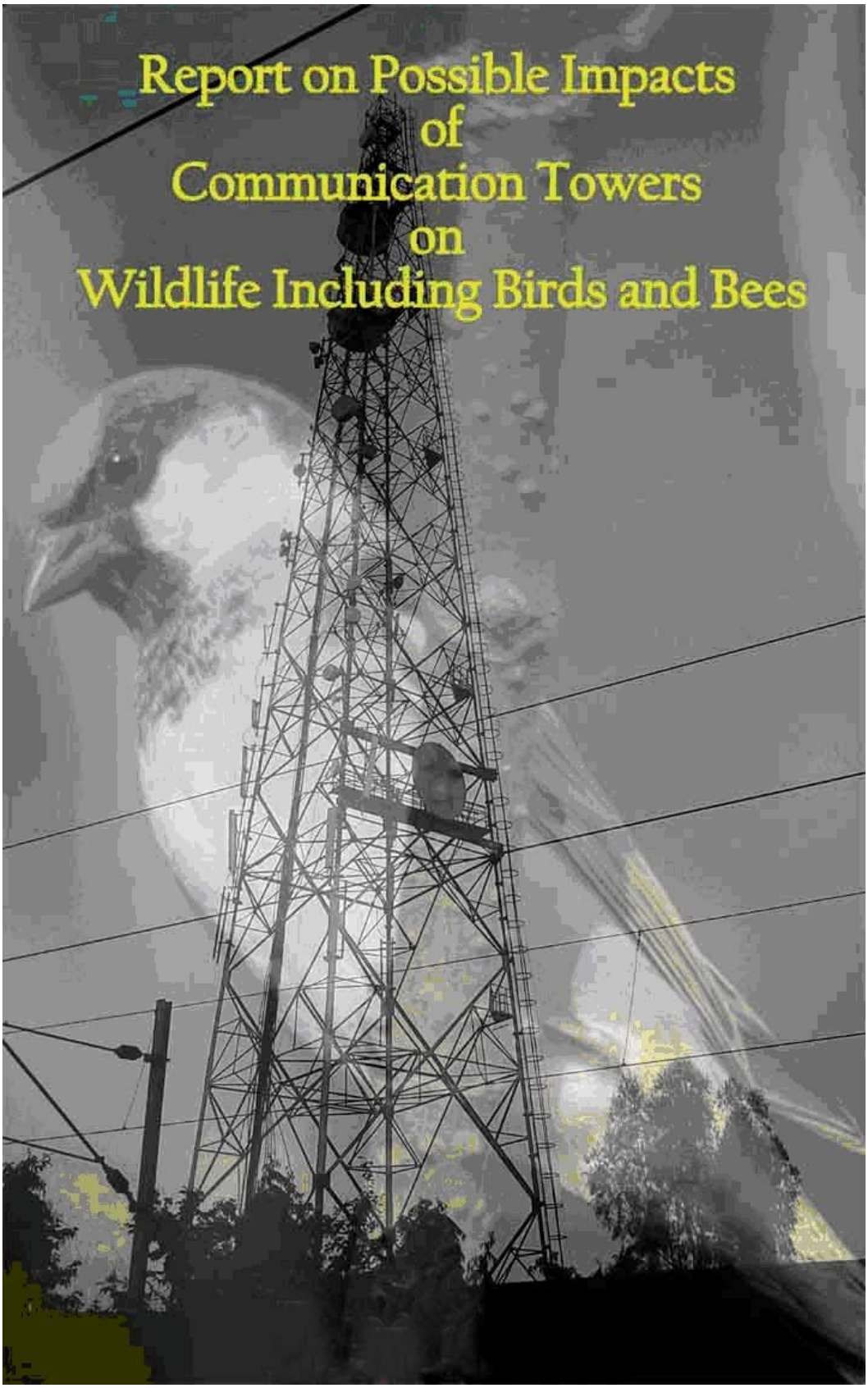
Report on Possible Impacts
of
Communication Towers
on
Wildlife Including Birds and Bees

Expert Group to study the possible impacts of communication towers on Wildlife including Birds and Bees

Executive summary

India is one of the fastest growing mobile telephony industries in the world. It is estimated that by 2013, 1 billion plus people will be having cell phone connection in India. To support this growth of cell phone subscriber in the country, there has also been a tremendous growth of infrastructure in the form of mobile phone towers. Today, in absence of any policy on infrastructure development and location of cell phone towers, large numbers of mobile phone towers are being installed in a haphazard manner across urban and rural areas including other sparsely populated areas in India.

The transmission towers are based on the electromagnetic waves, which over prolonged usage have adverse impacts on humans as well as on other fauna. The adverse effects of electromagnetic radiation from mobile phones and communication towers on health of human beings are well documented today. However, exact correlation between radiation of communication towers and wildlife, are not yet very well established.

The Ministry of Environment and Forests usually receives several questions regarding this issue. In view of one such Lok Sabha Starred question regarding 'Ill effects of Mobile Towers on Birds' received on 11th August, 2010, an 'Expert committee to Study the possible Impacts of Communication Towers on Wildlife including Birds and Bees' was constituted on 30th August, 2010 by Ministry of Environment and Forest, Government of India.

The Expert Committee had five important mandates which are as follows:

I. To review all the studies done so far in India and abroad on aspects of ill effects of mobile towers on animals, birds and insects.

II. To assess the likely impacts of the growth in the number of mobile towers in the country

III. To suggest possible mitigatory measures.

IV. To formulate guidelines for regulating the large-scale installation of mobile towers in the country

V. To identify the gap areas for conducting further detailed research.

The Committee studied all the peer reviewed articles/ journals published on the impact of radiations on wildlife throughout the world and compiled them. Subsequently, detailed analysis of the papers was done to find out the impacts of electronic magnetic fields (**EMF**) on wildlife

including birds and bees and the gap areas for conducting further detailed research were identified.

The review of existing literature shows that the Electro Magnetic Radiations (EMRs) are interfering with the biological systems in more ways than one. There had already been some warning bells sounded in the case of bees and birds, which probably heralds the seriousness of this issue and indicates the vulnerability of other species as well. The electromagnetic radiations are being associated with the observed decline in the population of sparrow in London and several other European cities (Balmori, 2002, Balmori, 2009, Balmori & Hallberg, 2007). In case of bees, many recent studies have linked the electromagnetic radiations with an unusual phenomenon known as 'Colony Collapse Disorder'. A vast majority of scientific literature published across the world indicate deleterious effects of EMFs in various other species too.

In spite of the recent studies indicating possible harmful impact of EMF on several species, there are no long-term data available on the environmental impacts of EMRs as of now. Studies on impact of cell phone towers and EMR on birds and other wildlife are almost non-existent in India. Moreover, pollution from EMRs being a relatively new environmental issue, there is a lack of established standard procedures and protocols to study and monitor the EMF impacts especially among wildlife, which often make the comparative evaluations between studies difficult. In addition to the gap areas in research, the necessary regulatory policies and their implementation mechanism also have not kept pace with the growth of mobile telephoning. Our guidelines on exposure limits to EMF need to be refined since the ICNIRP Standard currently followed in India is coined based on only thermal impact of Radio Frequency and are dismissive of current epidemiological evidence on impacts of non-thermal nature on chronic exposure from multiple towers. Meanwhile, the precautionary principle should prevail and we need to better our standards on EMF to match the best in the world.

Along with the growth of phone towers and subscribers, India is also witnessing a rapid population growth. To feed and support this rapidly growing population the agricultural security and the factors influencing them should be of concern. However, the population of many species such as honey bees, which is one of the most important pollinator and important factor for agricultural productivity, has seen a drastic population drop. Unfortunately we do not have much data about the effects of EMR available for most of our free-living floral and faunal species in India. Therefore, there is an urgent need to do further research in this area before it would be too late.

Introduction

During recent years, there has been an increase in the usage of telecommunication devices, which has become an easy means for communication. The use of mobiles have become more conspicuous, during the last decade and this has led to construction of transmission towers in large numbers, both in the urban, as well as in rural areas including other sparsely populated areas. Transmission towers are based on the electromagnetic waves, which over prolonged usage have adverse impacts on humans as well as on other fauna. The adverse effects of electromagnetic radiation from mobile phones and communication towers on health of human beings are well documented today. Recently the electromagnetic fields from mobile phones and other sources have been classified as "possibly carcinogenic to human" by the WHO's International Agency for Research on Cancer (IARC). However, exact correlation between radiation of communication towers and wildlife, are not yet very well established. Though, there have been growing concerns about the impacts of mobile towers on wildlife, and couple of studies conducted in India and worldwide indicates the possibility of negative effects of radiation.

The Ministry of Environment and Forests (MoEF) usually receives questions on such subject during the last couple of years. One such question, that the Ministry of Environment and Forests replied to on 11th August, 2010 was a Lok Sabha Starred question number 244 regarding 'Ill effects of Mobile Towers on Birds'. In the above mentioned question, Hon'ble Member of Parliament (Lok Sabha), wanted to know, whether any studies have been conducted on the ill effects of mobile towers on birds and bees and also whether the Government has set up any committee to look into the issue.

In view of this, an urgent need was felt to constitute an Expert Group to assess the level of possible impacts of growth of mobile towers in urban, sub-urban and even rural/forest areas on the wildlife including birds and bees and to suggest appropriate mitigative measures for the problem. Hence, the 'Expert committee to Study the possible impacts of communication towers on wildlife including Birds and Bees' was constituted on 30th August, 2011 by Ministry of Environment and Forest, Government of India. The constitution and the terms of references of the committee are at **Annexure I.**

The committee had the following important five mandates to be completed:

I. To review all the studies done so far in India and abroad on aspects of ill effects of mobile towers on animals, birds and insects.

II. To assess the likely impacts of the growth in the number of mobile towers in the country

III. To suggest possible mitigatory measures.

IV. To formulate guidelines for regulating the large-scale installation of mobile towers in the country

V. To identify the gap areas for conducting further detailed research.

In order to achieve its mandate, the committee had convened three meetings and discussed the issue thread bare. After the discussions, in third meeting, the committee had decided to finalise its report. Subsequently, hundreds of research papers were collated, analyzed and reviewed. Detailed descriptions were noted of important and relevant papers. Drafts were circulated within the Committee members for comments.

It should be noted that this is not a complete review of the impact of the electromagnetic radiation on all life forms as **the mandate of the Committee was limited to birds and bees.** However, for the context purpose the committee has referred to many papers concerning other taxa (See Literature Cited).

The findings of the committee based on the above mandates are provided in detail in the following paragraphs.

Scientific background on the issue

Rapid developments in various fields of science and technology in recent years have intensified the human interference into the natural environment and associated physical, biological and ecological systems resulting in various unintended and undesirable negative impacts on environment. With economic, social and scientific development, increasingly fresh avenues for environmental pollution are being thrown open in recent times. Pharmaceutical, genetic, nano-particulates and electro-magnetic pollutions are the prominent ones among them which were in the limelight in recent times for all the negative reasons.

The intensity of manmade electromagnetic radiation has become so ubiquitous and it is now increasingly being recognized as a form of unseen and insidious pollution that might perniciously be affecting life forms in multiple ways (Balmori 2006a; Balmori 2006b; Balmori 2009; Tanwar 2006). The **electro-magnetic fields** (**EMF**) as a pollution called 'electro-smog' is unique in many ways. Unlike most other known pollutants, the **electro-magnetic radiations** (**EMR**) are not readily perceivable to human sense organs and hence not easily detectable. However, their impacts are likely to be insidious and chronic in nature. However, it is possible that other living beings are likely to perceive these fields and get disturbed or sometimes fatally misguided. Because the EMR pollution being relatively recent in origin and lately being recognized as a pollutant coupled with its expected long-term impacts and lack of data on its effect on organisms, the real impacts of these pollutants are not yet fully documented in the scientific literature.

The electromagnetic radiations (EMR) are extensively used in modern communication and technology. Radio waves and microwaves are forms of electromagnetic energy that are collectively described by the term "**radiofrequency**" or "**RF**". RF emissions and associated phenomena can be discussed in terms of "energy", “power”, "radiation" or "field". Electromagnetic "radiation" can best be described as waves of electric and magnetic energy moving together (i.e., radiating) through space (Cleveland, Fields, and Ulcek 1999).

The first mobile telephone service started on the non-commercial basis on 15 August 1995 in Delhi. During the last 16 years, India has seen exponential growth of mobile telephoning. With this growth, a number of private and government players are coming in to this lucrative and growing sector. At present nearly 800 million Indians have mobile phones, making it the second largest mobile subscribers in the world after China. At present, there are nearly 15 companies providing mobile telephoning. However, necessary regulatory policies and their implementation mechanism have not kept pace with the growth of mobile telephoning. Moreover, there have been not enough scientific studies on the impact of mobile phone towers on human health or its environmental impacts.

Most of the short-term studies primarily looking into the thermal impacts of EMR exposure on biological systems have neither succeeded to detect any statistically significant changes in the biological processes nor could prove any acute change in health conditions at the present background levels of exposures (Brent 1999; Hanowski Niemi and Blake 1996; Hoskote, Kapdi and Joshi 2008; Lönn *et al.* 2005; Mixson *et al.* 2009; Zach and Mayoh 1984; Zach and Mayoh 1986). On the other hand, long-term studies have reported alarming observations, detecting negative consequences on immunity, health, reproductive success, behaviour, communication, co-ordination, and niche breadth of species and communities (Preece *et al.* 2007; Levitt and Lai 2010; Hardell *et al.* 2008; Hardell *et al.* 2007; Fernie and Bird 2001).

- **Impact on birds and bees:** Of the non-human species, impacts on birds and bees appear to be relatively more evident. Exposure to EMR field is shown to evoke diverse responses varying from aversive behavioural responses to developmental anomalies and mortality in many of the studied groups of animals such as bees, amphibians, mammals and birds (Zach and Mayoh 1982; Zach and Mayoh 1982; Batellier et al. 2008; Nicholls and Racey 2007; Bergeron 2008; Copplestone et al. 2005; Sahib 2011). Honey bees appear to be very sensitive to EMF (Ho 2007; Sharma and Kumar 2010; Ho 2007) and their behavioural responses, if scientifically documented, could be used as an indicator of EMF pollution.

- **Impacts on other wildlife:** Other wildlife such as amphibians and reptiles also appear to be at high risk with possible interference of EMF with metamorphosis and sex ratios where temperature dependent sex determination is operational. Several investigations into

environmental effects of EM fields are covered in some of the unpublished / grey literature and impact assessments submitted to various regulatory government agencies (Bergeron 2008a; Bergeron 2008b; Cleveland, Fields, and Ulcek 1999; Copplestone *et al.* 2005; G. Kumar 2010; Hutter *et al.* 2006). Such reports are either not in the public domain, or scattered and often difficult to access.

- **Impacts on Human**: Since its inception, there have been concerns about the ill-effect of the mobile towers and mobile phones. Despite being a relatively newly acknowledged form of pollution, EMRs and their negative impacts on biological systems and environment have already been reported by several studies. However most of the available scientific literature on the negative environmental effects of electromagnetic fields reports the results of experimental and epidemiological studies examining the impact on various aspects of human health (Tanwar 2006; Savitz 2003; Preece *et al.* 2007; Oberfeld *et al.* 2004; Navarro *et al.* 2003; Lönn *et al.* 2005; Kundi and Hutter 2009; Hardell *et al.* 2007; Kapdi, S. Hoskote and Joshi 2008; Hallberg and Johansson 2002).

Present scenario: At present, there could be more than 5 billion mobile phone subscribers globally (www.who.ilt/mediacentre/factsheets/fs193/en). Recently, in May 2011, the WHO's International Agency for Research on Cancer (IARC) has classified electromagnetic fields from mobile phones and other sources "possibly carcinogenic to human" and advised the public to adopt safety measures to reduce exposures, like use of hand-free devices or texting. For details please see Press Release No. 208, dated 31 May 2011 on IARC-WHO (http://www.iarc.fr/en/media-centre/pr/2011/pdfs/pr208_E.pdf). Their findings were published in the July 2011 issue of the medical journal ***Lancet***. Later, WHO clarified that some of the findings published in ***Lancet*** were not reported properly in the media and the risk is not as great as made out in the media. Some of the cell phone manufactures have objected to these findings (For example see www.Physorg.com). Some earlier investigators also have contended that there is no measurable risk of reproductive failure and birth defects from EMF exposures in humans (Brent *et al.* 1993), while several others do not agree with that conclusion (Gandhi 2005; Kapdi, Hoskote and Joshi 2008; Pourlis 2009; G. Kumar 2010). Studies carried out on the RF levels in North India, particularly at the mobile tower sites at Delhi have shown that people in Indian cities are exposed to dangerously high levels of EMF pollution (Tanwar 2006).

Existing world-wide standard and permissible limits

Two major transmission protocols currently in use for mobile telephony are GSM (900 to 1800 MHz) and CDMA (824-844 MHz paired with 869-889 MHz). The Telecom Engineering Centre (TEC) of DoT had proposed display of Specific Absorption Rate (SAR) value in handsets. As indicated in the table below, current Indian standards on exposure are much higher than many other countries.

Power Density (W/m²)	International Exposure limits adopted by various countries
10	FCC (USA) OET-65, Public Exposure Guidelines at 1800 MHz
9.2	**ICNIRP and EU recommandation 1998 – Adopted in India**
3	Canada (Safety Code 6, 1997)
2	Australia
1.2	Belgium (ex Wallonia)
0.5	New Zealand
0.24	Exposure limit in CSSR, Belgium, Luxembourg
0.1	Exposure limit in Poland, China, Italy , Paris
0.095	Exposure limit in Italy in areas with duration > 4hours
0.095	Exposure limit in Switzerland
0.09	ECOLOG 1998 (Germany) *Precaution recommendation only*
0.025	Exposure limit in Italy in sensitive areas
0.02	**Exposure limit in Russia (since 1970), Bulgaria, Hungary**
0.001	"Precautionary limit" in Austria, Salzburg City only
0.0009	*BUND 1997 (Germany) Precaution recommendation only*
0.00001	**New South Wales, Australia**

Table 1. Guidelines and Limits on Exposure Limits in Various Countries (Source: Girish Kumar 2010)

1. ICNIRP Guidelines (International Radiofrequency Guidelines):

In April 1998, the International Commission on Non-Ionizing Radiation Protection (ICNIRP) published, guidelines for limiting exposure to time-varying electric, magnetic and electromagnetic fields in the frequency range up to 300 GHz. These guidelines replaced previous advice issued in 1988 and 1990. The main objective of the ICNIRP Guidelines is to establish guidelines for limiting EMF exposure that will provide protection against known adverse health effects (ICNIRP, 1998). An adverse health effect is defined by ICNIRP as one which causes detectable impairment of the health of the exposed individual or of his or her offspring; a biological effect, on the other hand, may or may not result in an adverse health effect.

2. Guidelines and Limits followed by Other Countries:

Some countries have established new, low-intensity based exposure standards that respond to studies reporting effects that do not rely on heating. Consequently, new exposure guidelines are having hundreds or thousands times lower than those of Institution of Electronics and Electrical Engineers (IEEE) and ICNIRP. Table 2, shows some of the countries that have lowered their limits, for example, in the cell phone frequency range of 800 MHz to 900 MHz. The levels range from 10 microwatts per centimeter squared in Italy and Russia to 4.2 microwatts per centimeter squared in Switzerland. In comparison, the United States and Canada limit such exposures to only 580 microwatts per centimeter squared (at 870MHz) and then averaged over a time period (meaning that higher exposures are allowed for shorter times, but over a 30 minute period, the average must be 580 microwatts per centimeter squared or less at this frequency). The United Kingdom allows one hundred times of this level, or 580 x 100 microwatts per centimeter squared. Higher frequencies have higher safety limits, so that at 1000 MHz, for example, the limit is 1000 microwatts per centimeter squared (in the United States). The exposure standards for each individual frequency in the radiofrequency radiation range needs to be calculated. These are presented as reference points only. Emerging scientific evidence has encouraged some countries to respond by adopting planning targets, or interim action levels that are responsive to low-intensity or non-thermal radiofrequency radiation bio effects and health impacts.

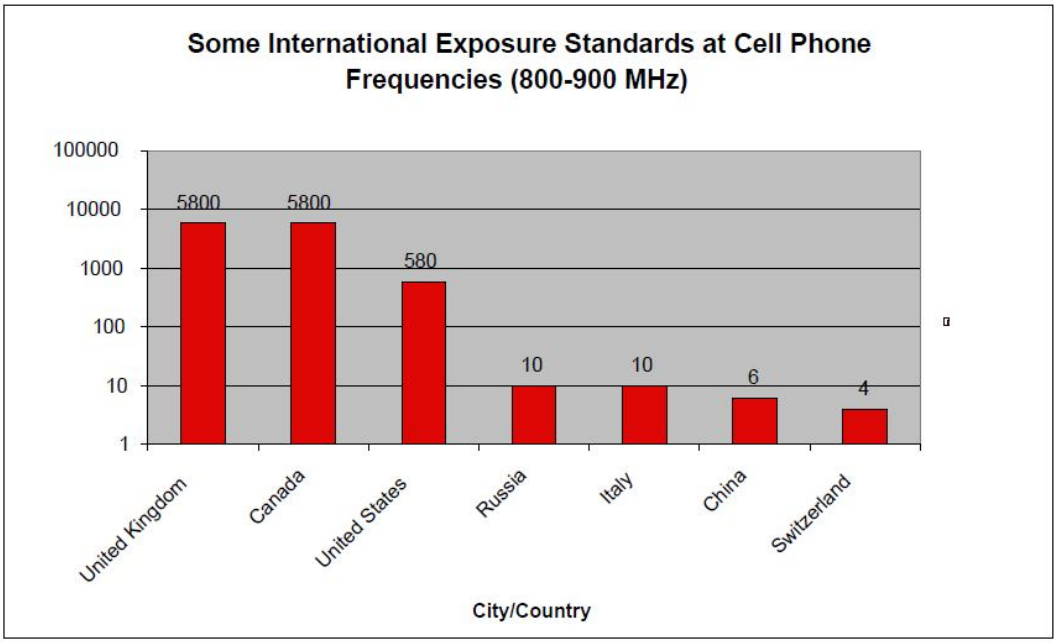

Table 2. Some International Exposure Standards at Cell Phone Frequencies (800-900 MHz) (Values of exposure in microwatts per centimeter squared)

Professional bodies such as IEEE and ICNIRP continue to support “thermal-only” guidelines:

a) by omitting or ignoring study results reporting bio-effects and adverse impacts to health and wellbeing from a very large body of peer-reviewed, published science because it is not yet "proved" according to their definitions;
b) by defining the proof of "adverse effects" at an impossibly high a bar (scientific proof or causal evidence) so as to freeze action;
c) by requiring a conclusive demonstration of both "adverse effect" and risk before admitting low-intensity effects should be taken into account;
d) by ignoring low-intensity studies that report bio-effects and health impacts due to modulation;
e) by conducting scientific reviews with panels heavily burdened with industry experts and under-represented by public health experts and independent scientists with relevant low-intensity research experience;
f) by limiting public participation in standard-setting deliberations; and other techniques that maintain the status quo.

