to people living nearby. Some campaigners urged first minister Alex Salmond to dismiss the inquiry reporter, Richard Dent. Charles Kennedy, MP for Ross, Skye and Lochaber, urged the Scottish Government to intervene: 'With so much continuing controversy surrounding the possible health implications of EMFs, it also seems odd that the **most up-to-date science cannot be considered.**' A Scottish Government spokesman stated that Dr Coghill's evidence had been excluded on the basis it repeated evidence given to the strategy session of the Beauly Denny inquiry, dealt with matters unrelated to the inquiry and **questioned government policy**.

Guildwood Church in Canada wants to **cancel** a 20-year lease signed last July with Bell Mobility for a 35m tower after it under-estimated the severity of opponents' reactions; they argued it would expose residents and children in nearby schools to radiation

The *Kennebec Journal* in Maine, US, reported on 18th May, regarding concerns about **CMP transmission-line upgrades in the middle of residential areas**, that Maine has no limits for power lines, unlike some states which have statutes or precedents which pose a 'prudent avoidance standard.' A bill considered in Maine would require any transmission line capable of carrying 115,000 volts or more to be underground if it is adjacent to a playground, school or residential area. There are no federal standards limiting occupational or residential exposure to power line EMFs in the US. At least 6 states, however, have standards that limit EF strength; 2 of these also set limits for MF strength. The US National Institute for Environmental Health Sciences suggests that the power industry continue its current practice of placing power lines to reduce exposures and explore ways to reduce the creation of MFs around transmission and distribution lines. This recommendation has been used in a number of state laws in the last decade. For example, in 2004 Connecticut prohibited overhead electric transmission lines from being located within a buffer zone near residential areas, schools, day-care facilities, youth camps or playgrounds. This law has led to many high-voltage power lines being buried.

News on governments, industry, EMR and ES

Sweden and Canada have recognised ES as a disabling condition. Since 2000 some western governments have been urging precaution for children using mobile phones and for the siting of mobile phone masts away from schools, hospitals and residences, despite the now inappropriate US 1994 zoning law. Many western governments still consider only heating effects of microwaves; other governments include the sub-thermal effects.

As regards **smoking** rather than electro-magnetic **pollution**, the release of National Archive papers for 1956 reveals that the chancellor of the exchequer, Harold Macmillan, a smoker, urged Eden's cabinet against warning the public of the risks of smoking, since 'the Treasury think revenue interest outweighs' a life expectancy reduced by 1.3%. The Health Minister, Robert Turton, who had been urged by the Medical Advisory Committee to tell the public of the facts on any link between smoking and cancer, admitted that the 'statistical picture is clear'. But he also opposed issuing a warning, because there was no absolute scientific 'proof' of a connection between smoking and cancer.

As regards **chemical** rather than electro-magnetic **pollution**, the *Chicago Tribune* on 2nd May reported that Mary Gade, the 'outstanding' head of the Midwest office, was told to quit or be fired by agents of the national administrator of the U.S. Environmental Protection Agency. She had insisted that the chemical firm Dow clean up unacceptably high levels of dioxin. Dow previously claimed dioxin causes only skin rash and not cancer.

The Board of Health and **Toronto** City Council recently endorsed a **Prudent Avoidance Policy** which will help ensure that public exposure to EMR from **cell phone towers** is 100 times below the current Health Canada exposure standard, Safety Code 6. This policy does not address public exposure to EMR from the use of cell phones which can be considerably higher than cell phone towers or antennas. The 2007 Toronto Public Health report titled *Update and Review of Research on Radiofrequencies: Implications for a Prudent Avoidance Policy in Toronto* responds to the Board of Health's request for information on the use of cell phones by children and youth and their exposure to EMR. Research suggests children are more vulnerable than adults.

In April the Cancer Council of **Queensland** launched unprecedented legal action in Brisbane's Supreme Court to stop the government **blocking information** on cancer cases and survival rates. This followed 34 cancer cases among firefighters, including a cluster of 8 brain cancers, 4 prostate, 3 testicular, one bowel, one leukaemia and 12 others, 21 to 62 times higher than the normal rate. Australian Radiation Protection and Nuclear Safety Agency scientists are to measure ionising and electro-magnetic radiation.