(Source: "*Bio Initiative Report: A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF)*" by 'Cindy Sage, and David Carpenter (2007)**)**

Detailed analysis of the Issue vis-à-vis the TORs

- **TOR I:** ***To review all the studies done so far in India and abroad on aspects of ill effects of mobile towers on animals, birds and insects.***

Though EMR is a relatively newly recognised pollutant, many recent studies have pointed to their harmful long-term impacts on health and environment. Hence the most important mandate of the committee was to study all the peer reviewed articles/ journals published on the impact of radiations on wildlife throughout the world and to compile them. Subsequently, detailed analysis of the papers was done to find out the impacts of electronic magnetic fields (**EMF**). The research papers were then listed in to three categories: showing impact on organisms, no impact and neutral or inconclusive evidence (See Table No. 3).

Literature review:

A review during the international seminar entitled "Effects of electromagnetic fields on the living environment" held in Ismaning, Germany in 1999, organized under WHO's International EMF Project, observed that the EMF impacts on environment are minimal and localized and has opined that the human EMF exposure limits recommended by the International Commission on Non-Ionizing Radiation (ICNIRP, 1998) would also be protective of the environment as well (Foster and Repacholi 1999). However, recent research reports are at odds with these propositions, including the latest report from WHO indicating a possible link with cell phone use and brain glioma (Baan *et al*, 2011).

Several species are known to have the capability to sense and respond to EM fields, especially the earth's magnetic field (Kirschvink 1982). However, little is known of the exact physiological mechanisms involved. Three major hypotheses of magnetic-field detection have been proposed (Lohmann and Johnsen 2000): a) *Electromagnetic induction* (as in Electro sensitive sharks and rays), b) *Biogenic magnetite* and c) *Chemical reactions modulated by magnetic fields*. Despite notable recent progress, primary magneto-receptors have not yet been identified unambiguously.

Most of the reported studies examined (n=919) deal with the EMF impacts on human subjects (81%), while only 3% of them reports impact on birds and just 2% on wildlife. The present report is based on relevant papers and documents obtained mainly from online archives of JSTOR (www.jstor.org) and Google scholar (http://scholar.google.co.in/). Salient features of the reported studies on the impact of EMF on different faunal groups are discussed below (can be included below).

An Analysis of Results of Literature Survey:

After careful screening that involved deletion of duplicate records and addition of new references, the 1080 references initially compiled for the analysis of literature (which formed the base for our overview) were reduced to 919 references. These final 919 study reports are used here for the present final analysis.

The studies were broadly classified based on the subject organisms into four categories- Birds, Bees, Other Animals (including wildlife) and humans. Based on the study's findings regarding the impact of EMFs on the subject, each category was further subdivided into three groups- Impact, No Impact or Neutral/ Inconclusive, as given in table 3 below. As noted below majority of the studies reported negative impacts by EMFs.

Table 3. Number of research studies (collected from Open access Bibliographic databases) collected and collated based on the study subjects and results

	Impact	**No Impact**	**Neutral/ inconclusive**	**Total (n)**
Birds	23	3	4	30
Bees	6	1	0	7
Human	459	109	174	742
Other Animals (+Wildlife)	85(+13)	16(+1)	10(+7)	111(+21)
Plants	7	0	1	8
Total	593	130	196	**919**

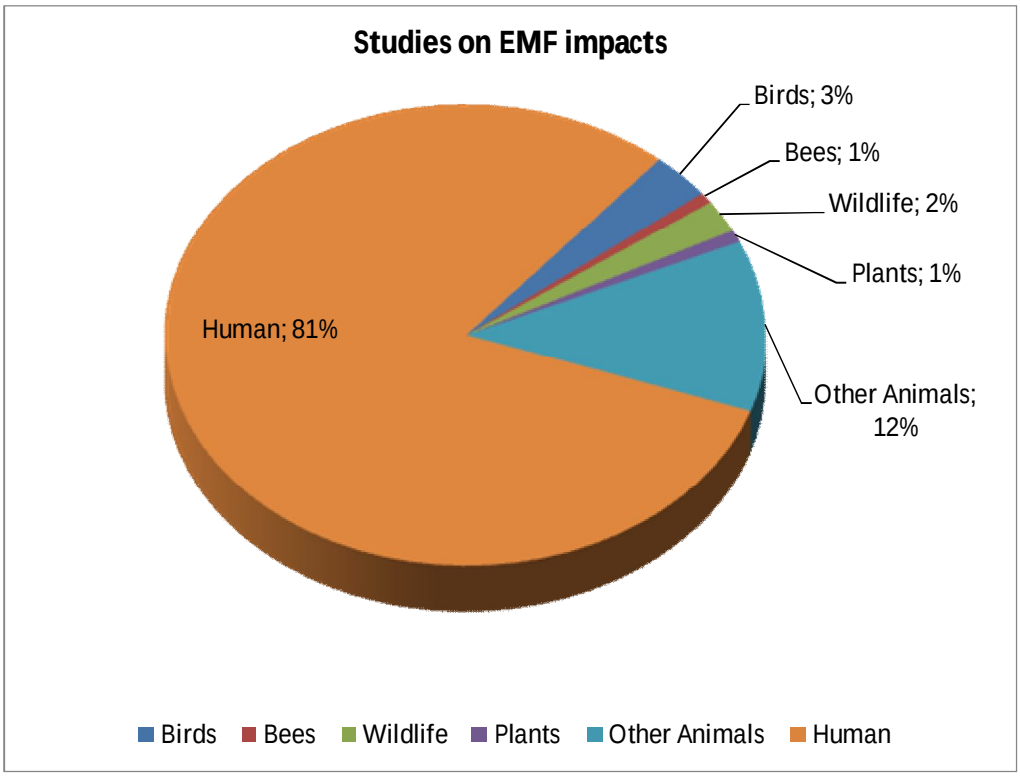

Fig 1. Proportion of studies on different groups of organisms

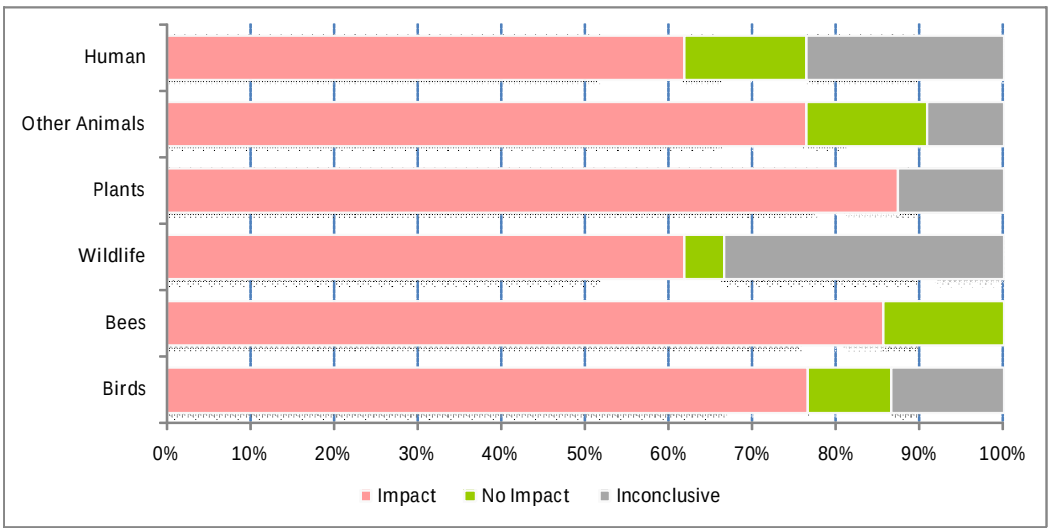

Fig 2. Proportion of study results in various groups of organisms (n=919). The 'Impact' (in red) indicates percentage of studies that reported harmful effect of EMR

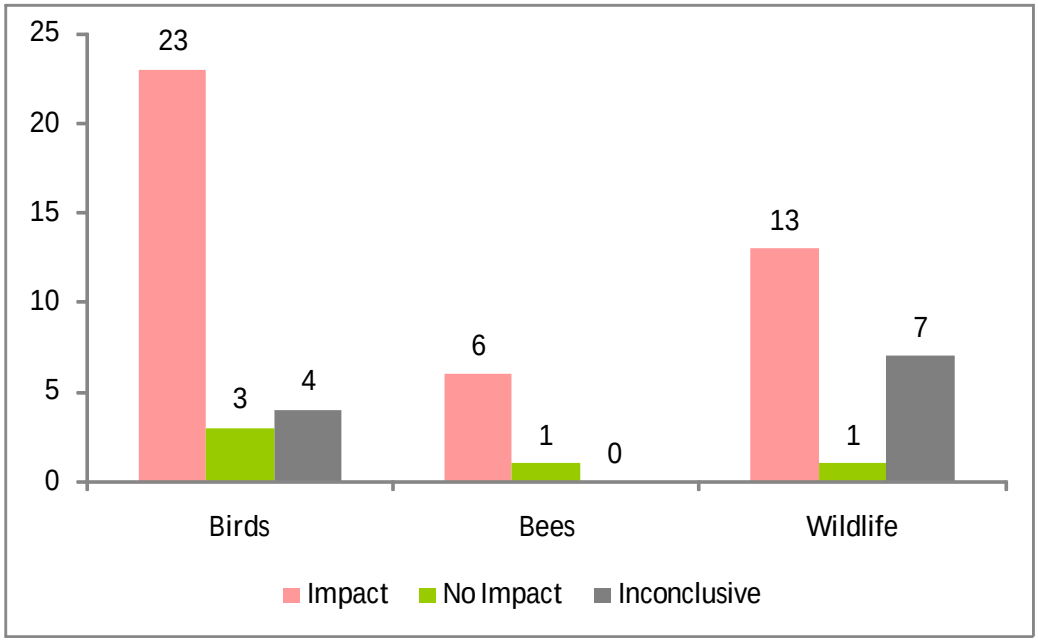

Fig 3. Proportion of study results in Birds, Bees and Wildlife (n=919).

- **TOR II:** ***To assess the likely impacts of the growth in the number of mobile towers in the country.***

India has the second largest population of mobile subscribers in the world and in the absence of any proper policy regulating the construction of mobile towers, the risk of the likely negative impacts of EMF on the health of humans and wildlife is huge. Based on the analysis of the reported studies, the impacts of EMF on different faunal groups were identified, the salient features of which are as discussed below:

Effect on Birds: The earliest reported study on impacts of microwave radiation on birds dates back to 1960s (Tanner, Romero-Sierra, and Davie 1967). In birds, their ability to fly expose them to a greater risk of direct irradiation and hence they appear to be at greater risk as far as effects of EMRs are concerned (Balmori 2005; Balmori and Hallberg 2007; Summers-Smith 2003; Zach and Mayoh 1982; Zach and Mayoh 1984; Zach and Mayoh 1982; Joris and Dirk 2007). Observed effects of exposure to non-ionizing radiation in avian species are mostly from radiation-induced temperature increases (Batellier *et al.* 2008). The incubating avian egg provides a model to study non-thermal effects of microwave exposure since ambient incubation temperature can be adjusted to compensate for absorbed thermal energy. Non-thermal levels of non-ionizing radiation can affect a bird's ability to recover from acute physiological stressors, apart from other potential physiological and behavioural repercussions. Although earlier research indicated that modulated radiofrequency radiation increased calcium-ion efflux in chick forebrain tissue, disagreement on experimental techniques and incongruous results among related studies have

made final conclusions elusive. In an another study, which was carried out by National Research Centre of Canada on interaction of electromagnetic fields and living systems with special reference to birds, it was observed that following the onset of radiation, stabilizing period of the egg production in birds was affected (Bigu, 1973).

Birds have been shown to be able to reliably detect magnetic fields in both the field and laboratory. The rapidly increasing number of cell-phone subscribers is resulting in higher concentration levels of electromagnetic waves in the air, which clashes with the earth's electromagnetic field (Hyland, 2000). Some researchers have reported malformations in chicken embryos exposed to a sinusoidal bipolar oscillating magnetic field (Balmori and Hallberg 2007).

According to a thermal modelling study of a bird subjected to continuous wave (CW) microwave radiation (2.45 GHz), the model predicted that tolerance to microwave radiation for a bird was positively correlated with its mass and that ambient temperature is the environmental variable that has most influence on the level of tolerance for microwave radiation (Byman *et al.* 1986).

Effect on House Sparrows: House Sparrow (*Passer domesticus)* is associated with human habitation and it is one of the indicator species of urban ecosystems. A declining population of the bird provides a warning that the urban ecosystem is experiencing some environmental changes unsuitable for living in the immediate future (Kumar, 2010). London has witnessed a 75 per cent fall in House Sparrow population since 1994, which coincides with the emergence of the cell-phone (Balmori, 2002). Electromagnetic radiation may be responsible, either by itself or in combination with other factors, for the observed decline of the sparrows in European cities (Balmori, 2009, Balmori & Hallberg, 2007). Research in Spain proved that the microwaves released from these towers are harmful to House Sparrows and the increase in the concentration of microwaves results into decrease in House Sparrow populations (Everaert & Bauwen, 2007). Reproductive and co-ordination problems and aggressive behavior has also been observed in birds such as sparrows (Balmori, 2005). General methodology used for such study was, from each area, all sparrows were counted in addition to the mean electric field strength (Everaert & Bauwens, 2007). In similar studies in India, population of *Passer domesticus* was found fast disappearing from areas contaminated with electromagnetic waves arising out of increased number of cell phones, in Bhopal, Nagpur, Jabalpur, Ujjain, Gwaliar, Chhindwara, Indore & Betul (Dongre & Verma, 2009). It was also observed that when 50 eggs of House Sparrow, exposed to electromagnetic radiation (EMR) for durations of five minutes to 30 minutes, all the 50 embryos were found damaged in a study carried out by the Centre for Environment and Vocational Studies of Punjab University (Kumar 2010, Ram 2008).

Male sparrows were seen at locations with relatively high electric field strength values of GSM base stations, providing evidence of how long-term exposure to higher levels of radiation negatively affects the abundance or behavior of House Sparrows in the wild. Thus,

electromagnetic signals are associated with the observed decline in the sparrow population in urban areas.

Effect on White Storks: In monitoring a White Stork (*Ciconia ciconia*) population in Valladolid (Spain) in vicinity of Cellular Phone Base Stations, the results indicated the possibility that microwaves are interfering with the reproduction of White Stork (Balmori, 2010).

Effect of Mobile Radiation on Honey Bees: Many recent studies have linked the electromagnetic radiations with an unusual phenomenon in bees known as 'Colony Collapse Disorder'. Colony Collapse Disorder (CCD) occur when a hive's inhabitants suddenly disappear, leaving only queens, eggs and a few immature workers. The vanished bees are never found, but thought to die solitarily far from home. The theory is that radiation from mobile phones interferes with bees' navigation systems, preventing them from finding their way back to their hives. Even the other animals, parasites and other bees, that normally would raid the honey and pollen left behind when a colony dies, refuse to go anywhere near the abandoned hives. Some scientists believe that CCD is the result of high electromagnetic radiation. As long back as early 1970s, Wellenstein (1973) had reported that the navigational skills of the honey bees were being impacted by high tension lines. In a recent study (Stefan *et al*. 2010) significant differences have been detected in returning of honeybees to their hives: 40% of the non-irradiated bees came back compared to 7.3% of the irradiated ones.

The alarm was first sounded in last autumn, but has now hit half of all American states. The West Coast is thought to have lost 60 per cent of its commercial bee population, with 70 per cent missing on the East Coast. CCD has since spread to Germany, Switzerland, Spain, Portugal, Italy and Greece. John Chapple, one of London's biggest bee-keepers, announced that 23 of his 40 hives have been abruptly abandoned (http://www.independent.co.uk/environment/nature/are-mobile-phones-wiping-out-our-bees-444768.html).

In India, studies conducted by Sainudeen (2011) have proved experimentally that once mobile phones in working condition with frequency of 900 MHz for 10 minutes were kept in the beehives, the worker bees stopped coming to the hives after ten days. He also found drastic decrease in the egg production of queen bees (100 eggs/ day compared to 350 eggs/ day in the control colonies). Earlier studies have also shown (e.g. Greenberg *et al*. 1981) lower eggs being laid in beehives exposed to high voltage transmission lines. Another possible impact of EMR on the bees is the eggs that are exposed to cell phone radiation produce only drones (Brandes and Frish, 1986). Similar studies on a larger scale and better sample size are required in India.

Other wildlife: Phone masts located in the living areas of animals and birds are continuously irradiating some species that could suffer long-term effects, like reduction of their natural defences, deterioration of their health, problems in reproduction and reduction of their useful territory through habitat deterioration. Electromagnetic radiation can exert an aversive

behavioural response in rats, bats and birds such as sparrows. Therefore microwave and radiofrequency pollution constitutes a potential cause for the decline of animal populations and deterioration of health of plants living near phone masts (Balmori, 2005).

Arguably, the most serious concern about the impact of EMF on the living systems appears to be its long term effects on genes and reproductive fitness of species. Today, there is evidence that Electromagnetic Radiation is genotoxic (Blaasaas, Tynes, and Lie 2003; Joris and Dirk 2007; Pourlis 2009; Cherry 2000). An experiment on Common Frog (*Rana temporalis*, new name *Hylarana temporalis*) indicated that radiation emitted by phone masts in a real-time situation may affect the development and may cause rise in mortality of exposed tadpoles. This research may have huge implications for the natural world, which is now exposed to high microwave radiation levels from a multitude of phone masts (Balmori 2010). However, it requires long-term monitoring studies for establishing any causative link between reproductive fitness and EMFs and such data is presently lacking. Moreover, available short term studies are grossly inadequate. For instance a recent review that analysed the literature (till 2001) on the effects of EMF associated with mobile telephony on the prenatal and postnatal development of vertebrates reported that the majority of the studies examined indicated no strong impact on the animal reproduction and development (Pourlis 2009).

Effect on bats: Activity of bats seems to be much reduced in areas with Electro-magnetic fields with densities more than 2V/m (Balmori, 2009). Based on this fact it was recommended to use EMR to repel bats from wind farms (Nicholls and Racey, 2007). In another study in a Free-tailed bat colony (*Tadarida teniotis*) the number of bats decreased when several phone masts were placed 80m from the colony (Balmori *et al*., 2007).

- **TOR III:** ***To suggest possible mitigatory measures***

Decision was taken in the first and second meetings of the Expert Group to study all peer reviewed articles/ journals published on the impact of radiations on wildlife and to compile the list of the measures taken throughout the world to mitigate the effects of radiations on wildlife including birds and bees. Hence, the standards and exposure limits of radio frequency of different countries were studied in this regard.

Various organizations and countries have developed standards for exposure to radio frequency energy as discussed above. Some countries have established new, low-intensity based exposure standards that respond to studies reporting effects that do not rely only on heating. Currently, the World Health Organization is working to provide a framework for international harmonization of RF safety standards.

Emerging scientific evidence has encouraged some countries to respond by adopting planning targets, or interim action levels that are responsive to low-intensity or non-thermal radiofrequency radiation bio effects and health impacts. It is the WHO's view that scientific

assessments of risk and science-based exposure limits should not be undermined by the adoption of arbitrary cautionary approaches. Therefore, throughout the world there has been a growing movement to adopt a precautionary approach.

- **TOR IV:** ***To formulate guidelines for regulating the large-scale installation of mobile towers in the country***

With the rapid growth of the mobile industry in India, mobile towers are being built in a haphazard manner without any prior planning and regulation. Hence in view of this, along with lack of any policy controlling the construction of such mobile towers, one of the main tasks of the committee is to formulate guidelines to regulate their installation. At the first meeting of the Expert Committee held on 09.2010, it was decided that few members of the Expert Group will participate in the meeting of the Inter-Ministerial Committee on EMF Radiation held in Ministry of Telecommunications on 06.12.2010, to share the concerns on human as well as wildlife health and to devise a common set of guidelines for mobile towers in the country. The minutes of the meeting was submitted to the Ministry.

- **TOR V:** ***To identify the gap areas for conducting further detailed research***

At the first meeting of the committee, all the members had agreed that the research in India on this issue is very scanty and much research has to be done in this field especially on birds and bees, as well as to find solutions to this issue. Hence, in the second meeting of the Expert Group held on 14.02.2011, a decision was taken to identify the gap areas in research on the issue of impact of radiations on wildlife including birds and bees.

Gap areas for research: Ample information on the impact of EMF on human health is available. However these results cannot be extrapolated to reflect impacts on wildlife impacts since the impact highly varies even within same species depending on multiple factors such as body size, age, earthing, fat content in the body, objects in the immediate vicinity and so on.

Not much data is also available on biological impacts on wild species except for a few species like sparrows and bees. Even this little available information is not reflective of the impact of present background levels of radiation. Information on effects with regards to specific frequencies and species response is lacking. Data on navigation and seasonal migrations as indicated by studies on homing pigeons (Kirchwink 1982) are lacking from the Indian context.

The current ICNIRP guidelines on EMF are developed based especially on laboratory studies, epidemiological data on humans, occupational exposures, in-vitro investigations, observations on cellular changes under control conditions etc. Ecological issues appear to be hardly taken care of. One needs to acknowledge that laboratory observations need not necessarily reflect field effects. Therefore we have to re-visit the guidelines taking account low level electro-smog on wild species especially birds, bees, amphibians etc and modify them accordingly. Our guidelines need to be refined since the ICNIRP Standard currently followed in India is coined

based on only thermal impact of RF and is dismissive of current epidemiological evidence on impacts of non-thermal nature on chronic exposure from multiple towers. The limit on whole-body average SAR is 0.08 W/kg. It is a long way to go before we can have the required long-term 'Species specific data' to decide on the threshold exposure levels for various wildlife species. Till such time a **precautionary principle approach to be used to minimize the exposure levels and we may have to move ahead and adopt stricter norms followed in some other countries like Russia, China, New Zealand etc.**

Since EMF being an invisible form of pollution there needs to be an independent system for monitoring of EMF pollution across the country.

The EMF pollution has reportedly caused population declines on sparrows and bees (causing disorientation and Colony Collapse Disorder (CCD). It has also resulted in aversive behaviour in bats and sparrows, abnormal behaviour in Tits, Kestrels, reproductive failure in White Storks and also fatal bird collisions with involving communication towers causing the death of several million birds of 230 species each year in the USA alone. However, sound scientific investigations in this regard are lacking in India and such studies needs to be undertaken on an urgent basis.

The following areas for specific studies are suggested to be taken up:

- Field studies on impact of cell towers on bee colonies and apiculture,
- Bird/bat/insect mortalities at mobile phone towers with special reference to towers along bird migratory paths,
- Studies on birds / bats / bees to find the effect of EMR on their communication, orientation and co-ordination
- Effect of EMF on amphibian metamorphosis and sex determination in reptiles
- Laboratory studies to develop an understanding on certain species, on their physiological and behavioural aspects, making use of the techniques of bioassay/bio-monitoring
- Measurement, monitoring and mapping of background EMF levels and power density across India involving independent research agencies.
- Regulations/standards to include the ecological characteristics of an area while determining the location of transmission towers, relay stations etc
- Regulations to control installation of transmission towers in human residences/hospitals/dense habitations
- Conduct ecological impact assessment of transmission towers and base stations, with standardised protocols/parameters

Future Scenario

India is one of the fastest growing mobile telephony industries in the world. It is estimated that by 2013, 1 billion plus people will be having cell phone connection in India. With the growth of cell phone subscriber, it has also lead to growth of infrastructure in the form of mobile phone towers. Today, in absence of any policy on infrastructure development and location of cell phone towers, large number of mobile phone towers are being installed in a haphazard manner across urban and sub urban habitats in India.

Along with the growth of phone towers and subscribers, India is also witnessing a rapid population growth. To feed and support this rapidly growing population the agricultural security and the factors influencing them should be of concern. However, the population of many species such as honey bees, which is one of the most important pollinator and important factor for agricultural productivity, has seen a drastic population drop.

Precautionary approach

Throughout the world there has been a growing movement to adopt a precautionary approach. The WHO defines the Precautionary Principle as a risk management concept that provides a flexible approach to identify and manage possible adverse consequences to human health even when it has not been established that the activity or exposure constitutes harm to health.

It is the WHO's view that scientific assessments of risk and science-based exposure limits should not be undermined by the adoption of arbitrary cautionary approaches. The compliance of mobile phone networks and handsets with the ACMA regulations is regarded as a prudent and cautious approach to ensure that the community is not adversely affected by, but benefits from developments in communications.

The Department Of Telecom has constituted an Inter-Ministerial Committee to examine the effect of EMF Radiation on health. The report of the committee is placed in DOT website. The IMC report is under examination of DOT at present.

Recommendations

Following recommendations have been put forward by few members of the Committee:

1) EMF should be recognised as a pollutants/ regular auditing of EMF should be conducted in urban localities/educational/hospital/industrial/residential/recreational premises and around the protected areas and ecologically sensitive areas.
2) Introduce a law for protection of urban flora and fauna from emerging threats like ERM/EMF as conservation issues in urban areas are different from forested or wildlife habitats.
3) Bold signs and messages on the dangers of Cell phone tower and radiation which is emitted from it are displayed in and around the structures where the towers are erected. Use visual daytime markers in areas of high diurnal raptor or waterfowl movements.
4) To avoid bird hits, security lighting for on-ground facilities should be minimized and point downwards or be down-shielded.
5) Independent monitoring of radiation levels and overall health of the community and nature surrounding towers is necessary to identify hazards early.Access to tower sites should be allowed for monitoring radiation levels and animal mortality, if any.
6) Procedure for removal of existing problematic mobile towers should be made easy, particularly in and around protected area or urban parks and centres having wildlife .
7) Strictly control installation of mobile towers near wildlife protected areas, Important Bird Areas, Ramsar Sites, turtle breeding areas, bee colonies, zoos, etc up to a certain distance that should be studied before deciding and should also be practical. Ecological assessment / review of sites identified for installing towers before their installation also may be considered in wildlife / ecologically / conservational important areas.
8) The locations of Cell phone towers and other EMF radiating towers along with their frequencies should be made available on public domain. This can be at city/ district/ village level. Location wise GIS mapping of all cell phone towers be done by DoT. This information will help in monitoring the population of birds and bees in and around the mobile towers and also in and/or around wildlife protected areas.
9) Public consultation to be made mandatory before installation of cell phones towers in any area. The Forest Department should be consulted before installation of cell phone towers in and around PAs and zoos. The distance at which these towers should be installed should be studied case by case basis.
10) Awareness drive with high level of visibility in all forms of media and regional languages should be undertaken by the Government to make people aware about various norms in regard to cell phone towers and dangers from EMR. Such notices should be placed in all wildlife protected areas and in zoos.
11) To prevent overlapping high radiations fields, new towers should not be permitted within a radius of one kilometer of existing towers.

12) If new towers must be built, construct them to be above 80 ft and below 199 ft. tall to avoid the requirement for aviation safety lighting. Construct unguyed towers with platforms that will accommodate possible future co-locations and build them at existing 'antenna farms', away from areas of high migratory bird traffic, wetlands and other known bird areas.

Note: Many of the above recommendations have already been given by Government of Delhi and West Bengal (appendix III). The Supreme Court of India has sought explanation from all mobile phone operators and various government and semi-government agencies over the issue of alleged "illegal" and unregulated constructions of mobile phone towers on top of buildings across the country (see www.thehindubusinessline.in/2005/09/27/stories/2005092703950900.htm). Similarly, recent rulings in June 2011 by Punjab and Haryana High Courts also direct the government to inform public about the health hazards (www.indianexpress.com/news/Inform/public/about/health/hazards/of/mobile/tower//HC-to-Govt/800786/).

Conclusion

The review of existing literature shows that the EMRs are interfering with the biological systems in more ways than one and there had already been some warning bells sounded in the case on bees (Warnke 2007; vanEngelsdorp *et al.* 2010; Gould 1980; Sharma and Neelima R Kumar 2010) and birds, which probably heralds the seriousness of this issue and indicates the vulnerability of other species as well. Despite a few reassuring reports (Galloni *et al.* 2005), a vast majority of published literature indicate deleterious effects of EMFs in various species. The window of frequency range and exposure time required to make measurable impacts would vary widely among species and unfortunately we do not have any such data available for most of our free-living floral and faunal species in India. There is an urgent need to focus more scientific attention to this area before it would be too late.

Microwave and radiofrequency pollution appears to constitute a potential cause for the decline of animal populations (Balmori 2006; Balmori and Hallberg 2007; Balmori Martínez 2003; Joris and Dirk 2007; Summers-Smith 2003) and deterioration of health of plants and humans living near radiation sources such as phone masts. Studies have indicated the significant non-thermal long-term impacts of EMFs on species, especially at genetic level which can lead to various health complications including brain tumours (glioma), reduction in sperm counts and sperm mobility, congenital deformities, Psychiatric problems (stress, 'ringxity', sleep disorders, memory loss etc.) and endocrine disruptions. However similar aspects are yet to be studied among animal populations.

Pollution from EMRs being a relatively new environmental issue, there is a lack of established standard procedures and protocols to study and monitor the EMF impacts especially

among wildlife, which often make the comparative evaluations between studies difficult. Moreover, there are no long-term data available on the environmental impacts of EMRs as of now. Well-designed long-term impact assessment studies would be required to monitor the impact of ever-increasing intensities of EMRs on our biological environment. Meanwhile the precautionary principle should prevail and we need to better our standards on EMF to match the best in the world.

Studies on impact of Cell phone tower radiation on Birds and wildlife are almost non-existent from India. There is an urgent need for taking up well designed studies to look into this aspect. Available information from the country on the subject of EMF impacts is restricted to few reports from honey-bees. However, these studies are not representative of the real life situations or natural levels of EMF exposure. More studies need to be taken up to scientifically establish if any, the link between the observed abnormalities and disorders in bee hives such as Colony Collapse Disorder (CCD).

Appendices

Appendix I: Photographs showing mobile towers

Appendix II: Precuationary boards about mobile towers

Appendix III: GRs of Delhi and West Bengal Governments

Appendix IV: Bibliography

Members of the Expert Committee

1. Dr. Asad Rahmani, Director, BNHS (Chairman)
2. Representative of Wildlife Institute of India (Dr. Dhananjai Mohan, Dr. B.C. Choudhary)
3. Representative of Deptt. of Telecommunications, New Delhi [Shri. P. K. Panigrahi, Sr. DDG (BW)]
4. Representative of the Centre for Environment & Vocational Studies, Punjab University
5. Representatives of WWF India (Gp Captain Naresh Kapalia, Dr. Parikshit Gautam)
6. Representative of Indian Institute of Science, Bangalore (Prof. H.S. Jamadagni)
7. Representative of Indian Institute of Technology, New Delhi (Prof. R.K. Patney, Deptt. of Electrical Engineering)
8. Representative of SACON (Dr. P.A. Azeez, Director, Dr. Arun Kumar)
9. Dr. Sainuddin Pattazhy, Associate Professor, Deptt. of Zoology, University of Kerala
10. Ms. Prakriti Srivastava, DIG(WL), MoEF (Member Secretary)

Appendix I

Cell phone Towers on commercial and residential Structures

Cell Phone Tower

Cell Phone towers near Keoladeo National Park, Bharatpur, Rajasthan

Appendix II

Precautionary Boards (Some samples)

AREA DEMARCATION

CAUTION

RADIOFREQUENCY RADIATION

- Area of Unrestricted Occupancy
- Minor Injury Possible from Misuse

WARNING

RADIOFREQUENCY RADIATION

- Area of Restricted Occupancy
  (RF Workers Only)
- Serious Injury Possible from Misuse

DANGER

RADIOFREQUENCY RADIATION

- Area of Denied Occupancy
- Critical Injury or Death Possible

Appendix III

Delhi
Government

Vivek Rae
Principal Secretary (Health & FW)

141/ Exposure at Electromagnetic/
D.O.No. PS secy hfw/133-14/
Dated 10/01/2008

Dear

The existing guidelines for granting permission for installation of towers on ground/roof tops for Cellular Mobile Phone Services finalized pursuant to a meeting held at Raj Niwas on 26.7.2002 have been reviewed on the basis of certain representations from the public and it has been decided that henceforth such towers in residential areas should be permitted only in consultation with the concerned Resident Welfare Associations and not left to bilateral negotiations between Telecom companies and individual residents/house owners. In this regard the following additional precautionary measures are also recommended for adoption by the local authorities:

* Installation of Base Station Antennas within the premises of schools and hospitals may be avoided because children and patients are more susceptible to Electro Magnetic Field.

* Installation of Base Station Antennas in narrow lanes should be avoided in order to reduce the risks caused by any earth quake or wind related disaster.

* The Base Station Antennas should be at least 3 m away from the nearby building and antennas should not directly face the building. Further, the lower end of the antenna should be at least 3 meter above the ground or roof.

* In case of multiple transmitter sites at a specific locality sharing of a common tower infrastructure, should be explored, as far as possible, which can be coordinated through a nodal agency.

* Access to Base Station Antenna sites should be prohibited for general public by suitable means such as wire fencing, locking of the door to the roof etc. Access to tower site, even for the maintenance personnel, should be for a minimum period as far as possible.

* Sign boards/Warning Signs are to be provided at Base Station Antenna sites which should be clearly visible and identifiable. A warning sign should be placed at the entrance of such zone.

Contd....2/-

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* The "Warning Sign" should discourage longer stay in the zone, even for the maintenance personnel. The sign board may contain the following text:

  j. Danger! RF radiations, Do not enter!
  ii. Restricted Area

* The operators and maintenance personnel, who are dealing with radio frequency devices, specially with Base Station Antennas installed on towers and at any other outdoor sites, should be protected from electromagnetic radiations. It is required that operators and maintenance personnel should be educated for possible hazards from these devices.

This issues with the approval of LG.

With regards,

Yours sincerely,

(Vivek Rae)

To

1. Shri Ashok Nigam, Commissioner, MCD, Delhi
2. Shri Dinesh Rai, VC, DDA, Delhi
3. Shri Parimal Rai, Chairperson, NDMC, New Delhi

Copy to the following:

1. Principal Secretary to LG, Raj Niwas, Delhi.
2. Principal Secretary to CM, Delhi
3 Pr.Secretary(Urban Development), GNCT of Delhi
4 Secretary (Environment), Govt. of NCT of Delhi, Delhi.
5 Shri T.V.Ramachandran, Director General, Cellular Operators Association of India, 14, Bhai Veer Singh Marg, New Delhi-01.
6 Shri S.C.Khanna, Secretary General, Association of Unified Telecom Service Providers of India, B-601, Gauri Sadan, 5, Hailey Road, New Delhi-01.

(Vivek Rae)

West Bengal Government

In case of non-compliance of the aforementioned directions, regulatory order will be issued in accordance with law.

By Order,
Sd/-
(M. L. Meena)
Principal Secretary,
Department of Environment

No. EN/ 939 /T-IV-1/001/2006 Dated: April 24th., 2008.

Copy forwarded to :-

1. The Incharge, M/s. Bharti Mobitel Limited (Airtel), Infinity Building, 5th. Floor, Salt Lake Electronics Complex, Bidhannagar, Block G.P. Sector-V, Kolkata-700091.
2. The Incharge, Vodafone Essar East Limited (Vodafone), Constantia Office Complex, 4th. Floor, 11, Dr. U.N. Brahmachari Road, Kolkata-700017.
3. The Incharge, Aircel Business Solutions (Aircel), Benfish Bhavan, No. 31, GN Block, 5th. Floor, Sector-V, Salt Lake, Kolkata-700 091.
4. The Incharge, Tata Teleservices Limited (Tata Indicom), C/o. Videsh Sanchar Bhawan, Camp Office- 1/18, C.I.T. Scheme, VII M, Ultandaga, Kolkata-700054.
5. The Incharge, Bharat Sanchar Nigam Limited (BSNL Mobile), Telephone Kendra, P-10, New CIT Road, Kolkata-700073.
6. The Chairman, West Bengal Pollution Control Board.
7. The Member-Secretary, Central Pollution Control Board, Paribesh Bhawan, CBD-cum-Office Complex, East Arjun Nagar, Delhi-110032.
8. The Chief Environment Officer, Department of Environment, Govt. of West Bengal.
9. The Member-Secretary, West Bengal Pollution Control Board, 'Paribesh Bhawan', Salt Lake City, Kolkata-700098.
10. The Commissioner, Kolkata Municipal Corporation, 5, S.N. Banerjee Road, Kolkata-700013.
11. The Commissioner, Howrah Municipal Corporation, Howrah.
12. The Chief Executive Officer, _____
13. The Executive Officer, _____
14. The Secretary, ...Zilla Parishad.

    with a request to circulate this memo. to the Panchayats for information and necessary action.

15. The District Magistrate_____

Sd/-

HENCE, in exercise of the powers conferred under Environment (Protection) Act, 1986 and rules made thereunder, all mobile phone service providers are hereby directed to follow the following guidelines strictly at the time of installation of the mobile towers.

- Installation of Base Station Antennas within the premises of schools and hospitals may be avoided because children and patients are more susceptible to Electro Magnetic Field.

- Installation of Base Station Antennas in narrow lanes should be avoided in order to reduce the risks caused by any earth quake or wind related disaster.

- The Base Station Antennas should be at least 3 m away from the nearby building and antennas should not directly face the building. Further, the lower end of the antenna should be at least 3 metre above the ground or roof.

- In case of multiple transmitter sites at a specific locality sharing of a common tower infrastructure, should be explored, as far as possible, which can be coordinated through a nodal agency.

- Access to Base Station Antenna sites should be prohibited for general public by suitable means such as wire fencing, locking of the door to the roof etc. Access to tower site, even for the maintenance personnel, should be for a minimum period as far as possible.

- Sign boards/Warning Signs are to be provided at Base Station Antenna sites which should be clearly visible and identifiable. A warning sign should be placed at the entrance of such zone.

- The "Warning Sign" should discourage longer stay in the zone, even for the maintenance personnel. The sign board may contain the following text :

  i. Danger ! RF radiations, Do not enter !
  ii. Restricted Area.

  The operators and maintenance personnel, who are dealing with radio frequency devices, specially with Base Station Antennas installed on towers and at any other outdoor sites, should be protected from electromagnetic radiations. It is required that operators and maintenance personnel should be educated for possible hazards from these devices.

All local authorities are also requested that before giving any permission for installation of the mobile towers aforementioned guidelines should be

Appendix IV

Bibliography

List of Scientific Papers (n=919) on Impact of EMFs classified Subject-wise
Each bibliographic entry is marked with category codes in squire brackets []

B= Birds; E= Bees; H = Humans; W= Animals/Wildlife; P= Plants
+ = Impact reported; - = No Impact; * = Inconclusive/ Impact not evaluated

Aalto, S. et al, (2006) Mobile phone affects cerebral blood flow in humans, J Cereb Blood Flow Metab. 2006 Jul;26(7):885-90. [H+]

Abdel-Rassoul, G. et al. (2007) Neurobehavioral effects among inhabitants around mobile phone base stations, Neurotoxicology. 28(2):434-40. [H+]

Abdus-salam, A. et al. (2008) Mobile phone radiation and the risk of cancer; a review, Afr J Med Med Sci. 2008 37(2):107-18. [H-]

Abramson, MJ et al. (2009) Mobile telephone use is associated with changes in cognitive function in young adolescents, Bioelectromagnetics. 30: [E-pub ahead of print]. [H+]

Adey, W.R. (1993) Biological effects of electromagnetic fields. Journal of Cellular Biochemistry. 51:410–410. [H+]

Agarwal, A. et al, (January 2008) Effect of cell phone usage on semen analysis in men attending infertility clinic, Fertil Steril. 2008 Jan;89(1):124-8. [H+]

Agarwal, A. et al. (September 2008) Effects of radiofrequency electromagnetic waves (RF-EMW) from cellular phones on human ejaculated semen: an in vitro pilot study, Fertil Steril. 2008 Sep 18. [E-publication]. [Vi [H+]

Agarwal, A., Deepinder, F., Sharma, R.K., Ranga, G. & Li, J. (2008) Effect of cell phone usage on semen analysis in men attending infertility clinic: an observational study. Fertility and sterility. 89: 124–128. [H+]

Ahlbom A et al, (December 2001) Review of the epidemiologic literature on EMF and Health, Environ Health Perspect. 2001 Dec;109 Suppl 6:911-33. [H+]

Ahlbom A et al, (September 2000) A pooled analysis of magnetic fields and childhood leukaemia, Br J Cancer. 2000 Sep;83(5):692-8. [H+]

Ahlbom A et al, (September 2009) Epidemiologic evidence on mobile phones and tumor risk: a review, Epidemiology. 2009 Sep;20(5):639-52. [H-]

Ahlbom A, (2001) Neurodegenerative diseases, suicide and depressive symptoms in relation to EMF, Bioelectromagnetics. 2001;Suppl 5:S132-43. [H+]

Ainsbury EA et al, (July 2005) An investigation into the vector ellipticity of extremely low frequency magnetic fields from appliances in UK homes, Phys Med Biol. 2005 Jul 7;50(13):3197-209. [H*]

Akdag MZ et al, (February 2010) Effects of Extremely Low-Frequency Magnetic Field on Caspase Activities and Oxidative Stress Values in Rat Brain, Biol Trace Elem Res. 2010 Feb 23. [Epub ahead of print]. [View on Pubmed [H-]

Akdag MZ et al, (June 2010) The effect of long-term extremely low-frequency magnetic field on geometric and biomechanical properties of rats' bone, Electromagn Biol Med. 2010 Jun;29(1-2):9-18. [H+]

Al-Akhras MA et al, (2008) Influence of 50 Hz magnetic field on sex hormones and body, uterine, and ovarian weights of adult female rats, Electromagn Biol Med. 2008;27(2):155-63. [H+]

Alasdair. Positive Effects of EMFs. [H-]

Albanese A et al, (2009) Alterations in adenylate kinase activity in human PBMCs after in vitro exposure to electromagnetic field: comparison between extremely low frequency electromagnetic field (ELF) and therapeutic application of a musicall [H+]

Al-Khlaiwi T, Meo SA, (June 2004) Association of mobile phone radiation with fatigue, headache, dizziness, tension and sleep disturbance in Saudi population, Saudi Med J. 2004 Jun;25(6):732-6. [H+]

Altpeter ES et al, (February 2006) Effect of short-wave (6-22 MHz) magnetic fields on sleep quality and melatonin cycle in humans: the Schwarzenburg shut-down study, Bioelectromagnetics. 2006 Feb;27(2):142-50. [View on [H+]

Aly AA et al, (February 2008) Effects of 900-MHz radio frequencies on the chemotaxis of human neutrophils in vitro, IEEE Trans Biomed Eng. 2008 Feb;55(2):795-7. [H+]

Andel R et al, (November 2010) Work-related exposure to extremely low-frequency magnetic fields and dementia: results from the population-based study of dementia in Swedish twins, J Gerontol A Biol Sci Med Sci. 2010 Nov;65(11):1220-7. Epub 201 [H+]