Bailar's 2007 article on the study of a **cancer cluster among electrical workers** at IBM shows how IBM sought to **hide** the problem and the publishers originally **refused** to publish the results. The cluster was reported in 1985: 7 of 12 workers died of cancer and 2 developed bone tumours. The UAB study into brain cancers later commissioned by IBM reported in 1996, but 'Information about specific exposures in the work environment ... was not available'. It supported an earlier study which found that the risk of astrocytic tumours among electronics workers was x10 for those employed for >20 years.

Professor Barnes of the University of Colorado in Boulder, the chair of the US National Academy of Sciences' panel reporting on the needs for EMF health research, has called for **more studies on children and cell phones**, especially on long-term exposures.

In April the **Russian National Committee on Non-Ionizing Radiation Protection** stated about children and handsets that **future generations' health is under threat**. Following the opinion of leading Russian scientists in hygiene and radiobiology of Non-Ionizing Radiation, modern scientific knowledge and many years of research into the influence of EMFs on human health, the RNCNIRP regards the possible threat to human health as very high. EMR influences the formation of higher nervous activity, while EM

absorption in a child's head is much higher compared to adolescents (children's cerebral tissue is of higher conductivity, the head size is smaller, cranial bones are thinner, etc.). A child's organism is more sensitive to EMFs than that of adolescents; a child's brain has the peculiar propensity to accumulate adverse reactions in the case of re-irradiation; and modern children use handsets since longer. RNCNIRP specialists state that children using handsets are prone to the following disorders: weakening memory, decline of attention, reduction of mental and cognitive capacity, irritation, sleep violation, increasing epileptic possibility. The other possible long-term consequences are brain, auditory and vestibular nerve tumour (aged 25-30), Alzheimer's disease, 'acquired dementia', depressive syndrome and other forms of neuronal degeneration of brain structures (aged 50-60). Oleg Grigoriev, director of the Centre for Electromagnetic Safety and RNCNIRP deputy chairman, said, 'The given risk is not inferior to the influence of tobacco and alcohol.'

In April Dr Black, an ICNIRP (WHO) adviser, apparently said in Fiji that mobile phone and base station radiation does not cause cancer, children can safely use mobiles and it is very unlikely any significant adverse effects will now be found. [!!! – ed.]

The deadline for transposition in EU countries of Directive 2004/40/EC on the **health and safety requirements** for the **exposure of workers** to the risks from physical agents (electromagnetic fields) was 30th April 2008. It requires a risk evaluation for EMF occupational exposure in pregnancy. Research suggests there is insufficient knowledge among many OH physicians in Italy, according to Gobba's study of 2007.

According to CWNews, Italy's top court, the Court of Cassation, re-opened a criminal case **against the top executives of Vatican Radio**, Cardinal Roberto Tucci and Father Pasquale Borgomeo, the former chairman and former director, charging them with **environmental pollution**. They were found guilty in 2005 of violating Italy's tough standards for emission of EMR and given suspended sentences, but that conviction was reversed on appeal in 2007. In 2001 local authorities on the outskirts of Rome, charged that EMR from the Vatican Radio antenna was causing an **elevated incidence of leukaemia**. Although they could not show a precise scientific link, prosecutors charged that Vatican Radio was exceeding the legal limits for EMR. Vatican Radio said that their broadcasts adhered to the more liberal EMR limits of the EU. In 2001 Vatican and Italian authorities formed a joint commission to set new standards for the radio broadcasts. In 2005 Italian authorities confirmed that Vatican Radio was now broadcasting at acceptable levels under the terms set by that commission, and the dispute had been thus deferred.

Mr Woodcock of Simcoe has petitioned the **Auditor General** of Canada Commissioner of the Environment and Sustainable Development about the EMR health effects of a cellular tower 300m from his property because he has 'been **unable to find any official**, whether municipal, provincial or federal, who can **guarantee our physical safety**'.

A proposal to the **Swiss Federal Council** for a **general ban** on mobile phones for **children under 14 years**, because of immediate and future health risks, was rejected in May, although the Council recognised that research was still incomplete and uncertainties remain, particularly as regards **long-term** effects; the use of mobile phones by children was primarily the responsibility those with parental authority and not the State. The Council thought, however, that appropriate **prevention** measures must be taken, both nationally and internationally. With new scientific evidence, the Council would reconsider.

The **Taiwan Electromagnetic Radiation Hazard Protection and Control Association** protested over the potential health impact of EMR as Ying-jeou Ma, President of the Republic of China, visited the 2008 WiMAX Expo Taipei in June. 'WiMAX base stations are unnecessary in Taiwan. The governmental people don't care about the life and health of the public,' stated Jiau-hua Chen, Chairman of TEPCA. The **level of EM radiation was higher** than the international standards as measured by some experts at the showground, according to the Taiwan Hakka Television.