Anderson LE et al, (August 1999) Effect of 13 week magnetic field exposures on DMBA-initiated mammary gland carcinomas in female Sprague-Dawley rats, Carcinogenesis. 1999 Aug;20(8):1615-20. [W-]

Anderson LE et al, (September 2000) Effects of 50- or 60-hertz, 100 microT magnetic field exposure in the DMBA mammary cancer model in Sprague-Dawley rats: possible explanations for different results from two laboratories, Environ Health Persp [W*]

Andrzejak R et al, (August 2008) The influence of the call with a mobile phone on heart rate variability parameters in healthy volunteers, Ind Health. 2008 Aug;46(4):409-17. [H+]

Arendash GW et al, (January 2010) Electromagnetic field treatment protects against and reverses cognitive impairment in Alzheimer's disease mice, J Alzheimers Dis. 2010 Jan;19(1):191-210. [W+]

Arnetz BB et al, (2007) The Effects of 884 MHz GSM Wireless Communication Signals on Self-reported Symptom and Sleep (EEG)- An Experimental Provocation Study, PIERS Online Vol. 3 No. 7 2007 pp: 1148-1150. [H+]

Atay, T., Aksoy, B.A., Aydogan, N.H., Baydar, M.L., Yildiz, M. & Ozdemir, R. (2009) Effect of electromagnetic field induced by radio frequency waves at 900 to 1800 MHz on bone mineral density of iliac bone wings. The Journal of Craniofacial Surgery, 20, 1556-1560. [H+]

Auger N et al, (July 2010) The relationship between residential proximity to extremely low frequency power transmission lines and adverse birth outcomes, J Epidemiol Community Health. 2010 Jul 13. [Epub ahead of print] [View Comments and Links [H-]

Augner C et al, (September 2008) GSM base stations: Short-term effects on well-being, Bioelectromagnetics. 2008 Sep 19. [Epub ahead of print]. [H+]

Auvinen A et al, (May 2002) Brain tumors and salivary gland cancers among cellular telephone users, Epidemiology. 2002 May;13(3):356-9. [H*]

Bachmann M et al, (2006) Integration of differences in EEG Analysis Reveals Changes in Human EEG Caused by Microwave, Conf Proc IEEE Eng Med Biol Soc. 2006;1:1597-600. [H+]

Balik HH et al, (March 2005) Some ocular symptoms and sensations experienced by long term users of mobile phones, Pathol Biol (Paris). 2005 Mar;53(2):88-91. [H+]

Balmori A, (March 2009) Electromagnetic pollution from phone masts. Effects on wildlife, Pathophysiology. 2009 Mar 3. [Epub ahead of print]. [W+]

Balmori A, (October 2005) Possible Effects of Electromagnetic Fields from Phone Masts on a Population of White Stork (Ciconia ciconia), Electromagn Biol Med 24: 109-119, 2005. [B+]

Balmori Martínez, A. (2003) The effects of microwaves on the trees and other plants. Valladolid, Spain, 2003b. Available online at buergerwelle. de. [P+]

Balmori, A. & Hallberg, Ö. (2007) The urban decline of the house sparrow (Passer domesticus): a possible link with electromagnetic radiation. Electromagnetic biology and medicine, 26, 141–151. [B+]

Balmori, A. (2005) Possible effects of electromagnetic fields from phone masts on a population of white stork (Ciconia ciconia). Electromagnetic Biology and Medicine, 24, 109–119. [B+]

Balmori, A. (2006) The incidence of electromagnetic pollution on the amphibian decline: Is this an important piece of the puzzle? Toxicological and Environmental Chemistry, 88, 287–299. [W+]

Balmori, A. (2009) Electromagnetic pollution from phone masts. Effects on wildlife. Pathophysiology, 16, 191–199. [W+]

Baris D et al, (January 1996) A case cohort study of suicide in relation to exposure to electric and magnetic fields among electrical utility workers, Occup Environ Med. 1996 Jan;53(1):17-24. [H+]

Barron, H.W., Roberts, R.E., Latimer, K.S., Hernandez-Divers, S. & Northrup, N.C. (2009) Tolerance Doses of Cutaneous and Mucosal Tissues in Ring-necked Parakeets (Psittacula krameri) for External Beam Megavoltage Radiation. Journal of Avian Medicine and Surgery, 23, 6-9. [B+]

Barry, N. & Paul, A.R. (2010) Bats Avoid Radar Installations: Could Electromagnetic Fields Deter Bats from Colliding with Wind Turbines? PLoS ONE, 2, 1-7. [W+]

Barth A et al, (April 2010) Effects of extremely low-frequency magnetic field exposure on cognitive functions: results of a meta-analysis, Bioelectromagnetics. 2010 Apr;31(3):173-9. [H-]

Bas O et al, (February 2009) 900 MHz electromagnetic field exposure affects qualitative and quantitative features of hippocampal pyramidal cells in the adult female rat, Brain Res. 2009 Feb 20. [Epub ahead of print]. [[W+]

Baste V et al, (April 2008) Radiofrequency electromagnetic fields; male infertility and sex ratio of offspring, Eur J Epidemiol. 2008 Apr 16 [Epub ahead of print]. [H+]

Baste V et al, (January 2010) Radiofrequency exposure on fast patrol boats in the Royal Norwegian Navy-an approach to a dose assessment, Bioelectromagnetics. 2010 Jan 6. [Epub [H*]

Batellier, F., Couty, I., Picard, D. & Brillard, J.P. (2008) Effects of exposing chicken eggs to a cell phone in "call" position over the entire incubation period. Theriogenology, 69, 737–745. [B+]

Beale IL et al, (1997) Psychological effects of chronic exposure to 50 Hz magnetic fields in humans living near extra-high-voltage transmission lines, Bioelectromagnetics. 1997;18(8):584-94. [H+]

Beale IL et al, (August 2001) Association Of Health Problems With 50 -Hz Magnetic Fields In Human Adults Living Near Power Transmission Lines, Journal of the Australasian College of Nutritional & Environmental Mediciine, 20(2) August 2001 [Vie [H+]

Beason R, Semm P, (November 2002) Responses of neurons to an amplitude modulated microwave stimulus, Neurosci Lett 2002 Nov 29;333(3):175-8. [H+]

Beason, R.C. & Semm, P. (2002) Responses of neurons to an amplitude modulated microwave stimulus. Neuroscience Letters, 333, 175–178. [H*]

Bediz CS et al, (February 2006) Zinc supplementation ameliorates electromagnetic field-induced lipid peroxidation in the rat brain, Tohoku J Exp Med. 2006 Feb;208(2):133-40. [W+]

Behari, J. (2002) Electromagnetic pollution-the causes and concerns. Electromagnetic Interference and Compatibility, 2001/02. Proceedings of the International Conference on p. 316–320. [H*]

Belyaev I et al, (October 2009) Microwaves from Mobile Phones Inhibit 53BP1 Focus Formation in Human Stem Cells Stronger than in Differentiated Cells: Possible Mechanistic Link to Cancer Risk, Environ Health Perspect. 2009 Oct 22. [Epub ahead [H+]

Belyaev IY et al, (April 2005) 915 MHz microwaves and 50 Hz magnetic field affect chromatin conformation and 53BP1 foci in human lymphocytes from hypersensitive and healthy persons, Bioelectromagnetics. 2005 Apr;26(3):173-84 [View Comments and [H+]

Belyaev IY et al, (May 2006) Exposure of rat brain to 915 MHz GSM microwaves induces changes in gene expression but not double stranded DNA breaks or effects on chromatin conformation, Bioelectromagnetics. 2006 May;27(4):295-306 [View Comments [H+]

Belyaev IY et al, (October 2008) Microwaves from UMTS/GSM mobile phones induce long-lasting inhibition of 53BP1/gamma-H2AX DNA repair foci in human lymphocytes, Bioelectromagnetics. 2008 Oct 6. [Epub ahead of print]. [[H+]

Berg-Beckhoff G et al, (February 2009) Mobile phone base stations and adverse health effects: phase 2 of a cross-sectional study with measured radio frequency electromagnetic fields, Occup Environ Med. 2009 Feb;66(2):124-30 [View Comments and [H-]

Bergdahl J et al, (October 1998) Odontologic survey of referred patients with symptoms allegedly caused by electricity or visual display units, Acta Odontol Scand. 1998 Oct;56(5):303-7. [H*]

Bergeron, N.A. (2008) Electromagnetic Wave Impact on Amphibian Metamorphosis. [W+]

Bernabo N et al, (June 2010) Extremely low frequency electromagnetic field exposure affects fertilization outcome in swine animal model, Theriogenology. 2010 Jun;73(9):1293-305. Epub 2010 Feb 21. [W+]

Bernard N et al, (October 2008) Assessing the Potential Leukemogenic Effects of 50 Hz and their Harmonics Using an Animal Leukemia Model, J Radiat Res (Tokyo). 2008 Oct 4. [Epub ahead of print]. [W-]

Bhattacharjee, D., Ivannikov, A.I., Zhumadilov, K., Stepanenko, V.F., Tanaka, K., Endo, S., Ohtaki, M., Totoda, S., Bhattacharyya, J. & Hoshi, M. (2009) Radiation Dose Measurement by Electron Spin Resonance Studies of Tooth Enamel in Lime and Non-lime Consuming Individuals from the Silchar Region of Northeast India. Journal of radiation research, 50, 559-565. [H*]

Bianchi A, Phillips JG, (February 2005) Psychological predictors of problem mobile phone use, Cyberpsychol Behav. 2005 Feb;8(1):39-51. [H*]

Billaudel B et al, (May 2009) Effects of exposure to DAMPS and GSM signals on Ornithine Decarboxylase (ODC) activity: II- SH-SY5Y human neuroblastoma cells, Int J Radiat Biol. 2009 May 12:1-4. [Epub ahead of print]. [V [H-]

Binhi V, (January 2007) A mathematical model of DNA degradation: possible role of magnetic nanoparticles, arXiv.org - 0701202v1. [H+]

Binhi V, (July 2008) Do naturally occurring magnetic nanoparticles in the human body mediate increased risk of childhood leukaemia with EMF exposure?, Int J Radiat Biol. 2008 Jul;84(7):569-79. [H+]

Binhi V, Chernavskh D, (2005) Stochastic dynamics of magnetosomes in cytoskeleton, Europhysics Letters - 70 (6), pp. 850856 (2005). [H*]

Blaasaas, K.G., Tynes, T. & Lie, R.T. (2003) Residence near power lines and the risk of birth defects. Epidemiology, 14, 95–98. [H+]

Blackman C, (March 2009) Cell phone radiation: Evidence from ELF and RF studies supporting more inclusive risk identification and assessment, Pathophysiology. 2009 Aug;16(2-3):205-16. Epub 2009 Mar 4. [H+]

Blackman C, (March 2009) Cell phone radiation: Evidence from ELF and RF studies supporting more inclusive risk identification and assessment, Pathophysiology. 2009 Aug;16(2-3):205-16. Epub 2009 Mar 4. [H+]

Blackman CF et al, (February 2001) The influence of 1.2 microT, 60 Hz magnetic fields on melatonin- and tamoxifen-induced inhibition of MCF-7 cell growth, Bioelectromagnetics. 2001 Feb;22(2):122-8. [H+]

Blackman CF, (2006) Can EMF exposure during development leave an imprint later in life?, Electromagn Biol Med. 2006;25(4):217-25. [H*]

Blank M, (2008) Protein and DNA reactions stimulated by electromagnetic fields, Electromagn Biol Med. 2008;27(1):3-23. [H+]

Blank M, Goodman R, (March 2009) Electromagnetic fields stress living cells, Pathophysiology. 2009 Mar 4. [Epub ahead of print]. [H+]

Blask DE et al, (December 2005) Melatonin-depleted blood from premenopausal women exposed to light at night stimulates growth of human breast cancer xenografts in nude rats, Cancer Res. 2005 Dec 1;65(23):11174-84. [Vie [H+]

Blettner M et al, (November 2008) Mobile phone base stations and adverse health effects: Phase 1: A population-based cross-sectional study in Germany, Occup Environ Med. 2008 Nov 18. [Epub ahead of print]. [View on Pub [H+]

Boorman GA et al, (May 1999) Effect of 26 week magnetic field exposures in a DMBA initiation-promotion mammary gland model in Sprague-Dawley rats, Carcinogenesis. 1999 May;20(5):899-904. [W-]

Boorman GA et al, (May 2000) Leukemia and lymphoma incidence in rodents exposed to low-frequency magnetic fields, Radiat Res. 2000 May;153(5 Pt 2):627-36. [W-]

Borbely AA et al, (November 1999) Pulsed high-frequency electromagnetic field affects human sleep and sleep electroencephalogram, Neurosci Lett. 1999 Nov 19;275(3):207-10. [H+]

Bortkiewicz A et al, (2004) Subjective symptoms reported by people living in the vicinity of cellular phone base stations: review, Med Pr. 2004;55(4):345-51. [H+]

Bortkiewicz A et al, (July 1996) Heart rate variability in workers exposed to medium-frequency electromagnetic fields, J Auton Nerv Syst. 1996 Jul 5;59(3):91-7. [H+]

Bortkiewicz A et al, (March 1997) Ambulatory ECG monitoring in workers exposed to electromagnetic fields, J Med Eng Technol. 1997 Mar-Apr;21(2):41-6. [H+]

Braune, S., Riedel, A., Schulte-MAnting, J. & Raczek, J. (2002) Influence of a Radiofrequency Electromagnetic Field on Cardiovascular and Hormonal Parameters of the Autonomic Nervous System in Healthy Individuals. Radiation research, 158, 352-356. [H+]

Breckenkamp J et al, (May 2009) Feasibility of a cohort study on health risks caused by occupational exposure to radiofrequency electromagnetic fields, Environ Health. 2009 May 29;8:23. [H*]

Brent, R.L. (1999) Reproductive and teratologic effects of low-frequency electromagnetic fields: A review of in vivo and in vitro studies using animal models. Teratology, 59, 261–286. [H-]

Brent, R.L., Gordon, W.E., Bennett, W.R. & Beckman, D.A. (1993) Reproductive and teratologic effects of electromagnetic fields. Reproductive toxicology, 7, 535–580. [H+]

Brescia F et al, (October 2009) Reactive oxygen species formation is not enhanced by exposure to UMTS 1950 MHz radiation and co-exposure to ferrous ions in Jurkat cells, Bioelectromagnetics. 2009 Oct;30(7):525-35. [Vie [H-]

Bryan, T.E. & Gildersleeve, R.P. (1988) Effects of nonionizing radiation on birds. Comparative Biochemistry and Physiology Part A: Physiology, 89, 511-530. [B+]

Budak GG et al, (April 2009) Effects of GSM-like radiofrequency on distortion product otoacoustic emissions in pregnant adult rabbits, Clin Invest Med. 2009 Apr 1;32(2):E112-6. [W+]

Budak GG et al, (March 2009) Effects of intrauterine and extrauterine exposure to GSM-like radiofrequency on distortion product otoacoustic emissions in infant male rabbits, Int J Pediatr Otorhinolaryngol. 2009 Mar;73(3):391-9. Epub 2008 Dec 2 [W+]

Budi A et al, (December 2005) Electric field effects on insulin chain-B conformation, J Phys Chem B. 2005 Dec 1;109(47):22641-8. [H+]

Budi A et al, (May 2007) Effect of frequency on insulin response to electric field stress, J Phys Chem B. 2007 May 24;111(20):5748-56. [H+]

Burch JB et al, (February 2000) Melatonin metabolite levels in workers exposed to 60-Hz magnetic fields: work in substations and with 3-phase conductors, J Occup Environ Med. 2000 Feb;42(2):136-42. [H+]

Burch JB et al, (July 1999) Reduced excretion of a melatonin metabolite in workers exposed to 60 Hz magnetic fields, Am J Epidemiol. 1999 Jul 1;150(1):27-36. [H*]

Burch JB et al, (June 1998) Nocturnal excretion of a urinary melatonin metabolite among electric utility workers, Scand J Work Environ Health. 1998 Jun;24(3):183-9. [H+]

Burch JB et al, (November 2002) Melatonin metabolite excretion among cellular telephone users, Int J Radiat Biol. 2002 Nov;78(11):1029-36. [H+]

Burda H et al, (April 2009) Extremely low-frequency electromagnetic fields disrupt magnetic alignment of ruminants, Proc Natl Acad Sci U S A. 2009 Apr 7;106(14):5708-13. Epub 2009 Mar 19. [W+]

Burdak-Rothkamm S et al, (November 2008) DNA and chromosomal damage in response to intermittent extremely low-frequency magnetic fields, Mutat Res. 2008 Nov 13. [Epub ahead of print]. [H-]

Byman, D., Demetri, E.P., Wasserman, F.E., Battista, S.P. & Kunz, T.H. (1986) Thermal Modelling of Small Birds Exposed to Microwave Radiation (2· 45 GHz CW). Journal of applied ecology, 23, 449–459. [B+]

California EMF Program, (June 2002) An Evaluation of the Possible Risks From Electric and Magnetic Fields (EMFs) From Power Lines, Internal Wiring, Electrical Occupations and Appliances,. [H+]

Calvente I et al, (July 2010) Exposure to electromagnetic fields (non-ionizing radiation) and its relationship with childhood leukemia: a systematic review, Sci Total Environ. 2010 Jul 15;408(16):3062-9. Epub 2010 May 7 [View Comments and Link [H*]

Campbell, B.A., Jhamb, A., Maguire, J.A., Toyota, B. & Ma, R. (2009) Meningiomas in 2009: controversies and future challenges. American journal of clinical oncology, 32, 73. [H*]

Cano MI, Pollan M, (August 2001) Non-Hodgkin's lymphomas and occupation in Sweden, Int Arch Occup Environ Health. 2001 Aug;74(6):443-9. [H+]

Cao Y et al, (2009) 900-MHz Microwave Radiation Enhances gamma-Ray Adverse Effects on SHG44 Cells, J Toxicol Environ Health A. 2009;72(11-12):727-32. [H+]

Cao YN et al, (August 2006) Effects of exposure to extremely low frequency electromagnetic fields on reproduction of female mice and development of offsprings, Zhonghua Lao Dong Wei Sheng Zhi Ye Bing Za Zhi. 2006 Aug;24(8):468-70 [View Comment [W+]

Cao Z et al, (March 2000) Effects of electromagnetic radiation from handsets of cellular telephone on neurobehavioral function, Wei Sheng Yan Jiu. 2000 Mar 30;29(2):102-3. [H+]

Caraglia M et al, (August 2005) Electromagnetic fields at mobile phone frequency induce apoptosis and inactivation of the multi-chaperone complex in human epidermoid cancer cells, J Cell Physiol. 2005 Aug;204(2):539-48 [View Comments and Links [H+]

Cardis E et al, (June 2008) Distribution of RF energy emitted by mobile phones in anatomical structures of the brain, Phys Med Biol. 2008 Jun 7;53(11):2771-83. Epub 2008 May 1. [H*]

Cardis E et al, (June 2010) Brain tumour risk in relation to mobile telephone use: results of the INTERPHONE international case-control study, Int J Epidemiol. 2010 Jun;39(3):675-94. Epub 2010 May 17. [H*]

Carlo, G.L. (2007) The latest reassurance ruse about cell phones and cancer. Journal of the Australasian College of Nutritional & Environmental Medicine-April, 1. [H+]

Carpenter DO et al, (January 2010) Electromagnetic fields and cancer: the cost of doing nothing, Rev Environ Health. 2010 Jan-Mar;25(1):75-80. [H+]

Carrillo-Vico A et al, (February 2005) Human lymphocyte-synthesized melatonin is involved in the regulation of the interleukin-2/interleukin-2 receptor system, J Clin Endocrinol Metab. 2005 Feb;90(2):992-1000. [View on [H*]

Carrubba S et al, (January 2010) Mobile-phone pulse triggers evoked potentials, Neurosci Lett. 2010 Jan 18;469(1):164-8. Epub 2009 Dec 4. [H+]

Cecconi S et al, (November 2000) Evaluation of the effects of extremely low frequency electromagnetic fields on mammalian follicle development, Hum Reprod. 2000 Nov;15(11):2319-25. [W+]

Cech R et al, (February 2007) Fetal exposure to low frequency electric and magnetic fields, Phys Med Biol. 2007 Feb 21;52(4):879-88. [H*]

Celikler S et al, (December 2009) A biomonitoring study of genotoxic risk to workers of transformers and distribution line stations, Int J Environ Health Res. 2009 Dec;19(6):421-30. [H+]

Cellini L et al, (May 2008) Bacterial response to the exposure of 50 Hz electromagnetic fields, Bioelectromagnetics. 2008 May;29(4):302-11. [H+]

Chamberlain, D.E., Toms, M.P., Cleary-McHarg, R. & Banks, A.N. (2007) House sparrow (Passer domesticus) habitat use in urbanized landscapes. Journal of Ornithology, 148, 453–462. [B*]

Chapman, S. (2004) Book Review: Cellular Phones, Public Fears, and a Culture of Precaution. New Media & Society, 6, 835. [H+]

Charles LE et al, (April 2003) Electromagnetic fields, polychlorinated biphenyls, and prostate cancer mortality in electric utility workers, Am J Epidemiol. 2003 Apr 15;157(8):683-91. [H+]

Chen C et al, (February 2010) Extremely low-frequency electromagnetic fields exposure and female breast cancer risk: a meta-analysis based on 24,338 cases and 60,628 controls, Breast Cancer Res Treat. 2010 Feb 10. [Epub ahead of print] [View C [H-]

Cherry, N. (2000) Evidence that Electromagnetic Radiation is Genotoxic: The implications for the epidemiology of cancer and cardiac, neurological and reproductive effects [H+]

Cherry, N. (2003) EMR Reduces Melatonin in Animals and People. Environmental Management and Design Division, 84. [W+]

Chia SE et al, (November 2000) Prevalence of headache among handheld cellular telephone users in Singapore: a community study, Environ Health Perspect. 2000 Nov;108(11):1059-62. [H+]

Chiu RS, Stuchly MA, (June 2005) Electric fields in bone marrow substructures at power-line frequencies, IEEE Trans Biomed Eng. 2005 Jun;52(6):1103-9. [H+]

Cho YH, Chung HW, (June 2003) The effect of extremely low frequency electromagnetic fields (ELF-EMF) on the frequency of micronuclei and sister chromatid exchange in human lymphocytes induced by benzo(a)pyrene, Toxicol Lett. 2003 Jun 5;143(1): [H+]

Chowdary, T.H. (2005) 15, Radio Communications, Mobile Telephony and Regulation in India-Case Study. Asia unplugged: the wireless and mobile media boom in the Asia-Pacific [H*]

Christ A et al, (April 2010) Age-dependent tissue-specific exposure of cell phone users, Phys Med Biol. 2010 Apr 7;55(7):1767-83. Epub 2010 Mar 5. [H*]

Christ A, Kuster N, (2005) Differences in RF energy absorption in the heads of adults and children, Bioelectromagnetics. 2005;Suppl 7:S31-44. [H*]

Christensen HC et al, (April 2005) Cellular telephones and risk for brain tumors: a population-based, incident case-control study, Neurology. 2005 Apr 12;64(7):1189-95 [View [H-]

Christensen HC et al, (February 2004) Cellular telephone use and risk of acoustic neuroma, Am J Epidemiol. 2004 Feb 1;159(3):277-83. [H-]

Cinel C et al, (March 2008) Exposure to Mobile Phone Electromagnetic Fields and Subjective Symptoms: A Double-Blind Study, Psychosom Med. 2008 Mar 31. [H-]

Clapp RW et al, (January 2008) Environmental and occupational causes of cancer: new evidence 2005-2007, Rev Environ Health. 2008 Jan-Mar;23(1):1-37. [H*]

Clark ML et al, (October 2007) Biomonitoring of estrogen and melatonin metabolites among women residing near radio and television broadcasting transmitters, J Occup Environ Med. 2007 Oct;49(10):1149-56. [View on Pubmed [H+]

Cleveland, R.F., Fields, R.E. & Ulcek, J.L. (1999) Questions and answers about biological effects and potential hazards of radiofrequency electromagnetic fields. [H+]

Cohen B et al, (May 1998) Deposition of charged particles on lung airways, Health Phys 74(5):554-60. [H+]

Coleman MP et al, (November 1989) Leukaemia and residence near electricity transmission equipment: a case-control study, Br J Cancer. 1989 Nov;60(5):793-8. [H+]

Comba P, Fazzo L, (2009) Health effects of magnetic fields generated from power lines: new clues for an old puzzle, Ann Ist Super Sanita. 2009;45(3):233-7. [H+]

Contalbrigo L et al, (August 2009) Effects of different electromagnetic fields on circadian rhythms of some haematochemical parameters in rats, Biomed Environ Sci. 2009 Aug;22(4):348-53. [W+]

Contalbrigo L et al, (August 2009) Effects of different electromagnetic fields on circadian rhythms of some haematochemical parameters in rats, Biomed Environ Sci. 2009 Aug;22(4):348-53. [W+]

Cook A et al, (June 2003) Cellular telephone use and time trends for brain, head and neck tumours, N Z Med J. 2003 Jun 6;116(1175):U457. [H-]

Cook CM et al, (July 2008) Changes in human EEG alpha activity following exposure to two different pulsed magnetic field sequences, Bioelectromagnetics. 2008 Jul 28 [Epub]. [H+]

Copplestone, D., Howard, B.J. & Brachignac, F. (2004) The ecological relevance of current approaches for environmental protection from exposure to ionising radiation. Journal of Environmental Radioactivity, 74, 31-41. [H*]

Copplestone, D., Wood, M.D., Merrill, P.C., Allott, R., Jones, S.R., i Batlle, J.V., Beresford, N.A. & Zinger, I. (2005) Impact assessment of ionising radiation on wildlife: Meeting the requirements of the EU birds and habitats directives. Radioprotection, 40, 893–898. [W*]

Coulton LA, Barker AT, (March 2003) Magnetic fields and intracellular calcium: effects on lymphocytes exposed to conditions for 'cyclotron resonance', Phys Med Biol. 1993 Mar;38(3):347-60. [H-]

Croft RJ et al, (December 2008) Mobile phones and brain tumours: a review of epidemiological research, Australas Phys Eng Sci Med. 2008 Dec;31(4):255-67. [H*]

Crumpton MJ, (June 2005) The Bernal Lecture 2004 Are low-frequency electromagnetic fields a health hazard?, Philos Trans R Soc Lond B Biol Sci. 2005 Jun 29;360(1458):1223-30. [H*]

Crumpton MJ, Collins AR, (October 2004) Are environmental electromagnetic fields genotoxic?, DNA Repair (Amst). 2004 Oct 5;3(10):1385-7. [H*]

Cvetkovic D, Cosic I, (October 2009) Alterations of human electroencephalographic activity caused by multiple extremely low frequency magnetic field exposures, Med Biol Eng Comput. 2009 Oct;47(10):1063-73. Epub 2009 Aug 26 [View Comments and L [H+]

Czyz J et al, (May 2004) High frequency electromagnetic fields (GSM signals) affect gene expression levels in tumor suppressor p53-deficient embryonic stem cells, Bioelectromagnetics. 2004 May;25(4):296-307. [View on P [H+]

D.C. Gupta. (2007) Microwave and EMR Pollution (Due to Mobile Towers and Mobile Phones. Procedings of Fifth International Conference on Dynamic Systems and Applications p. May 30 - June 2, 2007 Morehouse College Atlanta, Georgia, USA. [H+]

Dahmen N et al, (March 2009) Blood laboratory findings in patients suffering from self-perceived electromagnetic hypersensitivity (EHS), Bioelectromagnetics. 2009 Mar [H*]

D'Ambrosio G et al, (January 2002) Cytogenetic damage in human lymphocytes following GMSK phase modulated microwave exposure, Bioelectromagnetics. 2002 Jan;23(1):7-13. [H+]

Daniells C et al, (March 1998) Transgenic nematodes as biomonitors of microwave-induced stress, Mutat Res. 1998 Mar 13;399(1):55-64. [H+]

Davanipour Z, Sobel E, (March 2009) Long-term exposure to magnetic fields and the risks of Alzheimer's disease and breast cancer: Further biological research, Pathophysiology. 2009 Mar 9. [Epub ahead of print]. [View o [H+]

Davis RL, Mostofi FK, (August 1993) Cluster of testicular cancer in police officers exposed to hand-held radar, Am J Ind Med. 1993 Aug;24(2):231-3. [H+]

Davis S et al, (August 2006) Effects of 60-Hz magnetic field exposure on nocturnal 6-sulfatoxymelatonin, estrogens, luteinizing hormone, and follicle-stimulating hormone in healthy reproductive-age women: results of a crossover trial, Ann Epid [H+]

Davis S et al, (October 2001) Residential magnetic fields, light-at-night, and nocturnal urinary 6-sulfatoxymelatonin concentration in women, Am J Epidemiol. 2001 Oct 1;154(7):591-600. [H+]

D'Costa H et al, (December 2003) Human brain wave activity during exposure to radiofrequency field emissions from mobile phones, Australas Phys Eng Sci Med. 2003 Dec;26(4):162-7. [H+]

de Gannes FP et al, (November 2009) A confirmation study of Russian and Ukrainian data on effects of 2450 MHz microwave exposure on immunological processes and teratology in rats, Radiat Res. 2009 Nov;172(5):617-24. [V [W-]

de Gannes FP et al, (October 2009) Amyotrophic lateral sclerosis (ALS) and extremely-low frequency (ELF) magnetic fields: a study in the SOD-1 transgenic mouse model, Amyotroph Lateral Scler. 2009 Oct-Dec;10(5-6):370-3 [View Comments and Links [H-]

De Iuliis GN et al, (July 2009) Mobile phone radiation induces reactive oxygen species production and DNA damage in human spermatozoa in vitro, PLoS One. 2009 Jul 31;4(7):e6446. [H+]

de Pomerai DI et al, (May 2003) Microwave radiation can alter protein conformation without bulk heating, FEBS Lett. 2003 May 22;543(1-3):93-7. [H+]

De Roos AJ et al, (September 2001) Parental occupational exposures to electromagnetic fields and radiation and the incidence of neuroblastoma in offspring, Epidemiology. 2001 Sep;12(5):508-17. [H*]

de Salles AA et al, (2006) Electromagnetic absorption in the head of adults and children due to mobile phone operation close to the head, Electromagn Biol Med. 2006;25(4):349-60. [H*]

de Tommaso M et al, (October 2009) Mobile phones exposure induces changes of contingent negative variation in humans, Neurosci Lett. 2009 Oct 23;464(2):79-83. Epub 2009 Aug 21. [H+]

Dees C et al, (October 1996) Effects of 60-Hz fields, estradiol and xenoestrogens on human breast cancer cells, Radiat Res. 1996 Oct;146(4):444-52. [H-]

Degrave E et al, (2005) All-cause mortality among Belgian military radar operators: a 40-year controlled longitudinal study, Eur J Epidemiol. 2005;20(8):677-81. [H-]

Del Re B et al, (December 2009) Extremely low frequency magnetic field exposure affects DnaK and GroEL expression in E. coli cells with impaired heat shock response, Gen Physiol Biophys. 2009 Dec;28(4):420-4. [View on [W+]

Del Vecchio G et al, (May 2009) Continuous exposure to 900MHz GSM-modulated EMF alters morphological maturation of neural cells, Neurosci Lett. 2009 May 22;455(3):173-7. Epub 2009 Mar 24. [H+]

Del Vecchio G et al, (October 2009) Effect of radiofrequency electromagnetic field exposure on in vitro models of neurodegenerative disease, Bioelectromagnetics. 2009 Oct;30(7):564-72. [H+]

Deltour I et al, (December 2009) Time trends in brain tumor incidence rates in Denmark, Finland, Norway, and Sweden, 1974-2003, J Natl Cancer Inst. 2009 Dec 16;101(24):1721-4. [H*]

Desai NR et al, (October 2009) Pathophysiology of cell phone radiation: oxidative stress and carcinogenesis with focus on male reproductive system, Reprod Biol Endocrinol. 2009 Oct 22;7:114. [H+]

Desjobert H et al, (1995) Effects of 50 Hz magnetic fields on C-myc transcript levels in nonsynchronized and synchronized human cells, Bioelectromagnetics. 1995;16(5):277-83. [H-]

DeVault, T.L., Reinhart, B.D., Brisbin, I.L. & Rhodes, O.E. (2005) Flight Behavior of Black and Turkey Vultures: Implications for Reducing Bird-Aircraft Collisions. The Journal of Wildlife Management, 69, 601-608. [B*]

Di Campli E et al, (June 2010) Effects of extremely low-frequency electromagnetic fields on Helicobacter pylori biofilm, Curr Microbiol. 2010 Jun;60(6):412-8. Epub 2009 Dec 24. [H+]

Dibirdik I et al, (February 1998) Stimulation of Src family protein-tyrosine kinases as a proximal and mandatory step for SYK kinase-dependent phospholipase Cgamma2 activation in lymphoma B cells exposed to low energy electromagnetic fields, J [H+]

Diem E et al, (June 2005) Non-thermal DNA breakage by mobile-phone radiation (1800 MHz) in human fibroblasts and in transformed GFSH-R17 rat granulosa cells in vitro, Mutat Res. 2005 Jun 6;583(2):178-83. [View on Pubme [H+]

Dimida A et al, (June 2010) Electric and magnetic fields do not modify the biochemical properties of frtl-5 cells, J Endocrinol Invest. 2010 Jun 11. [Epub ahead of print]. [H-]

Divan H et al, (December 2010) Cell phone use and behavioural problems in young children, J Epidemiol Community Health (2010). doi:10.1136/jech.2010.115402. [H+]

Divan H et al, (May 2008) Prenatal and Postnatal Exposure to Cell Phone Use, Epidemiology. 2008 May 7 [Epub ahead of print]. [H+]

Djeridane Y et al, (March 2008) Influence of Electromagnetic Fields Emitted by GSM-900 Cellular Telephones on the Circadian Patterns of Gonadal, Adrenal and Pituitary Hormones in Men, Radiat Res. 2008 Mar;169(3):337-43 [View Comments and Links [H-]

Dmoch A, Moszczynski P, (1998) Levels of immunoglobulin and subpopulations of T lymphocytes and NK cells in men occupationally exposed to microwave radiation in frequencies of 6-12 GHz, Med Pr. 1998;49(1):45-9. [View o [H+]

Dobson J, St. Pierre T, (October 1996) Application of the ferromagnetic transduction model to D.C. and pulsed magnetic fields: effects on epileptogenic tissue and implications for cellular phone safety, Biochem Biophys Res Commun 1996 Oct 23;2 [H+]

Dolk H et al, (January 1997) Cancer incidence near radio and television transmitters in Great Britain. I. Sutton Coldfield transmitter, Am J Epidemiol. 1997 Jan 1;145(1):1-9. [H+]

Dolk H et al, (January 1997) Cancer incidence near radio and television transmitters in Great Britain. II. All high power transmitters, Am J Epidemiol. 1997 Jan 1;145(1):10-7.. [H*]

Donnellan M et al, (July 1997) Effects of exposure to electromagnetic radiation at 835 MHz on growth, morphology and secretory characteristics of a mast cell analogue, RBL-2H3, Cell Biol Int. 1997 Jul;21(7):427-39. [Vi [H+]

Draper G et al, (June 2005) Childhood cancer in relation to distance from high voltage power lines in England and Wales: a case-control study, BMJ. 2005 Jun 4;330(7503):1290. [H+]

Duan L et al, (March 1998) Observations of changes in neurobehavioral functions in workers exposed to high-frequency radiation, Zhonghua Yu Fang Yi Xue Za Zhi. 1998 Mar;32(2):109-11. [H+]

Dundar B et al, (August 2009) The effect of the prenatal and post-natal long-term exposure to 50 Hz electric field on growth, pubertal development and IGF-1 levels in female Wistar rats, Toxicol Ind Health. 2009 Aug;25(7):479-87 [View Comments [W+]

Eberhardt JL et al, (2008) Blood-brain barrier permeability and nerve cell damage in rat brain 14 and 28 days after exposure to microwaves from GSM mobile phones, Electromagn Biol Med. 2008;27(3):215-29. [View on Pubme [W+]

Edelstyn N, Oldershaw A, (January 2002) The acute effects of exposure to the electromagnetic field emitted by mobile phones on human attention, Neuroreport. 2002 Jan 21;13(1):119-21. [H+]

Eger H et al, (November 2004) The Influence of Being Physically Near to a Cell Phone Transmission Mast on the Incidence of Cancer, Umwelt Medizin Gesellschaft 17,4 2004. [H+]

Einstein AJ et al, (July 2007) Estimating risk of cancer associated with radiation exposure from 64-slice computed tomography coronary angiography, JAMA. 2007 Jul 18;298(3):317-23. [H+]

Eleuteri AM et al, (2009) 50 Hz extremely low frequency electromagnetic fields enhance protein carbonyl groups content in cancer cells: effects on proteasomal systems, J Biomed Biotechnol. 2009;2009:834239. Epub 2009 Aug 5 [View Comments and L [H+]

Elliott P et al, (June 2010) Mobile phone base stations and early childhood cancers: case-control study, BMJ. 2010 Jun 22;340:c3077. doi: 10.1136/bmj.c3077. [H-]

Eltiti S et al, (February 2007) Development and evaluation of the electromagnetic hypersensitivity questionnaire, Bioelectromagnetics. 2007 Feb;28(2):137-51. [H*]

Eltiti S et al, (May 2009) Short-term exposure to mobile phone base station signals does not affect cognitive functioning or physiological measures in individuals who report sensitivity to electromagnetic fields and controls, Bioelectromagneti [H-]

Eltiti S et al, (November 2007) Does short-term exposure to mobile phone base station signals increase symptoms in individuals who report sensitivity to electromagnetic fields? A double-blind randomized provocation study., Environ Health Persp [H-]

Elwood JM, (February 2006) Childhood leukemia and residential magnetic fields: are pooled analyses more valid than the original studies?, Bioelectromagnetics. 2006 Feb;27(2):112-8. [H*]

EMR - A Bibliography of Scientific Papers. [H*]

Erdal N et al, (March 2008) Effects of Long-term Exposure of Extremely Low Frequency Magnetic Field on Oxidative/Nitrosative Stress in Rat Liver, J Radiat Res (Tokyo). 2008 Mar;49(2):181-7. [H+]

Eriksson N et al, (December 1997) The psychosocial work environment and skin symptoms among visual display terminal workers: a case referent study, Int J Epidemiol. 1997 Dec;26(6):1250-7. [H+]

Erogul O et al, (October 2006) Effects of electromagnetic radiation from a cellular phone on human sperm motility: an in vitro study, Arch Med Res 37(7):840-3. [H+]

Erren TC, (2001) A meta-analysis of epidemiologic studies of electric and magnetic fields and breast cancer in women and men, Bioelectromagnetics. 2001;Suppl 5:S105-19. [H*]

Esen F, Esen H, (March 2006) Effect of electromagnetic fields emitted by cellular phones on the latency of evoked electrodermal activity, Int J Neurosci. 2006 Mar;116(3):321-9. [H+]

Espinosa JM et al, (July 2006) Exposure to AC and DC magnetic fields induces changes in 5-HT1B receptor binding parameters in rat brain membranes, Bioelectromagnetics. 2006 Jul;27(5):414-22. [W+]

Eulitz C et al, (October 1998) Mobile phones modulate response patterns of human brain activity, Neuroreport. 1998 Oct 5;9(14):3229-32. [H+]

Everaert J, Bauwens D, (2007) A possible effect of electromagnetic radiation from mobile phone base stations on the number of breeding house sparrows (Passer domesticus), Electromagn Biol Med. 2007;26(1):63-72. [View o [B+]

Fabbro-Peray P et al, (April 2001) Environmental risk factors for non-Hodgkin's lymphoma: a population-based case-control study in Languedoc-Roussillon, France, Cancer Causes Control. 2001 Apr;12(3):201-12. [View on Pu [H*]

Fadel RA et al, (June 2006) Growth assessment of children exposed to low frequency electromagnetic fields at the Abu Sultan area in Ismailia (Egypt), Anthropol Anz. 2006 Jun;64(2):211-26. [H+]

Falone S et al, (June 2008) Chronic exposure to 50Hz magnetic fields causes a significant weakening of antioxidant defence systems in aged rat brain, Int J Biochem Cell Biol. 2008 Jun 10. [Epub ahead of print]. [View o [W+]

Falzone N et al, (March 2010) The effect of pulsed 900-MHz GSM mobile phone radiation on the acrosome reaction, head morphometry and zona binding of human spermatozoa, Int J Androl. 2010 Mar 7. [Epub ahead of print]. [[H+]

Fanelli, C., Coppola, S., Barone, R., Colussi, C., Gualandi, G., Volpe, P. & Ghibelli, L. (1999) Magnetic fields increase cell survival by inhibiting apoptosis via modulation of Ca2+ influx. The FASEB Journal, 13, 95. [H+]

Fang M, Malone D, (April 2010) Experimental verification of a radiofrequency power model for Wi-Fi technology, Health Phys. 2010 Apr;98(4):574-83. [H*]

Fazzo L et al, (April 2009) Morbidity experience in populations residentially exposed to 50 hz magnetic fields: methodology and preliminary findings of a cohort study, Int J Occup Environ Health. 2009 Apr-Jun;15(2):133-42 [View Comments and Li [H+]

Fedrowitz M et al, (January 2004) Significant differences in the effects of magnetic field exposure on 7,12-dimethylbenz(a)anthracene-induced mammary carcinogenesis in two substrains of Sprague-Dawley rats, Cancer Res. 2004 Jan 1;64(1):243-51 [W+]

Fedrowitz M et al, (March 2002) Magnetic field exposure increases cell proliferation but does not affect melatonin levels in the mammary gland of female Sprague Dawley rats, Cancer Res. 2002 Mar 1;62(5):1356-63. [View [W+]

Fedrowitz M, Loscher W, (January 2008) Exposure of Fischer 344 rats to a weak power frequency magnetic field facilitates mammary tumorigenesis in the DMBA model of breast cancer, Carcinogenesis. 2008 Jan;29(1):186-93. [W+]

Fejes I et al, (September 2005) Is there a relationship between cell phone use and semen quality?, Arch Androl. 2005 Sep-Oct;51(5):385-93. [H+]

Fernandez C et al, (July 2005) Comparison of Electromagnetic Absorption Characteristics in the Head of Adult and a Children for 1800 MHz Mobile Phones, Conference Proceeding from the 2005 SBMO/IEEE MTT-S International Conference on Microwave a [H*]

Fernie, K. & Reynolds, S. (2005) The effects of electromagnetic fields from power lines on avian reproductive biology and physiology: a review. Journal of Toxicology and Environmental Health-Part B-Critical Reviews, 8, 127. [B+]

Fernie, K.J. & Bird, D.M. (2001) Evidence of oxidative stress in American kestrels exposed to electromagnetic fields. Environmental research, 86, 198–207. [B+]

Ferreira A et al, (December 2006) Ultra high frequency-electromagnetic field irradiation during pregnancy leads to an increase in erythrocytes micronuclei incidence [H+]

Fews AP et al, (December 1999) Corona ions from powerlines and increased exposure to pollutant aerosols, Int J Radiat Biol. 1999 Dec;75(12):1523-31. [H+]

Fews AP et al, (December 1999) Increased exposure to pollutant aerosols under high voltage power lines, Int J Radiat Biol. 1999 Dec;75(12):1505-21. [H+]

Feychting M et al, (July 1998) Magnetic fields and breast cancer in Swedish adults residing near high-voltage power lines, Epidemiology. 1998 Jul;9(4):392-7. [H*]

Feychting M et al, (July 2003) Occupational magnetic field exposure and neurodegenerative disease, Epidemiology. 2003 Jul;14(4):413-9; discussion 427-8. [H+]