The **International Commission for Electromagnetic Safety**, a worldwide scientific organisation, issued an **urgent call** in June for **more health and safety protection** against EMF hazards. Its Venice Resolution was initially signed by 47 scientists, each in the forefront of their respective professional research on EMFs and health. 'The scientists state that recent epidemiological evidence on adverse effects of EMF is stronger than before and they take exception to the claim of the wireless communication industry that there is no credible scientific evidence to conclude there is a risk.' The scientists call for biologically based standards to be developed that would take various physiological conditions into consideration, e.g., pregnancy, newborns, children, and elderly people. The emerging health condition, known as electro-hyper-sensitivity, now estimated to affect 2% of the world's population, which can cause functional impairment, loss of worker productivity and increased national health care expenditures, is pointed to as an example of harm that needs further investigation. Professor Livio Guiliiani stated, 'Fundamentally, our research shows that **non-thermal EMF bio-interactions have been proven** both for extremely low frequency fields (ELF) and high frequency fields. These outcomes are not negligible, and **require EMF risk assessment**.' As a precautionary measure the scientists recommend **lowered** EMF exposure standards and advise that **children and teenagers** limit use of cell phones or other wireless devices.

The **Russian Mass Media, Communications and Cultural Protection Service** (Rossvyazokhrankultura, an agency formed in 2007) states that wireless internet users must obtain permission and **register** all WiFi devices, including laptops, smart-phones and WiFi-enabled PDAs, or they can be confiscated.

In May an interview with **Bernhard Veyret, a member of ICNIRP**, reportedly printed in the French newspaper *Le Monde*, was translated as follows.

Q: There is therefore a problem with cellphones ?

BV: I am not saying that there is a problem, I say that we lack elements to be really sure that there is nothing. There has never been any disease, cancer attributed to such waves. Not a single case found in the world.

Q: I thought that there had been at least one case in USA.

BV: No, no, no. One case not proved. Impossible to prove.

Q: So what is the problem with electrosensitive people?

BV: I am not a specialist in human behaviour, but if you are very frightened of something, you may, if you're exposed to feel the symptoms that you associate to it... Let's listen to them, see how we can treat them. But we are not going to cure them if we remove the electromagnetic fields ... they are unable to feel.

[Perhaps it's the translation (not mine) for readers who can't believe this was said. – ed.]

In France, **20 leading scientists**, including international cancer experts, made a public appeal **against mobile phones** in June. They stated where possible that children under 12 **do not use mobiles**, they should be kept **at least 1 metre** from the body, people should **keep 1 m from someone using a mobile**, to avoid passive irradiation they should **not be used in trains or buses**, and **nor in moving vehicles or trains**.

In Malaysia the **Consumers' Association** of Penang has called for a **ban** on the usage of mobile phones. Its president, S.M. Mohamed Idris, said CAP had been against the use of mobile phones for many years. 'In view of the fact that mobile phones could represent a public health time-bomb, CAP urges the government to take appropriate measures to address the problem,' adding that parents should not allow their children to use mobiles.

In June Sainte-Genevieve University library was Paris' 4th to **switch off its WiFi**, installed in late 2007, after a staff member threatened to take early retirement on health grounds. The symptoms included headaches, sight and balance problems and general weakness.

Arthur Firstenberg, an advisor to the committee examining whether to install **WiFi in Santa Fe**, California, **advised against** it, based on his own experience of becoming ES, the scientific evidence showing harm from EMR, and the 1998 Californian survey which found that 3.2% stated that their health was seriously affected by electromagnetic fields.

In **Canada** Thorold's Confederation Heights city council decided in July to **pull out** of a one-year pilot project with ReliaClear Canada Inc. to provide free wireless broadband Internet service, just 3 months after a narrow vote in favour. The city can end the agreement at any time. Some Niagara residents asked the council to reconsider its decision because of potential ill health effects from radiation.