Feychting M, Ahlbom A, (October 1993) Magnetic fields and cancer in children residing near Swedish high-voltage power lines, Am J Epidemiol. 1993 Oct 1;138(7):467-81. [H+]

Feychting M, Ahlbom A, (September 1994) Magnetic fields, leukemia, and central nervous system tumors in Swedish adults residing near high-voltage power lines, Epidemiology. 1994 Sep;5(5):501-9. [H+]

Feychting M, Forssen U, (May 2006) Electromagnetic fields and female breast cancer, Cancer Causes Control. 2006 May;17(4):553-8. [H-]

Finnie JW et al, (April 2009) Heat shock protein induction in fetal mouse brain as a measure of stress after whole of gestation exposure to mobile telephony radiofrequency fields, Pathology. 2009 Apr;41(3):276-9. [View [H-]

Focke F et al, (January 2010) DNA fragmentation in human fibroblasts under extremely low frequency electromagnetic field exposure, Mutat Res. 2010 Jan 5;683(1-2):74-83. [H+]

Forman SA et al, (October 1995) Psychological symptoms and intermittent hypertension following acute microwave exposure, J Occup Med. 1982 Nov;24(11):932-4. [H+]

Forssen UM et al, (January 2000) Occupational and residential magnetic field exposure and breast cancer in females, Epidemiology. 2000 Jan;11(1):24-9. [H*]

Foster KR, (March 2007) Radiofrequency exposure from wireless LANs utilizing Wi-Fi technology, Health Phys. 2007 Mar;92(3):280-9. [H*]

Foster, K.R. & Repacholi, M.H. (1999) Environmental impacts of electromagnetic fields from major electrical technologies. Proceedings of an International Seminar on. Effects of Electromagnetic Fields on The living Environment, Germany p. 4–5. [H+]

Fragopoulou AF et al, (June 2010) Whole body exposure with GSM 900MHz affects spatial memory in mice, Pathophysiology. 2010 Jun;17(3):179-187. Epub 2009 Dec 1. [W+]

Franzellitti S et al, (October 2008) HSP70 Expression in Human Trophoblast Cells Exposed to Different 1.8 GHz Mobile Phone Signals, Rad. Res. 2008 Oct;170(4): 488-497. [H+]

Frei P et al, (August 2009) Temporal and spatial variability of personal exposure to radio frequency electromagnetic fields, Environ Res. 2009 Aug;109(6):779-85. Epub 2009 [H*]

French PW et al, (June 1997) Electromagnetic radiation at 835 MHz changes the morphology and inhibits proliferation of a human astrocytoma cell line, Bioelectrochemistry and Bioenergetics, June 1997;43(1):13-18. [H+]

Freude G et al, (1998) Effects of microwaves emitted by cellular phones on human slow brain potentials, Bioelectromagnetics. 1998;19(6):384-7. [H+]

Freude G et al, (January 2000) Microwaves emitted by cellular telephones affect human slow brain potentials, Eur J Appl Physiol. 2000 Jan;81(1-2):18-27. [H+]

Frey AH, (March 1998) Headaches from cellular telephones: are they real and what are the implications?, Environ Health Perspect. 1998 Mar;106(3):101-3. [H*]

Friedman J et al, (August 2007) Mechanism of a short-term ERK activation by electromagnetic fields at mobile phone frequency, Biochem J. 2007 Aug 1;405(3):559-68. [H+]

Fritzer G et al, (May 2007) Effects of short- and long-term pulsed radiofrequency electromagnetic fields on night sleep and cognitive functions in healthy subject, Bioelectromagnetics. 2007 May;28(4):316-25. [View on P [H-]

Fuma H. (1998) Effects of gamma-rays on the populations of the steady-state ecological microcosm. International journal of radiation biology, 74, 145–150. [H+]

Funch DP et al, (May 1996) Utility of telephone company records for epidemiologic studies of cellular telephones, Epidemiology. 1996 May;7(3):299-302. [H*]

Funk RH et al, (2009) Electromagnetic effects - From cell biology to medicine, Prog Histochem Cytochem. 2009;43(4):177-264. Epub 2008 Sep 18. [H*]

Furubayashi T et al, (September 2008) Effects of short-term W-CDMA mobile phone base station exposure on women with or without mobile phone related symptoms, Bioelectromagnetics. 2008 Sep 8. [Epub ahead of print]. [Vie [H-]

Gajendiran, N., Tanaka, K., Kumaravel, T.S. & Kamada, N. (2001) Neutron-induced adaptive response studied in Go human lymphocytes using the comet assay. Journal of radiation research, 42, 91-101. [H*]

Gajski G et al, (March 2009) Radioprotective effects of honeybee venom (Apis mellifera) against 915-MHz microwave radiation-induced DNA damage in wistar rat lymphocytes: in vitro study, Int J Toxicol. 2009 Mar-Apr;28(2):88-98 [View Comments an [W+]

Galloni, P., Parazzini, M., Piscitelli, M., Pinto, R., Lovisolo, G.A., Tognola, G., Marino, C. & Ravazzani, P. (2005) Electromagnetic fields from mobile phones do not affect the inner auditory system of Sprague-Dawley rats. Radiation research, 164, 798-804. [W-]

Galvanovskis J et al, (1999) Cytoplasmic Ca2+ oscillations in human leukemia T-cells are reduced by 50 Hz magnetic fields, Bioelectromagnetics. 1999;20(5):269-76. [H+]

Gandhi, G. & Singh, P. (2005) Cytogenetic damage in mobile phone users: Preliminary data. International Journal of Human Genetics, 5, 259. [H+]

Gandhi, G. (2005a) Mobile Phone Users: Another High Health Risk Group. Journal of Human Ecology, 18, 85-92. [H+]

Gandhi, G. (2005b) Genetic damage in mobile phone users: some preliminary findings. Indian Journal of Human Genetics, 11, 99. [H+]

Gangi S, Johansson O, (April 2000) A theoretical model based upon mast cells and histamine to explain the recently proclaimed sensitivity to electric and/or magnetic fields in humans, Med Hypotheses. 2000 Apr;54(4):663-71 [View Comments and Li [H+]

Gangi S, Johansson O, (December 1997) Skin changes in "screen dermatitis" versus classical UV- and ionizing irradiation-related damage--similarities and differences, Exp Dermatol. 1997 Dec;6(6):283-91. [H+]

Garaj-Vrhovac V, Orescanin V, (January 2008) Assessment of DNA sensitivity in peripheral blood leukocytes after occupational exposure to microwave radiation: the alkaline comet assay and chromatid breakage assay, Cell Biol Toxicol. 2008 Jan 23 [H*]

Garcia AM et al, (April 2008) Occupational exposure to extremely low frequency electric and magnetic fields and Alzheimer disease: a meta-analysis, Int J Epidemiol. 2008 Feb 2 [Epub ahead of print]. [H+]

Garcia Callejo FJ et al, (May 2005) Hearing level and intensive use of mobile phones, Acta Otorrinolaringol Esp. 2005 May;56(5):187-91. [H+]

Garip AI, Akan Z, (June 2010) Effect of ELF-EMF on number of apoptotic cells; correlation with reactive oxygen species and HSP, Acta Biol Hung. 2010 Jun;61(2):158-67. [H+]

George DF et al, (May 2008) Non-thermal effects in the microwave induced unfolding of proteins observed by chaperone binding, Bioelectromagnetics. 2008 May;29(4):324-30. [H+]

Ghandi O, Kang G, (1996) Effect of the head size on SAR for mobile telephones at 835 and 1900MHz, Bioelectromagnetics Society 23rd Annual Meeting. St. Paul, Minnesota, USA, June 10-14, 2001, p. 52. [H*]

Ghandi O, Kang G, (May 2002) Some present problems and a proposed experimental phantom for SAR compliance testing of cellular telephones at 835 and 1900 MHz, Phys. Med. Biol. 47 1501 18. [H*]

Ghosh, A., Suraiya, J., Warren, E., Howe, E.W. & Brecht, B. (2008) Fascist Trends and Health: The Case of Mobile Phones in Indian Society. Bio-social issues in health, 228. [H+]

Girgert R et al, (April 2009) Exposure of mcf-7 breast cancer cells to electromagnetic fields up-regulates the plasminogen activator system, Int J Gynecol Cancer. 2009 Apr;19(3):334-8. [H+]

Girgert R et al, (April 2010) Signal transduction of the melatonin receptor MT1 is disrupted in breast cancer cells by electromagnetic fields, Bioelectromagnetics. 2010 Apr;31(3):237-45. [H+]

Girgert R et al, (November 2005) Induction of tamoxifen resistance in breast cancer cells by ELF electromagnetic fields, Biochem Biophys Res Commun. 2005 Nov 4;336(4):1144-9. [H+]

Gobba F et al, (October 2009) Natural killer cell activity decreases in workers occupationally exposed to extremely low frequency magnetic fields exceeding 1 microT, Int J Immunopathol Pharmacol. 2009 Oct-Dec;22(4):1059-66 [View Comments and L [H+]

Gobba F et al, (September 2008) Extremely Low Frequency-Magnetic Fields (ELF-EMF) occupational exposure and natural killer activity in peripheral blood lymphocytes, Sci Total Environ. 2008 Sep 18. [Epub ahead of print] [View Comments and Links [H+]

Goel, H.C., Prasad, D.J., SINGH, S., Sagar, R.K., Agrawala, P.K., Bala, M., Sinha, A.K. & Dogra, R. (2004) Radioprotective potential of an herbal extract of Tinospora cordifolia. Journal of radiation research, 45, 61-68. [P*]

Gold S et al, (1994) Exposure of simian virus-40-transformed human cells to magnetic fields results in increased levels of T-antigen mRNA and protein, Bioelectromagnetics. 1994;15(4):329-36. [H+]

Goldoni J et al, (September 1993) Health status of personnel occupationally exposed to radiowaves, Arh Hig Rada Toksikol. 1993 Sep;44(3):223-8. [H+]

Goldsmith JR, (January 1995) Epidemiologic Evidence of Radiofrequency Radiation (Microwave) Effects on Health in Military, Broadcasting, and Occupational Studies, Int J Occup Environ Health. 1995 Jan;1(1):47-57. [View [H+]

Goldwein O, Aframian DJ, (September 2009) The influence of handheld mobile phones on human parotid gland secretion, Oral Dis. 2009 Sep 8. [Epub ahead of print] [View Comments [H+]

Gonet B et al, (July 2009) Effects of extremely low-frequency magnetic fields on the oviposition of Drosophila melanogaster over three generations, Bioelectromagnetics. 2009 Jul 23. [Epub ahead of print]. [View on Pubm [W+]

Goodman EM et al, (1994) Magnetic fields after translation in Escherichia coli, Bioelectromagnetics. 1994;15(1):77-83. [W+]

Goodman R et al, (July 2009) Extremely low frequency electromagnetic fields activate the ERK cascade, increase hsp70 protein levels and promote regeneration in Planaria, Int J Radiat Biol. 2009 Jul 9:1-9. [Epub ahead of print] [View Comments a [W+]

Goraca A et al, (June 2010) Effects of extremely low frequency magnetic field on the parameters of oxidative stress in heart, J Physiol Pharmacol. 2010 Jun;61(3):333-8. [H+]

Goudarzi I et al, (May 2010) Pulsed electromagnetic fields accelerate wound healing in the skin of diabetic rats, Bioelectromagnetics. 2010 May;31(4):318-23. [W*]

Gould, J.L. (1980) The case for magnetic sensitivity in birds and bees (such as it is). American Scientist, 68, 256–267. [B*]

Gould, J.L. (1984) Magnetic Field Sensitivity in Animals. Annual Review of Physiology, 46, 585-598. [W*]

Gould, J.L. (2008) Animal Navigation: The Evolution of Magnetic Orientation. Current Biology, 18, R482-R484. [W*]

Graham C, Cook MR, (1999) Human sleep in 60 Hz magnetic fields, Bioelectromagnetics. 1999;20(5):277-83. [H+]

Grajewski B et al, (October 2000) Semen quality and hormone levels among radiofrequency heater operators, J Occup Environ Med. 2000 Oct;42(10):993-1005. [H+]

Gray, R.H. (1997) A Description of Long-Term Environmental Monitoring and Assessment Programs at Two U.S. Department of Energy Sites. Water Environment Research, 69, 1015-1021. [H*]

Grayson JK, (March 1996) Radiation exposure, socioeconomic status, and brain tumor risk in the US Air Force: a nested case-control study, Am J Epidemiol. 1996 Mar 1;143(5):480-6. [H+]

Green LM et al, (July 1999) A case-control study of childhood leukemia in southern Ontario, Canada, and exposure to magnetic fields in residences, Int J Cancer. 1999 Jul 19;82(2):161-70. [H+]

Greene JJ et al, (May 1993) Gene-specific modulation of RNA synthesis and degradation by extremely low frequency electromagnetic fields, Cell Mol Biol (Noisy-le-grand). 1993 May;39(3):261-8. [H+]

Greenland S et al, (November 2000) A pooled analysis of magnetic fields, wire codes, and childhood leukemia. Childhood Leukemia-EMF Study Group, Epidemiology. 2000 Nov;11(6):624-34. [H*]

Grigor'ev IuG, (September 2003) Biological effects of mobile phone electromagnetic field on chick embryo (risk assessment using the mortality rate), Radiats Biol Radioecol. 2003 Sep-Oct;43(5):541-3. [B+]

Guberan E et al, (October 1994) Gender ratio of offspring and exposure to shortwave radiation among female physiotherapists, Scand J Work Environ Health. 1994 Oct;20(5):345-8. [H-]

Gul A et al, (February 2009) The effects of microwave emitted by cellular phones on ovarian follicles in rats, Arch Gynecol Obstet. 2009 Feb 25. [Epub ahead of print]. [W+]

Gul A et al, (February 2009) The effects of microwave emitted by cellular phones on ovarian follicles in rats, Arch Gynecol Obstet. 2009 Feb 25. [Epub ahead of print]. [W+]

Guler G et al, (March 2010) The effect of radiofrequency radiation on DNA and lipid damage in non-pregnant and pregnant rabbits and their newborns, Gen Physiol Biophys. 2010 Mar;29(1):59-66. [W+]

Guney M et al, (August 2007) 900 MHz radiofrequency-induced histopathologic changes and oxidative stress in rat endometrium: protection by vitamins E and C, Toxicol Ind Health. 2007 Aug;23(7):411-20. [W+]

Ha M et al, (August 2007) Radio-frequency radiation exposure from AM radio transmitters and childhood leukemia and brain cancer, Am J Epidemiol. 2007 Aug 1;166(3):270-9. [H+]

Ha M et al, (December 2003) Incidence of cancer in the vicinity of Korean AM radio transmitters, Arch Environ Health. 2003 Dec;58(12):756-62. [H+]

Haarala C et al, (May 2007) Pulsed and continuous wave mobile phone exposure over left versus right hemisphere: Effects on human cognitive function, Bioelectromagnetics 2007 May;28(4):289-95. [H-]

Habash RW et al, (2003) Health risks of electromagnetic fields. Part I: Evaluation and assessment of electric and magnetic fields, Crit Rev Biomed Eng. 2003;31(3):141-95. [H*]

Habash RW et al, (April 2009) Recent advances in research on radiofrequency fields and health: 2004-2007, J Toxicol Environ Health B Crit Rev. 2009 Apr;12(4):250-88. [H*]

Hakansson N et al, (July 2003) Neurodegenerative diseases in welders and other workers exposed to high levels of magnetic fields, Epidemiology. 2003 Jul;14(4):420-6; discussion 427-8. [H+]

Hakansson N et al, (September 2003) Occupational exposure to extremely low frequency magnetic fields and mortality from cardiovascular disease, Am J Epidemiol. 2003 Sep 15;158(6):534-42. [H*]

Hallberg O, Johansson O, (2005) FM broadcasting exposure time and malignant melanoma incidence, Electromagnetic Biology and Medicine 24; 1-8. [H+]

Hallberg O, Johansson O, (2005) FM broadcasting exposure time and malignant melanoma incidence, Electromagnetic Biology and Medicine 24; 1-8. [H+]

Hallberg O, Johansson O, (January 2002) Melanoma incidence and frequency modulation (FM) broadcasting, Arch Environ Health. 2002 Jan-Feb;57(1):32-40. [H+]

Hallberg O, Johansson O, (July 2004) Malignant melanoma of the skin - not a sunshine story!, Med Sci Monit. 2004 Jul;10(7):CR336-40. [H+]

Hallberg O, Johansson O, (March 2009) Apparent decreases in Swedish public health indicators after 1997-Are they due to improved diagnostics or to environmental factors?, Pathophysiology. 2009 Jun;16(1):43-6. Epub 2009 Feb 10 [View Comments an [H*]

Hallberg, Ö. & Johansson, O. (2002) Melanoma incidence and frequency modulation (FM) broadcasting. Archives of Environmental Health: An International Journal, 57, 32–40. [H+]

Hallberg, Ö. (2007) Radio, TV towers linked to increased risk of melanoma. [H+]

Han YY et al, (March 2009) Cell phone use and acoustic neuroma: the need for standardized questionnaires and access to industry data, 2009 Mar 26. [Epub ahead of print]. [H*]

Hanowski, J.A.M., Niemi, G.G. & Blake, J.G. (1996) Response of breeding and migrating birds to extremely low frequency electromagnetic fields. Ecological Applications, 6, 910–919. [B-]

Hansen J, (January 2001) Increased breast cancer risk among women who work predominantly at night, Epidemiology. 2001 Jan;12(1):74-7. [H+]

Hansteen IL et al, (November 2009) Cytogenetic effects of exposure to 2.3 GHz radiofrequency radiation on human lymphocytes in vitro, Anticancer Res. 2009 Nov;29(11):4323-30. [H-]

Hardell L et al, (2005) Case-control study on cellular and cordless telephones and the risk for acoustic neuroma or meningioma in patients diagnosed 2000-2003, Neuroepidemiology. 2005;25(3):120-8. [H+]

Hardell L et al, (April 2007) Use of cellular and cordless telephones and risk of testicular cancer, Int J Androl. 2007 Apr;30(2):115-22. [H-]

Hardell L et al, (August 2002) Cellular and cordless telephones and the risk for brain tumours, Eur J Cancer Prev. 2002 Aug;11(4):377-86. [H+]

Hardell L et al, (August 2004) No association between the use of cellular or cordless telephones and salivary gland tumours, Occup Environ Med. 2004 Aug;61(8):675-9. [H-]

Hardell L et al, (December 1998) Case-control study on risk factors for testicular cancer, Int J Oncol. 1998 Dec;13(6):1299-303. [H+]

Hardell L et al, (December 2001) Ionizing radiation, cellular telephones and the risk for brain tumours, Eur J Cancer Prev. 2001 Dec;10(6):523-9. [H+]

Hardell L et al, (February 2003) Further aspects on cellular and cordless telephones and brain tumours, Int J Oncol. 2003 Feb;22(2):399-407. [H+]

Hardell L et al, (February 2006) Case-control study of the association between the use of cellular and cordless telephones and malignant brain tumors diagnosed during 2000-2003, Environ Res. 2006 Feb;100(2):232-41. [Vi [H+]

Hardell L et al, (July 1999) Use of cellular telephones and the risk for brain tumours: A case-control study, Int J Oncol. 1999 Jul;15(1):113-6. [H+]

Hardell L et al, (June 2005) Use of cellular telephones and brain tumour risk in urban and rural areas, Occup Environ Med. 2005 Jun;62(6):390-4. [H+]

Hardell L et al, (March 2003) Vestibular schwannoma, tinnitus and cellular telephones, Neuroepidemiology 2003 Mar-Apr;22(2):124-9. [H+]

Hardell L et al, (March 2009) Epidemiological evidence for an association between use of wireless phones and tumor diseases, Pathophysiology. 2009 Mar 4. [Epub ahead of print]. [H+]

Hardell L et al, (May 2000) Case-control study on radiology work, medical x-ray investigations, and use of cellular telephones as risk factors for brain tumors, MedGenMed. 2000 May 4;2(2):E2. [H+]

Hardell L et al, (May 2008) Meta-analysis of long-term mobile phone use and the association with brain tumours, Int J Oncol. 2008 May;32(5):1097-103. [H+]

Hardell L et al, (October 2006) Tumour risk associated with use of cellular telephones or cordless desktop telephones, World J Surg Oncol 2006 Oct 11;4:74. [H+]

Hardell L et al, (September 2005) Use of cellular or cordless telephones and the risk for non-Hodgkin's lymphoma, Int Arch Occup Environ Health. 2005 Sep;78(8):625-32. [H+]

Hardell L et al, (September 2006) Pooled analysis of two case-control studies on use of cellular and cordless telephones and the risk for malignant brain tumours diagnosed in 1997-2003, Int Arch Occup Environ Health. 2006 Sep;79(8):630-9. Epub [H+]

Hardell L et al, (September 2007) Long-term use of cellular phones and brain tumours - increased risk associated with use for > 10 years, Occup Environ Med. 2007 Sep;64(9):626-32. [H+]

Hardell L, Carlberg M, (July 2009) Mobile phones, cordless phones and the risk for brain tumours, Int J Oncol. 2009 Jul;35(1):5-17.. [H+]

Hardell L, Sage C, (February 2008) Biological effects from electromagnetic field exposure and public exposure standards, Biomed Pharmacother. 2008 Feb;62(2):104-9. [H*]

Hardell, L., Carlberg, M., Soderqvist, F. & Hansson Mild, K. (2008) Meta-analysis of long-term mobile phone use and the association with brain tumours. International journal of oncology, 32, 1097–1104. [H+]

Hardell, L., Carlberg, M., Söderqvist, F., Mild, K.H. & Morgan, L.L. (2007) Long-term use of cellular phones and brain tumours: increased risk associated with use for? 10 years. Occupational and Environmental Medicine, 64, 626. [H+]

Harris SR et al, (February 2009) Effect of magnetic fields on cryptochrome-dependent responses in Arabidopsis thaliana, 2009 Feb 25. [Epub ahead of print]. [P+]

Harst, W., Kuhn, J. & Stever, H. (2006) Can Electromagnetic Exposure Cause a Change in Behaviour? Studying Possible Non-Thermal Influences on Honey Bees–An Approach within the Framework of Educational Informatics. Acta Systemica-IIAS International Journal, 6, 1–6. [Es+]

Hartikka H et al, (April 2009) Mobile phone use and location of glioma: a case-case analysis, Bioelectromagnetics. 2009 Apr;30(3):176-82. [H*]

Hatch EE et al, (March 2000) Do confounding or selection factors of residential wiring codes and magnetic fields distort findings of electromagnetic fields studies?, Epidemiology. 2000 Mar;11(2):189-98. [View on Pubmed [H*]

Haugsdal B et al, (1998) Comparison of symptoms experienced by users of analogue and digital mobile phones: a Swedish-Norwegian epidemiological study, Arbetslivsrapport 23: 1998. [H+]

Havas M, (2006) Electromagnetic hypersensitivity: biological effects of dirty electricity with emphasis on diabetes and multiple sclerosis, Electromagn Biol Med. 2006;25(4):259-68. [H*]

Heath CW Jr, (January 1996) Electromagnetic field exposure and cancer: a review of epidemiologic evidence, CA Cancer J Clin. 1996 Jan-Feb;46(1):29-44. [H*]

Henry, L. & Narendra, P.S. (2004) Magnetic-Field-Induced DNA Strand Breaks in Brain Cells of the Rat. Environmental Health Perspectives, 112. [W+]

Henshaw DL et al, (April 2008) Can disturbances in the atmospheric electric field created by powerline corona ions disrupt melatonin production in the pineal gland?, J Pineal Res. 2008 Apr 1. [Epub ahead of print]. [Vi [H+]

Henshaw DL, (July 2002) Does our electricity distribution system pose a serious risk to public health?, Med Hypotheses. 2002 Jul;59(1):39-51. [H+]

Henshaw DL, Reiter RJ, (2005) Do magnetic fields cause increased risk of childhood leukemia via melatonin disruption?, Bioelectromagnetics. 2005;Suppl 7:S86-97. [H+]

Hepworth SJ et al, (April 2006) Mobile phone use and risk of glioma in adults: case-control study, BMJ. 2006 Apr 15;332(7546):883-7. [H*]

Hillert L et al, (February 2002) Prevalence of self-reported hypersensitivity to electric or magnetic fields in a population-based questionnaire survey, Scand J Work Environ Health. 2002 Feb;28(1):33-41. [View on Pubme [H*]

Hillert L et al, (March 2001) Environmental illness: fatigue and cholinesterase activity in patients reporting hypersensitivity to electricity, Environ Res. 2001 Mar;85(3):200-6. [H-]

Hillert L et al, (November 1999) Hypersensitivity to electricity: working definition and additional characterization of the syndrome, J Psychosom Res. 1999 Nov;47(5):429-38. [H*]

Hinton, T.G., Bedford, J.S., Congdon, J.C. & Whicker, F.W. (2004) Effects of Radiation on the Environment: A Need to Question Old Paradigms and Enhance Collaboration among Radiation Biologists and Radiation Ecologists. Radiation research, 162, 332-338. [H*]

Hirata A et al, (2010) Intercomparison of induced fields in Japanese male model for ELF magnetic field exposures: effect of different computational methods and codes, Radiat Prot Dosimetry. 2010;138(3):237-44. Epub 2009 Nov 22 [View Comments a [H*]

Hirose H et al, (July 2009) 1950 MHz IMT-2000 field does not activate microglial cells in vitro, Bioelectromagnetics. 2009 Jul 31. [Epub ahead of print]. [H-]

Hjollund NH et al, (November 1997) Semen analysis of personnel operating military radar equipment, Reprod Toxicol. 1997 Nov-Dec;11(6):897. [H+]

Ho, M.W. (2007) Mobile phones and vanishing bees. Science in Society, 34, 34. [H+]

Hocking B et al, (1988) Health aspects of radio-frequency radiation accidents. Part I: Assessment of health after a radio-frequency radiation accident, J Microw Power Electromagn Energy. 1988;23(2):67-74. [View on Pubm [H*]

Hocking B et al, (December 1996) Cancer incidence and mortality and proximity to TV towers, Med J Aust. 1996 Dec 2-16;165(11-12):601-5. [H+]

Hocking B, Gordon I, (September 2003) Decreased survival for childhood leukemia in proximity to television towers, Arch Environ Health. 2003 Sep;58(9):560-4. [H+]

Hocking B, Westerman R, (March 2003) Neurological effects of radiofrequency radiation, Occup Med 2003 Mar;53(2):123-7. [H+]

Hocking B, Westerman R, (October 2002) Neurological changes induced by a mobile phone, Occup Med (Lond). 2002 Oct;52(7):413-5. [H+]

Hocking B, Westerman R, (October 2002) Neurological changes induced by a mobile phone, Occup Med (Lond). 2002 Oct;52(7):413-5. [H+]

Hocking B, Westerman R, (September 2001) Neurological abnormalities associated with CDMA exposure, Occup Med (Lond). 2001 Sep;51(6):410-3. [View on [H*]

Hole, D.G., Whittingham, M.J., Bradbury, R.B., Anderson, G.Q.A., Lee, P.L.M., Wilson, J.D. & Krebs, J.R. (2002) Agriculture: Widespread local house-sparrow extinctions. Nature, 418, 931–932. [H+]

Holly EA et al, (January 1996) Intraocular melanoma linked to occupations and chemical exposures, Epidemiology. 1996 Jan;7(1):55-61. [H*]

Holt JA, (June 1980) Changing epidemiology of malignant melanoma in Queensland, Med J Aust. 1980 Jun 14;1(12):619-20. [H+]

Hondou T et al, (2006) Passive Exposure to Mobile Phones: Enhancement of Intensity by Reflection, J. Phys. Soc. Jpn. 75 (2006) 084801. [H*]

Hoskote, S.S., Kapdi, M. & Joshi, S.R. (2008) An Epidemiological Review of Mobile Telephones and Cancer. JAPI, 56, 980–984. [H-]

Hours M et al, (October 2007) Cell Phones and Risk of brain and acoustic nerve tumours: the French INTERPHONE case-control study, Rev Epidemiol Sante Publique. 2007 Oct;55(5):321-32. [H*]

Hoyto A et al, (June 2007) Ornithine decarboxylase activity is affected in primary astrocytes but not in secondary cell lines exposed to 872 MHz RF radiation, Int J Radiat Biol. 2007 Jun;83(6):367-74. [H+]

Hoyto A et al, (September 2008) Radiofrequency radiation does not significantly affect ornithine decarboxylase activity, proliferation, or caspase-3 activity of fibroblasts in different physiological conditions, Int J Radiat Biol. 2008 Sep;84([H-]

Hu J et al, (November 2009) Level of microwave radiation from mobile phone base stations built in residential districts, Wei Sheng Yan Jiu. 2009 Nov;38(6):712-6. [H*]

Huang TQ et al, (September 2008) Molecular responses of Jurkat T-cells to 1763 MHz radiofrequency radiation, Int J Radiat Biol. 2008 Sep;84(9):734-41. [H-]

Huber R et al, (December 2002) Electromagnetic fields, such as those from mobile phones, alter regional cerebral blood flow and sleep and waking EEG, J Sleep Res 2002 Dec;11(4):289-95. [H+]

Huber R et al, (February 2005) Exposure to pulse-modulated radio frequency electromagnetic fields affects regional cerebral blood flow, Eur J Neurosci. 2005 Feb;21(4):1000-6. [H+]

Huber R et al, (May 2003) Radio frequency electromagnetic field exposure in humans: Estimation of SAR distribution in the brain, effects on sleep and heart rate, Bioelectromagnetics. 2003 May;24(4):262-76. [View on Pub [H+]

Huber R et al, (October 2000) Exposure to pulsed high-frequency electromagnetic field during waking affects human sleep EEG, Neuroreport. 2000 Oct 20;11(15):3321-5. [H+]

Hug K et al, (January 2010) Parental occupational exposure to extremely low frequency magnetic fields and childhood cancer: a German case-control study, Am J Epidemiol. 2010 Jan 1;171(1):27-35. Epub 2009 Nov 25. [View [H-]

Hung CS et al, (June 2007) Mobile phone 'talk-mode' signal delays EEG-determined sleep onset, Neurosci Lett. 2007 Jun 21;421(1):82-6. [H+]

Huss A et al, (January 2007) Source of funding and results of studies of health effects of mobile phone use: systematic review of experimental studies, Environ Health Perspect. 2007 Jan;115(1):1-4. [H*]

Huss A et al, (November 2008) Residence Near Power Lines and Mortality From Neurodegenerative Diseases: Longitudinal Study of the Swiss Population, Am J Epidemiol. 2008 Nov 5. [Epub ahead of print]Click here to read. [[H+]

Huss A, Roosli M, (October 2006) Consultations in primary care for symptoms attributed to electromagnetic fields--a survey among general practitioners, BMC Public Health. 2006 Oct 30;6:267. [H*]

Hutter HP et al, (2004) Public perception of risk concerning celltowers and mobile phones, Soz Praventivmed. 2004;49(1):62-6. [H*]

Hutter HP et al, (May 2006) Subjective symptoms, sleeping problems, and cognitive performance in subjects living near mobile phone base stations, Occup Environ Med. 2006 May;63(5):307-13. [H+]

Hutter HP et al, (May 2006) Subjective symptoms, sleeping problems, and cognitive performance in subjects living near mobile phone base stations, Occup Environ Med. 2006 May;63(5):307-13. [H+]

Hutter, H.P., Moshammer, H., Wallner, P. & Kundi, M. (2006) Subjective symptoms, sleeping problems, and cognitive performance in subjects living near mobile phone base stations. Occupational and Environmental medicine, 63, 307. [H+]

Huttunen P et al, (March 2009) FM-radio and TV tower signals can cause spontaneous hand movements near moving RF reflector, Pathophysiology. 2009 Mar 4. [Epub ahead of print]. [H+]

Hyland, G., Chambers, G. & Programme, S. (2001) The Physiological and Environmental Effects on Non-ionising Electromagnetic Radiation. European Parliament, Directorate General for Research. [H+]

Ilonen K et al, (April 2008) Indoor transformer stations as predictors of residential ELF magnetic field exposure, Bioelectromagnetics. 2008 Apr;29(3):213-8. [H*]

Imge, E.B., KiliasoGlu, B., Devrim, E., Aetin, R. & Durak, I. (2010) Effects of mobile phone use on brain tissue from the rat and a possible protective role of vitamin C-a preliminary study. International Journal of Radiation Biology, 1-6. [W+]

Infante-Rivard C, Deadman JE, (July 2003) Maternal occupational exposure to extremely low frequency magnetic fields during pregnancy and childhood leukemia, Epidemiology. 2003 Jul;14(4):437-41. [H+]

Inskip PD et al, (January 2001) Cellular-telephone use and brain tumors, N Engl J Med. 2001 Jan 11;344(2):79-86. [H-]

Inskip PD et al, (Novermber 2010) Brain cancer incidence trends in relation to cellular telephone use in the United States, Neuro Oncol. 2010 Nov;12(11):1147-51. Epub 2010 Jul 16. [H-]

Inyang I et al, (December 2009) A new method to determine laterality of mobile telephone use in adolescents, Occup Environ Med. 2009 Dec 2. [Epub ahead of print]. [H*]

Iorio R et al, (August 2010) Involvement of mitochondrial activity in mediating ELF-EMF stimulatory effect on human sperm motility, Bioelectromagnetics. 2010 Aug 5. [Epub ahead of print]. [H+]

Irgens A et al, (December 1999) The effect of male occupational exposure in infertile couples in Norway, J Occup Environ Med. 1999 Dec;41(12):1116-20. [H*]

Irvine N et al, (November 2005) Definition, Epidemiology and Management of Electrical Sensitivity, HPA-RPD-010. [H*]

Ishido M et al, (February 2002) The mechanism of biological magnetic field effects on oncostatic actions of melatonin, RIKEN review - No. 44 (February, 2002). [H+]

Ishido M et al, (July 2001) Magnetic fields (MF) of 50 Hz at 1.2 microT as well as 100 microT cause uncoupling of inhibitory pathways of adenylyl cyclase mediated by melatonin 1a receptor in MF-sensitive MCF-7 cells, Carcinogenesis. 2001 Jul;2 [H+]

Ishido M et al, (July 2001) Magnetic fields (MF) of 50 Hz at 1.2 microT as well as 100 microT cause uncoupling of inhibitory pathways of adenylyl cyclase mediated by melatonin 1a receptor in MF-sensitive MCF-7 cells, Carcinogenesis. 2001 Jul;2 [H+]

Ivancsits S et al, (August 2002) Induction of DNA strand breaks by intermittent exposure to extremely-low-frequency electromagnetic fields in human diploid fibroblasts, Mutat Res. 2002 Aug 26;519(1-2):1-13. [View on Pu [H+]

Ivancsits S et al, (July 2003) Age-related effects on induction of DNA strand breaks by intermittent exposure to electromagnetic fields, Mech Ageing Dev. 2003 Jul;124(7):847-50. [H+]

Ivancsits S et al, (July 2003) Intermittent extremely low frequency electromagnetic fields cause DNA damage in a dose-dependent way, Int Arch Occup Environ Health. 2003 Jul;76(6):431-6. [H+]

Ivancsits S et al, (June 2005) Cell type-specific genotoxic effects of intermittent extremely low-frequency electromagnetic fields, Mutat Res. 2005 Jun 6;583(2):184-8. [H+]

Jahandideh S et al, (February 2010) Comparing performances of logistic regression and neural networks for predicting melatonin excretion patterns in the rat exposed to ELF magnetic fields, Bioelectromagnetics. 2010 Feb;31(2):164-71 [View Comme [W*]

Jahreis GP et al, (December 1998) Absence of 60-Hz, 0.1-mT magnetic field-induced changes in oncogene transcription rates or levels in CEM-CM3 cells, Biochim Biophys Acta. 1998 Dec 22;1443(3):334-42. [H-]

Janssen, T., Boege, P., Mikusch-Buchberg, J. & Raczek, J. (2005) Investigation of potential effects of cellular phones on human auditory function by means of distortion product otoacoustic emissions. The Journal of the Acoustical Society of America, 117, 1241. [H+]

Jauchem JR, (1997) Exposure to extremely-low-frequency electromagnetic fields and radiofrequency radiation: cardiovascular effects in humans, Int Arch Occup Environ Health. 1997;70(1):9-21. [H*]

Johansen C et al, (February 2001) Cellular telephones and cancer--a nationwide cohort study in Denmark, J Natl Cancer Inst. 2001 Feb 7;93(3):203-7. [H-]

Johansen C et al, (February 2002) Mobile phones and malignant melanoma of the eye, Br J Cancer. 2002 Feb 1;86(3):348-9. [H-]

Johansen C, (2004) Electromagnetic fields and health effects--epidemiologic studies of cancer, diseases of the central nervous system and arrhythmia-related heart disease, Scand J Work Environ Health. 2004;30 Suppl 1:1-30 [View Comments and Li [H-]

Johansen C, (September 2000) Exposure to electromagnetic fields and risk of central nervous system disease in utility workers, Epidemiology. 2000 Sep;11(5):539-43. [H+]

Johansen C, Olsen JH, (August 1998) Mortality from amyotrophic lateral sclerosis, other chronic disorders, and electric shocks among utility workers, Am J Epidemiol. 1998 Aug 15;148(4):362-8. [H+]

Johansson A et al, (January 2010) Symptoms, personality traits, and stress in people with mobile phone-related symptoms and electromagnetic hypersensitivity, J Psychosom Res. 2010 Jan;68(1):37-45. [H*]

Johansson O et al, (November 2001) Cutaneous mast cells are altered in normal healthy volunteers sitting in front of ordinary TVs/PCs--results from open-field provocation experiments, J Cutan Pathol. 2001 Nov;28(10):513-9. [View Comments and L [H+]

Johansson O et al, (October 1994) Skin changes in patients claiming to suffer from "screen dermatitis": a two-case open-field provocation study, Exp Dermatol. 1994 Oct;3(5):234-8. [H+]

Johansson O, (2006) Electrohypersensitivity: state-of-the-art of a functional impairment, Electromagn Biol Med. 2006;25(4):245-58. [H+]

Johnson Liakouris, A.G. (1998) Radiofrequency (RF) Sickness in the Lilienfeld Study: an effect of modulated microwaves? Archives of Environmental Health: An International Journal, 53, 236–238. [H+]

Joris, E. & Dirk, B. (2007) A possible effect of electromagnetic radiation from mobile phone base stations on the number of breeding house sparrows (Passer domesticus). Electromagnetic Biology and Medicine, 26, 63–72. [B+]

Joseph W et al, (May 2010) Estimation of whole-body SAR from electromagnetic fields using personal exposure meters, Bioelectromagnetics. 2010 May;31(4):286-95. [H*]

Joseph W et al, (October 2010) Assessment of general public exposure to LTE and RF sources present in an urban environment, Bioelectromagnetics. 2010 Oct;31(7):576-9. [H*]

Joubert V et al, (January 2008) Apoptosis is Induced by Radiofrequency Fields through the Caspase-Independent Mitochondrial Pathway in Cortical Neurons, Radiat Res. 2008 Jan;169(1):38-45. [H+]

Jurewicz, J., Hanke, W., Radwan, M. & Bonde, J. (2009) Environmental factors and semen quality. International Journal of Occupational Medicine and Environmental Health, 22, 305-329. [H+]

Juutilainen J et al, (January 2006) Do extremely low frequency magnetic fields enhance the effects of environmental carcinogens? A meta-analysis of experimental studies, Int J Radiat Biol. 2006 Jan;82(1):1-12. [View on [H+]

Juutilainen J, (2008) Do electromagnetic fields enhance the effects of environmental carcinogens?, Radiat Prot Dosimetry. 2008;132(2):228-31. [H+]

Juutilainen J, Kumlin T, (July 2006) Occupational magnetic field exposure and melatonin: interaction with light-at-night, Bioelectromagnetics. 2006 Jul;27(5):423-6. [H+]

Kabuto M et al, (August 2006) Childhood leukemia and magnetic fields in Japan: a case-control study of childhood leukemia and residential power-frequency magnetic fields in Japan, Int J Cancer. 2006 Aug 1;119(3):643-50 [View Comments and Links [H+]

Kan P et al, (January 2008) Cellular phone use and brain tumor: a meta-analysis, J Neurooncol. 2008 Jan;86(1):71-8. [H*]

Kan, P., Simonsen, S.E., Lyon, J.L. & Kestle, J.R.W. (2008) Cellular phone use and brain tumor: a meta-analysis. Journal of neuro-oncology, 86, 71–78. [H+]

Kapdi, M., Hoskote, S. & Joshi, S.R. (2008) Health hazards of mobile phones: an Indian perspective. JAPI, 56, 893–97. [H+]

Kaplan, S.B. (2000) Health Effects of Electromagnetic Fields: The State of the Science and Government Response. The Electricity Journal, 13, 25–33. [H*]

Karinen A et al, (February 2008) Mobile phone radiation might alter protein expression in human skin, BMC Genomics. 2008 Feb 11;9:77. [H+]

Kato M et al, (January 1994) Circularly polarized 50-Hz magnetic field exposure reduces pineal gland and blood melatonin concentrations of Long-Evans rats, Neurosci Lett. 1994 Jan 17;166(1):59-62. [W+]

Kaune WT, (December 2002) Thermal noise limit on the sensitivity of cellular membranes to power frequency electric and magnetic fields, Bioelectromagnetics. 2002 Dec;23(8):622-8. [H+]

Kavet R, Zaffanella LE, (September 2002) Contact voltage measured in residences: implications to the association between magnetic fields and childhood leukemia, Bioelectromagnetics. 2002 Sep;23(6):464-74. [View on Pubm [H+]

Keetley V et al, (June 2001) Neuropsychological sequelae of 50 Hz magnetic fields, Int J Radiat Biol. 2001 Jun;77(6):735-42. [H*]

Keetley V et al, (June 2001) Neuropsychological sequelae of 50 Hz magnetic fields, Int J Radiat Biol. 2001 Jun;77(6):735-42. [H*]

Keklikci U et al, (May 2008) The effect of extremely low frequency magnetic field on the conjunctiva and goblet cells, Curr Eye Res. 2008 May;33(5):441-6. [H+]

Kelsh MA, Sahl JD, (May 1997) Mortality among a cohort of electric utility workers, 1960-1991, Am J Ind Med. 1997 May;31(5):534-44. [H+]

Kheifets L et al, (July 2009) Extremely low frequency electric fields and cancer: Assessing the evidence, Bioelectromagnetics. 2009 Jul 31. [Epub ahead of print]. [H-]

Kheifets L et al, (July 2010) Exploring exposure-response for magnetic fields and childhood leukemia, J Expo Sci Environ Epidemiol. 2010 Jul 7. [Epub ahead of print]. [H*]

Kheifets L et al, (June 2008) Occupational electromagnetic fields and leukemia and brain cancer: an update to two meta-analyses, J Occup Environ Med. 2008 Jun;50(6):677-88. [H*]

Kheifets L et al, (October 2006) Childhood leukemia, electric and magnetic fields, and temporal trends, Bioelectromagnetics. 2006 Oct;27(7):545-52. [H*]

Kheifets L et al, (October 2006) Public Health Impact of Extremely Low-Frequency Electromagnetic Fields, Environ Health Perspect 114:1532-1537. [H+]

Kheifets L et al, (October 2010) A pooled analysis of extremely low-frequency magnetic fields and childhood brain tumors, Am J Epidemiol. 2010 Oct 1;172(7):752-61. Epub 2010 Aug 9. [H-]

Kheifets L et al, (September 2008) Future needs of occupational epidemiology of extremely low frequency (ELF) electric and magnetic fields (EMF): review and recommendations, Occup Environ Med. 2008 Sep 19. [Epub ahead of print] [View Comments [H*]

Khurana VG et al, (July 2010) Epidemiological evidence for a health risk from mobile phone base stations, Int J Occup Environ Health. 2010 Jul-Sep;16(3):263-7. [H+]