In April Marilyn Idle, LLB, wrote to the Auditor General of Canada expressing concern for the **lack of legal control in EMF pollution** on the part of both **government and industry**. 'The only thing more obsolete or non-existent in Canada and the US than current adequate emissions safety standards and the policing of those standards are adequate laws to ethically guide techno-corporations. Old industrial-corporate laws in Canada are currently being used to guide technologic corporations. They are wholly inadequate to protect the population given the new technologies and their all-pervasive and unique airway 'pollutions' which are persistent 24/7.' 'Emissions of the vibratory-frequency type, emitted 24/7 from wireless emitter towers and wired technologies are a greater threat to unconsenting people, than the last 100 industrial years of corporate chemical smog which you could at least avoid because you could see it in the airways/waterway pollutions. These new emission can't be avoided, they are invisible. You can't smell and see them and then choose to leave the area. The harms or deaths caused by techno-emissions are more stealthy. It is almost impossible for the average person to prove gross, extreme or any negligence from a corporation.'

A report by Dr. Katherine Albrecht, director of CASPIAN, *Microchip Implants: Answers to Frequently Asked Questions*, in a section called 'Cancer Cover-up', reportedly describes a the **alleged deception** used by VeriChip executives in an effort to downplay the fact that **implantable microchips cause cancer** in laboratory animals. It reveals how *Time Magazine*, *Business Week*, and the *RFID Journal* were used as to spread misinformation about the cancer studies. 'Since research linking the product to cancer first surfaced last year [revealed by the *Associated Press* in September 2007], each of these publications has repeated misstatements from VeriChip company executives, in many cases printing the inaccurate statements verbatim and unchallenged.' VeriChip now hopes to sell its 'human implantable chip' division or 'cancer chip', as it has been dubbed. The report is available on AntiChips.com website along with an overview of the studies, 'Microchip-Induced Tumors in Laboratory Rodents and Dogs: A Review of the Literature 1990-2006'.

In 2005 the **US Supreme Court** refused to reject a number of class-action lawsuits that challenge radiation emissions from cell phones. 'Class-action lawsuits currently pending in Maryland, New York and Pennsylvania allege that cell phone radiation can cause brain tumors. The suits allege the manufacturers are aware of the danger and have deliberately kept consumers in the dark.' The Verizon contract apparently now reads: 'Upon signing this contract you agree not to sue the Cell Phone Maker or participate in a Class Action Lawsuit.'

Professor Dr. Franz Adlkofer, head of the REFLEX study which confirmed DNA damage by EMR, has stated that the German Federal Radiation Protection Bureau's research programme on mobile phone radiation failed to 'offer a sound scientific basis' on the health risks of mobile phones because it concludes that all biological effects are exclusively thermal. 'This assumption of only thermal effects is contradicted by the results of numerous investigations which have been carried out independently.' Given athermic effects, **the present safety levels for mobile phone radiation would be 'absolutely unfounded from a scientific point of view and a long-term risk to the**

health of people could in no way be excluded. 'It would have been much more appropriate for the GFRPB to recommend precautionary measures.'

The **CAVI** (Children as Victims Inquiry/Children as Vested Interests) Society was set up in 2006 in Solihull, to safeguard children from the effects of EMR.

The mayor of Courbevoie near Paris has apparently agreed to **stop WiFi in 36 schools**.

In June it was reported that some municipalities in city of **Paris** had started a **health risk assessment of exposure to WiFi**.

In the US the **Progressive Librarians Guild**, in its policy on WiFi, quotes the European Environmental Agency BioInitiative Working Group: 'we also recommend wired alternatives to WiFi be implemented, particularly in schools and libraries'. The PLG recommends that 'information workers address the risks of wireless technology in public spaces ... critically evaluate and **adopt alternatives to wireless technology**, especially in children's sections of libraries, create warning signage on risks of WiFi ...'

In April the **Indian State Environment Department** urged local authorities to follow the guidelines before giving permission for mobile phone towers on residential buildings, schools, hostels and hospitals. In May the chief law officer of the Environment Department said the decision to fix guidelines was taken only after a complaint about a tower being installed on the terrace of a girls' school. The department would take action against violators under the Environment Protection Act. The new rules bar cellphone service providers from installing towers on the roofs of schools and hospitals because children and patients are more susceptible to electromagnetic radiation than others. The Tripura State Pollution Control Board then directed mobile service providers to obtain prior written permission from the authority before setting up base stations.

In the *Times of India* on 15th June Meenakshi Kumar reported on 'The invisible threat' and the Indian Union health ministry's commission of its first large-scale study of the **human effects of EMR** from mobile phones. A Jawaharlal Nehru University pilot study found that 20 rats had **damaged DNA and low sperm count** after mobile phone radiation. The oncologist Dr Ramananda Nadig of Bangalore said, 'The threat is real and omnipresent. Most, if not all, electrical appliances that emit EMFs, are harmful to a certain extent. While they may not be initiators of a malignant change, there is every likelihood that they promote/augment such a change. The more people are exposed, the greater the risk.' Similarly, cellphone towers are a cause of concern. A 2005 study by Gursatej Gandhi, of the Human Genetics Department, Guru Nanak Dev University, Amritsar, found that 'exposure to RF signals ... is reported to affect physiological, neurological, cognitive and behavioural changes and to induce, initiate and promote carcinogenesis....' Professor Ravinder Kohli of Panjab University, Chandigarh, commented, 'The EMF generated from the tower is 24X7 ... They are a huge threat.' Dr H Fisher of Toronto wrote in *The Invisible Threat* series, 'To spend 60 minutes in a WiFi environment is equal to 20 minutes on a cellphone. If the EMF radiations can penetrate concrete walls and cellphones can work in basements, then there is no reason why they can't penetrate human tissues.' The extent of harm differs between individuals.

The Cellular Operators Association of India has **opposed a government proposal** for mobile phone manufacturers to specify the radiation levels or specific absorption rate (SAR) emitted by the device on the handset's screen. The COAI said that SAR values are displayed either in the device manual or on the manufacturer's website; hence the screen display is not required. COAI also opposed a Conformity Assessment Body to measure radiation from mobile base stations. COAI wanted a self-certification system.

Also in India, the central government has asked service providers and cell phone makers to **avoid advertisements** showing **children** and **pregnant women** using cell phones.

In May the Indian Environment Department directed the Kolkata Municipal Corporation **not to allow mobile phone towers in congested residential areas.**

In June **India's** Telecom Engineering Centre measured emissions at some base stations in Delhi. Levels were found to be **exceeding** the norms in certain cases. 'At present operators themselves will have to monitor emissions.' For handsets, a mobile exceeding SAR 1.6 W/kg is illegal in the US, while in Europe the limit is 2W/kg at present.

In Canada Dr Havas of Trent University, one of ES-UK's scientific advisers, submitted an **Environmental Petition to the Auditor General** in June 2008 requesting that '**first generation DECT Phones be Banned in Canada**'. In March 2007 she made a similar request to Robert P. Bradley, Director of the Consumer and Clinical Radiation Protection Bureau, Product Safety Programme, Health Canada. His only reply, that month, stated that he was unaware of DECT technology and a ban would come under Industry Canada.

In March 2008 the BMW Group, a German car manufacturer, **removed all its DECT** cordless phones. Its previous 2004 DECT policy set the maximum exposure from cordless phones at 100 $\mu\text{W}/\text{m}^2$, about 100,000 times lower than the government's exposure limits. At its Munich research centre, the company invested around 100,000 Euro in glass panes with a special metal coating installed to lower the overall exposure throughout office spaces, especially to protect employees located below a DECT base station.

In Israel a bill has been filed by Dov Hanin, Michael Malchior and 9 more MPs to limit the sale of cell phones to children. The bill requires any advertising of mobile phones, like tobacco, to include a **warning** covering 5% of the advertisement page: 'Warning: the health ministry warns that much usage and carrying the device close to the body can increase the risk of cancer, especially among children.' An advertisement could not show children and could not be directed at children. **Children would only be able to buy a cell phone with an adult.** This follows the Knesset meeting on the 8th October 2007, at which Professor Roni Seger presented the Weizmann Institute study about the reaction of protein ERK to mobile radiation.

The UK **HPA's** EMF Discussion Group has a new chairman, Professor Colin Blakemore, replacing Sir William Stewart. In April Justin McCracken took over as HPA chief executive from Pat Trooper. Mr McCracken, a trained physicist, worked for ICI for 22 years. He then became NW director of the Environment Agency and deputy chief executive of the Health & Safety Executive. According to *The Times* he sees the HPA's role as helping 'to develop evidence and make sure that those who can act on it are given it and do act on it'.

CORRECTION: In the report on the Irish Doctors' Environmental Association conference (April *Newsletter*) I regret that two names were confused. It was Dr Graham Blackwell and not Dr Colin Blakemore who stated that the current ICNIRP health guidelines are 'based on outdated science and do not take into account the new research'.

ES-UK welcomes two new scientific advisers

We are delighted that **Dr Andrew Goldsworthy** has agreed to become a **scientific adviser** to ES-UK. In his distinguished research and teaching career at Imperial College, London his specialisms included the physiology and biochemistry of photosynthesis and photorespiration through the biological effects of electromagnetically treated water to the electrophysiology of plants. He has published many scientific papers, mainly on plant electrophysiology, and has also written for the *New Scientist* on the evolution of plant and animal action potentials and the origin of the nervous system. He is also a member of the Life Sciences Advisory Group for the European Space Agency.

Over the last few years Dr Goldsworthy has developed scientific insights into some of the causation pathways associated with ES and has published on the internet some important papers which have considerably advanced this area of research. In fact his research into the biological effects of electromagnetic fields dates back over 30 years but has only recently been published as a new theory, mainly in relation to plants (*Plant Electrophysiology: Theory and Methods*, ed. A.G. Volkov (Springer 2006)). Since then he published on the Internet in 2007, *The Biological Effects of Weak Electromagnetic Fields*, which deals with biological effects of electromagnetic fields on humans and animals and draws attention to the remarkable similarity between the symptoms of electro-sensitivity and those of hypocalcemia (low blood calcium), and *The Cell Phone and the Cell* (2008). see: <http://tinyurl.com/5ru6e6> or the Mast Sanity website.

See also the ES-UK website (About ES-UK/Trustees) for links to other papers, including *Why mobile phone masts can be more dangerous than the phones*, which deals with cellular negative feedback in living organisms caused by long-term but low-level radiation from phone masts, DECT phones and WiFi.

ES-UK is also honoured to have **Dr Hugo Schooneveld** as a **scientific adviser**. At Groningen State University he was awarded a PhD *cum laude* on insect endocrinology before spending 34 years at Wageningen Agricultural University, becoming Chairman of the Department of Entomology. He has published some 70 scientific papers, focusing on two areas, neuropeptides in pest insects, and hormonal control of insect pests, developing and evaluating a wide variety of techniques.

Dr Schooneveld first became aware of his electro-sensitivity after purchasing a computer in about 1982. He now has to keep PCs at a distant and hire advanced students for typing jobs. Gradually more electronic devices started to get annoying, including the later LCD screens and even TFT screens. Even hand-held computers were annoying although EMFs could hardly be measured at centimetres' distance. By scrupulous sanitisation of his home, and helped by low field intensities from mobile phone transmitters in a forested area, his house is almost the only place in which he feels well and can work efficiently. He hates meetings in other unexplored locations although they can be necessary. He has recently had his home reconstructed with areas of rigorously controlled EMFs. His ES symptoms have changed over the years. In the early phases, overexposure to PCs produced headaches, elevated blood pressure, insomnia, concentration problems etc.. After sanitation of the house it is only headaches, but these get worse all the time, especially after visiting unknown locations. A typical PC working schedule is 2-3 hours in the morning. Longer exposure gives, some 6 hours later, an increasing headache and pain around the scalp and higher neck musculature lasting 24-36 hours.

Dr Schooneveld found the Swedish ES website www.feb.se a first source of useful information. In 2001 he established www.electroallergie.org to offer a discussion platform for fellow EHS people. He then started the Dutch working group on EHS: WEO -

Werkgroep elektrische overgevoeligheid. In 2007 he helped established the EHS Foundation, to present ES problems with more professionalism, raise interest and apply for funds to provide information, and a new website, *www.stichtingehs.nl*. In December 2006 they organised the first Dutch ES Symposium entitled '*Understanding EHS*'. It showed the need for more facts on EHS and suggested research topics. Some scientists still do not take EHS sufficiently seriously.

ES-UK welcomes a new medical adviser

Dr Stephen Brooke has kindly consented to become a medical adviser to ES-UK, joining Dr David Dowson in this role.

Thanks

ES-UK thanks **Roger Moller** for his brief stint as a trustee. He is well known to many ES sufferers for acting as the unofficial unpaid roving ambassador for ES-UK. He has helped many in a practical way, especially those who are virtual prisoners in their own homes. He hopes to be able to continue doing so in the future.

Robert Becker, who died recently, was a life-long research scientist into sub-thermal EMF effects on the human body, twice nominated for a Nobel prize, and a pioneer of using sub-thermal EMFs to regenerate human tissue. He wrote of the human race as follows.

'There is a strong possibility that increasing electropollution could set in motion irreversible changes leading to our extinction before we are even aware of them.'

'Our survival depends on the ability of upright scientists and other people of goodwill to break the military-industrial death grip on our policy-making institutions.'

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