Khurana, V.G., Teo, C., Kundi, M., Hardell, L. & Carlberg, M. (2009) Cell phones and brain tumors: a review including the long-term epidemiologic data. Surgical neurology, 72, 205-214. [H+]

Kim BC, Park SO, (September 2010) Evaluation of RF electromagnetic field exposure levels from cellular base stations in Korea, Bioelectromagnetics. 2010 Sep;31(6):495-8. [H*]

Kim DW et al, (2008) Physiological effects of RF exposure on hypersensitive people by a cell phone, Conf Proc IEEE Eng Med Biol Soc. 2008;2008:2322-5. [H-]

Kim JY et al, (January 2008) In vitro assessment of clastogenicity of mobile-phone radiation (835 MHz) using the alkaline comet assay and chromosomal aberration test, Environ Toxicol. 2008 Jan 23 [Epub ahead of print]. [H*]

Kim JY et al, (January 2008) In vitro assessment of clastogenicity of mobile-phone radiation (835 MHz) using the alkaline comet assay and chromosomal aberration test, Environ Toxicol. 2008 Jan 23 [Epub ahead of print]. [H*]

Kim TH et al, (June 2008) Local exposure of 849 MHz and 1763 MHz radiofrequency radiation to mouse heads does not induce cell death or cell proliferation in brain, Exp Mol Med. 2008 Jun 30;40(3):294-303. [View on Pubme [W-]

Kim YW et al, (October 2008) Effects of 60 Hz 14 microT magnetic field on the apoptosis of testicular germ cell in mice, Bioelectromagnetics. 2008 Oct 6. [Epub ahead of print]. [H+]

Kirschvink JL et al, (August 1992) Magnetite biomineralization in the human brain, Proc Natl Acad Sci U S A. 1992 Aug 15;89(16):7683-7. [H*]

Kirschvink, J.L. (1982) Birds, bees and magnetism:: A new look at the old problem of magnetoreception. Trends in Neurosciences, 5, 160–167. [B+]

Kizilay, A., Ozturan, O., Erdem, T., Tayyar Kalcioglu, M. & Cem Miman, M. (2003) Effects of chronic exposure of electromagnetic fields from mobile phones on hearing in rats. Auris Nasus Larynx, 30, 239–245. [H+]

Klaeboe L et al, (April 2007) Use of mobile phones in Norway and risk of intracranial tumours, Eur J Cancer Prev. 2007 Apr;16(2):158-64. [H-]

Klaeboe L et al, (May 2005) Residential and occupational exposure to 50-Hz magnetic fields and brain tumours in Norway: a population-based study, Int J Cancer. 2005 May 20;115(1):137-41. [H*]

Kleinerman RA et al, (January 2005) Self-reported electrical appliance use and risk of adult brain tumors, Am J Epidemiol. 2005 Jan 15;161(2):136-46. [H-]

Kleinhaus, S., Pinshow, B., Frumkin, R., Ruppin, R. & Margaliot, M. (1995) Thermal effects of short radio waves on migrating birds. Ecological Applications, 5, 672–679. [B+]

Kliukiene J et al, (May 2004) Residential and occupational exposures to 50-Hz magnetic fields and breast cancer in women: a population-based study, Am J Epidemiol. 2004 May 1;159(9):852-61. [H+]

Koivisto M et al, (February 2000) Effects of 902 MHz electromagnetic field emitted by cellular telephones on response times in humans, Neuroreport. 2000 Feb 7;11(2):413-5. [H+]

Koivisto M et al, (June 2000) The effects of electromagnetic field emitted by GSM phones on working memory, Neuroreport. 2000 Jun 5;11(8):1641-3. [H+]

Kolodynski AA, Kolodynska VV, (February 1996) Motor and psychological functions of school children living in the area of the Skrunda Radio Location Station in Latvia, Sci Total Environ. 1996 Feb 2;180(1):87-93. [View o [H+]

Kowalczuk C et al, (October 2010) Absence of nonlinear responses in cells and tissues exposed to RF energy at mobile phone frequencies using a doubly resonant cavity, Bioelectromagnetics. 2010 Oct;31(7):556-65. [View o [H-]

Koylu H et al, (June 2006) Melatonin modulates 900 Mhz microwave-induced lipid peroxidation changes in rat brain, Toxicol Ind Health 2006 Jun;22(5):211-6. [W+]

Koziak AM et al, (January 2006) Light alters nociceptive effects of magnetic field shielding, Bioelectromagnetics. 2006 Jan;27(1):10-5. [H*]

Kramarenko AV, Tan U, (July 2003) Effects of high-frequency electromagnetic fields on human EEG: a brain mapping study, Int J Neurosci. 2003 Jul;113(7):1007-19. [H+]

Krause CM et al, (December 2000) Effects of electromagnetic fields emitted by cellular phones on the electroencephalogram during a visual working memory task, Int J Radiat Biol. 2000 Dec;76(12):1659-67. [View on Pubmed [H+]

Krause CM et al, (June 2006) Mobile phone effects on children's event-related oscillatory EEG during an auditory memory task, Int J Radiat Biol 2006 Jun;82(6):443-50. [H+]

Krause CM et al, (March 2000) Effects of electromagnetic field emitted by cellular phones on the EEG during a memory task, Neuroreport. 2000 Mar 20;11(4):761-4. [H+]

Krause CM et al, (May 2007) Effects of pulsed and continuous wave 902 MHz mobile phone exposure on brain oscillatory activity during cognitive processing, Bioelectromagnetics 2007 May;28(4):296-308. [H+]

Kristupaitis D et al, (May 1998) Electromagnetic field-induced stimulation of Bruton's tyrosine kinase, J Biol Chem. 1998 May 15;273(20):12397-401. [H+]

Kuhn S et al, (August 2007) Assessment Methods for Demonstrating Compliance With Safety Limits of Wireless Devices Used in Home and Office Environments, Electromagnetic Compatibility, 2007 August;49(3):519-525. [H*]

Kuhn S, Kuster N, (July 2006) Development of Procedures for the EMF Exposure Evaluation of Wireless Devices in Home and Office Environments Supplement 1: Close-to-Body and Base Station Wireless Data Communication Devices, Foundation for Resear [H+]

Kumar, G. (2010) CELL TOWER RADIATION. [W+]

Kumar, N. & Kumar, G. (2009a) Biological effects of cell tower radiation on human body. ISMOT, Delhi, India, 678–679. [W+]

Kumar, N. & Kumar, G. (2009b) Biological effects of cell tower radiation on human body. ISMOT, Delhi, India p. 678–679. [H+]

Kumar, V., Vats, R.P., Goyal, S., Kumar, S. & Pathak, P.P. (2008) Interaction of electromagnetic radiation with human body. Indian Journal of Radio & Space Physics, 37, 131–134. [H+]

Kundi M, (March 2009) The controversy about a possible relationship between mobile phone use and cancer, Environ Health Perspect. 2009 Mar;117(3):316-24. [H+]

Kundi M, Hutter HP, (March 2009) Mobile phone base stations-Effects on wellbeing and health, Pathophysiology. 2009 Mar 2. [Epub ahead of print]. [H*]

Kundi, M. & Hutter, H.P. (2009) Mobile phone base stations–Effects on wellbeing and health. Pathophysiology, 16, 123–135. [H+]

Kwon MS et al, (November 2007) Perception of the electromagnetic field emitted by a mobile phone, Bioelectromagnetics. 2007 Nov 20;29(2):154-159. [H-]

Lacy-Hulbert A et al, (October 1995) No effect of 60 Hz electromagnetic fields on MYC or beta-actin expression in human leukemic cells, Radiat Res. 1995 Oct;144(1):9-17. [H-]

Lagorio S et al, (1997) Mortality of plastic-ware workers exposed to radiofrequencies, Bioelectromagnetics. 1997;18(6):418-21. [H*]

Lagroye I, Poncy JL, (1998) Influences of 50-Hz magnetic fields and ionizing radiation on c-jun and c-fos oncoproteins, Bioelectromagnetics. 1998;19(2):112-6. [H+]

Lahkola A et al, (April 2007) Mobile phone use and risk of glioma in 5 North European countries, Int J Cancer. 2007 Apr 15;120(8):1769-75. [H+]

Lahkola A et al, (August 2008) Meningioma and mobile phone use--a collaborative case-control study in five North European countries, Int J Epidemiol. 2008 Aug 2. [Epub ahead of print]Click here to read. [View on Pubmed [H-]

Lahkola A et al, (May 2005) Selection bias due to differential participation in a case-control study of mobile phone use and brain tumors, Ann Epidemiol. 2005 May;15(5):321-5. [H*]

Lai H et al, (1994) Microwave irradiation affects radial-arm maze performance in the rat, Bioelectromagnetics. 1994;15(2):95-104. [W+]

Lai H et al, (1998) Acute exposure to a 60 Hz magnetic field affects rats' water-maze performance, Bioelectromagnetics. 1998;19(2):117-22. [W+]

Lai H et al, (May 1989) Low-level microwave irradiation and central cholinergic systems, Pharmacol Biochem Behav. 1989 May;33(1):131-8. [H+]

Lai H, (1996) Spatial learning deficit in the rat after exposure to a 60 Hz magnetic field, Bioelectromagnetics. 1996;17(6):494-6. [W+]

Lai H, (October 2004) Interaction of microwaves and a temporally incoherent magnetic field on spatial learning in the rat, Physiol Behav. 2004 Oct 15;82(5):785-9 [View [W+]

Lai H, (October 2004) Interaction of microwaves and a temporally incoherent magnetic field on spatial learning in the rat, Physiol Behav. 2004 Oct 15;82(5):785-9. [W+]

Lai H, Singh NP, (May 2004) Magnetic-field-induced DNA strand breaks in brain cells of the rat, Environ Health Perspect. 2004 May;112(6):687-94. [W+]

Lai, H. & Singh, N.P. (2004) Magnetic-field-induced DNA strand breaks in brain cells of the rat. Environmental Health Perspectives, 112, 687. [W+]

Lakshmanagowda, P.B., Supe, S.S., Viswanath, L. & Kunjar, S. (2009) Mobile phones and hearing-A review. Polish Journal of Medical Physics And Engineering, 15, 161-175. [H*]

Lalic H et al, (April 2001) Comparison of chromosome aberrations in peripheral blood lymphocytes from people occupationally exposed to ionizing and radiofrequency radiation, Acta Med Okayama. 2001 Apr;55(2):117-27. [Vi [H+]

Landgrebe M et al, (July 2008) Neuronal correlates of symptom formation in functional somatic syndromes: a fMRI study, Neuroimage. 2008 Jul 15;41(4):1336-44. [H*]

Landgrebe M et al, (March 2007) Altered cortical excitability in subjectively electrosensitive patients: results of a pilot study, J Psychosom Res. 2007 Mar;62(3):283-8. [H+]

Landgrebe M et al, (March 2008) Cognitive and neurobiological alterations in electromagnetic hypersensitive patients: results of a case-control study, Psychol Med. 2008 Mar 26;:1-11. [H+]

Lantow M et al, (September 2006) Comparative study of cell cycle kinetics and induction of apoptosis or necrosis after exposure of human mono mac 6 cells to radiofrequency radiation, Radiat Res. 2006 Sep;166(3):539-43. [H-]

Lascher, W. & Liburdy, R.P. (1998) Animal and cellular studies on carcinogenic effects of low frequency (50/60-Hz) magnetic fields. Mutation Research, 410, 185-220. [W*]

Lawrence AF, Adey WR, (1982) Nonlinear wave mechanisms in interactions between excitable tissue and electromagnetic fields, Neurol Res. 1982;4(1-2):115-53. [H*]

Lawrence AF, Adey WR, (1982) Nonlinear wave mechanisms in interactions between excitable tissue and electromagnetic fields, Neurol Res. 1982;4(1-2):115-53. [H*]

Lee BC et al, (January 2004) Effects of extremely low frequency magnetic field on the antioxidant defense system in mouse brain: a chemiluminescence study, J Photochem Photobiol B. 2004 Jan 23;73(1-2):43-8. [View on Pu [W+]

Lee GM et al, (January 2002) A nested case-control study of residential and personal magnetic field measures and miscarriages, Epidemiology. 2002 Jan;13(1):21-31. [H+]

Lee HJ et al, (November 2009) Lack of teratogenicity after combined exposure of pregnant mice to CDMA and WCDMA radiofrequency electromagnetic fields, Radiat Res. 2009 Nov;172(5):648-52. [W-]

Lee HJ et al, (October 2010) The lack of histological changes of CDMA cellular phone-based radio frequency on rat testis, Bioelectromagnetics. 2010 Oct;31(7):528-34. [W-]

Leena K et al, (February 2005) Intensity of mobile phone use and health compromising behaviours--how is information and communication technology connected to health-related lifestyle in adolescence?, J Adolesc. 2005 Feb;28(1):35-47 [View Comme [H*]

Leger, J. & Larochelle, J. (2006) On the importance of radiative heat exchange during nocturnal flight in birds. Journal of experimental biology, 209, 103–114. [B*]

Leitgeb N et al, (May 2005) Does "electromagnetic pollution" cause illness? An inquiry among Austrian general practitioners, Wien Med Wochenschr. 2005 May;155(9-10):237-41. [H+]

Leitgeb N, Schrottner J, (September 2003) Electrosensibility and electromagnetic hypersensitivity, Bioelectromagnetics. 2003 Sep;24(6):387-94. [H*]

Lerchl A et al, (April 2008) Effects of mobile phone electromagnetic fields at nonthermal SAR values on melatonin and body weight of Djungarian hamsters (Phodopus sungorus), J Pineal Res. 2008 Apr;44(3):267-72. [View o [W+]

Leszczynski D et al, (May 2002) Non-thermal activation of the hsp27/p38MAPK stress pathway by mobile phone radiation in human endothelial cells: molecular mechanism for cancer- and blood-brain barrier-related effects, Differentiation. 2002 May [H+]

Leszczynski D, (February 2005) Rapporteur report: cellular, animal and epidemiological studies of the effects of static magnetic fields relevant to human health, Prog Biophys Mol Biol. 2005 Feb-Apr;87(2-3):247-53. [Vie [H*]

Levallois P et al, (August 2002) Study of self-reported hypersensitivity to electromagnetic fields in California, Environ Health Perspect. 2002 Aug;110 Suppl 4:619-23. [H+]

Levallois P et al, (October 2001) Effects of electric and magnetic fields from high-power lines on female urinary excretion of 6-sulfatoxymelatonin, Am J Epidemiol. 2001 Oct 1;154(7):601-9. [H+]

Levallois P, (August 2002) Hypersensitivity of human subjects to environmental electric and magnetic field exposure: a review of the literature, Environ Health Perspect. 2002 Aug;110 Suppl 4:613-8. [H*]

Levitt, B.B. & Lai, H. (2010) Biological effects from exposure to electromagnetic radiation emitted by cell tower base stations and other antenna arrays. Environmental Reviews, 18, 369–395. [H+]

Lewy H et al, (June 2003) Magnetic field (50 Hz) increases N-acetyltransferase, hydroxy-indole-O-methyltransferase activity and melatonin release through an indirect pathway, Int J Radiat Biol. 2003 Jun;79(6):431-5. [V [H+]

Li CY et al, (January 1997) Residential exposure to 60-Hertz magnetic fields and adult cancers in Taiwan, Epidemiology. 1997 Jan;8(1):25-30. [H+]

Li DK et al, (January 2002) A population-based prospective cohort study of personal exposure to magnetic fields during pregnancy and the risk of miscarriage, Epidemiology. 2002 Jan;13(1):9-20. [H+]

Li DK et al, (January 2010) Exposure to magnetic fields and the risk of poor sperm quality, Reprod Toxicol. 2010 Jan;29(1):86-92. Epub 2009 Nov 6. [H+]

Li L et al, (December 2005) Pulsed electric field exposure of insulin induces anti-proliferative effects on human hepatocytes, Bioelectromagnetics. 2005 Dec;26(8):639-47. [H+]

Li M et al, (March 2008) Elevation of plasma corticosterone levels and hippocampal glucocorticoid receptor translocation in rats: a potential mechanism for cognition impairment following chronic low-power-density microwave exposure, J Radiat R [W*]

Li M et al, (March 2008) Elevation of plasma corticosterone levels and hippocampal glucocorticoid receptor translocation in rats: a potential mechanism for cognition impairment following chronic low-power-density microwave exposure, J Radiat R [W*]

Li X et al, (June 2001) Effects of low frequency pulsed electric field on insulin studied by fluorescent spectrum, Guang Pu Xue Yu Guang Pu Fen Xi. 2001 Jun;21(3):406-8. [H+]

Liakouris, A.G.J. (1998) Radiofrequency (RF) Sickness in the Lilienfield study: An effect of Modulated Microwaves? Archives of Environmental Health, 53, 236-238. [H+]

Liburdy RP et al, (November 1993) Experimental evidence for 60 Hz magnetic fields operating through the signal transduction cascade. Effects on calcium influx and c-MYC mRNA induction, FEBS Lett. 1993 Nov 22;334(3):301-8 [View Comments and Lin [H+]

Lin JC, Wang Z, (June 2007) Hearing of microwave pulses by humans and animals: effects, mechanism, and thresholds, Health Phys. 2007 Jun;92(6):621-8 [W*]

Lin JC, Wang Z, (June 2007) Hearing of microwave pulses by humans and animals: effects, mechanism, and thresholds, Health Phys. 2007 Jun;92(6):621-8. [W*]

Lindstrom E et al, (August 1993) Intracellular calcium oscillations induced in a T-cell line by a weak 50 Hz magnetic field, J Cell Physiol. 1993 Aug;156(2):395-8. [H+]

Linet MS et al, (July 1997) Residential exposure to magnetic fields and acute lymphoblastic leukemia in children, N Engl J Med. 1997 Jul 3;337(1):1-7. [H-]

Litmanen, T. & Tuikkanen, A. (2008) Global sense of risk: Media reporting on scientific studies and potential risks of mobile phones. Journal of Research and Practice in Information Technology, 40, 71-90. [H+]

Liu T et al, (March 2008) Anxiogenic effect of chronic exposure to extremely low frequency magnetic field in adult rats, Neurosci Lett. 2008 Mar 21;434(1):12-7. [W*]

Liu T et al, (March 2008) Chronic exposure to low-intensity magnetic field improves acquisition and maintenance of memory, Neuroreport. 2008 Mar 25;19(5):549-52. [H+]

Liu Y et al, (January 2005) Magnetic field effect on singlet oxygen production in a biochemical system, Chem Commun (Camb). 2005 Jan 14;(2):174-6. [H+]

Loberg LI et al, (August 1999) Gene expression in human breast epithelial cells exposed to 60 Hz magnetic fields, Carcinogenesis. 1999 Aug;20(8):1633-6. [H*]

Loberg LI et al, (May 2000) Expression of cancer-related genes in human cells exposed to 60 Hz magnetic fields, Radiat Res. 2000 May;153(5 Pt 2):679-84. [H-]

Lohmann, K.J. & Johnsen, S. (2000) The neurobiology of magnetoreception in vertebrate animals. Trends in neurosciences, 23, 153–159. [W*]

London SJ et al, (November 1991) Exposure to residential electric and magnetic fields and risk of childhood leukemia, Am J Epidemiol. 1991 Nov 1;134(9):923-37. [H+]

Lonn S et al, (January 2004) Incidence trends of adult primary intracerebral tumors in four Nordic countries, Int J Cancer. 2004 Jan 20;108(3):450-5. [H*]

Lonn S et al, (March 2005) Long-term mobile phone use and brain tumor risk, Am J Epidemiol. 2005 Mar 15;161(6):526-35. [H-]

Lonn S et al, (November 2004) Mobile phone use and the risk of acoustic neuroma, Epidemiology. 2004 Nov;15(6):653-9. [H+]

Lonn S et al, (October 2006) Mobile phone use and risk of parotid gland tumor, Am J Epidemiol. 2006 Oct 1;164(7):637-43. Epub 2006 Jul 3. [H-]

Lönn, S., Ahlbom, A., Hall, P. & Feychting, M. (2005) Long-term mobile phone use and brain tumor risk. American journal of epidemiology, 161, 526. [H-]

Lopez-Berenguer C et al, (November 2007) Effects of microwave cooking conditions on bioactive compounds present in broccoli inflorescences, J Agric Food Chem. 2007 Nov 28;55(24):10001-7. [P+]

Lopez-Martin E et al, (May 2009) The action of pulse-modulated GSM radiation increases regional changes in brain activity and c-Fos expression in cortical and subcortical areas in a rat model of picrotoxin-induced seizure proneness, J Neurosci [W+]

Loscher W et al, (July 1993) Tumor promotion in a breast cancer model by exposure to a weak alternating magnetic field, Cancer Lett. 1993 Jul 30;71(1-3):75-81. [H+]

Lowenthal RM et al, (September 2007) Residential exposure to electric power transmission lines and risk of lymphoproliferative and myeloproliferative disorders: a case-control study, Intern Med J. 2007 Sep;37(9):614-9. [H+]

Lupke M et al, (September 2004) Cell activating capacity of 50 Hz magnetic fields to release reactive oxygen intermediates in human umbilical cord blood-derived monocytes and in Mono Mac 6 cells, Free Radic Res. 2004 Sep;38(9):985-93 [View Com [H+]

Luria R et al, (November 2008) Cognitive effects of radiation emitted by cellular phones: The influence of exposure side and time, Bioelectromagnetics. 2008 Nov 17;30(3):198-204. [Epub ahead of print]. [H+]

Luukkonen J et al, (December 2008) Enhancement of chemically induced reactive oxygen species production and DNA damage in human SH-SY5Y neuroblastoma cells by 872MHz radiofrequency radiation, Mutat Res. 2008 Dec 24. [Epub ahead of print] [View [H*]

Lyle DB et al, (1997) Intracellular calcium signaling by Jurkat T-lymphocytes exposed to a 60 Hz magnetic field, Bioelectromagnetics. 1997;18(6):439-45. [H-]

Lyskov E et al, (November 2001) Int J Psychophysiol. 2001 Nov;42(3):233-41, Int J Psychophysiol. 2001 Nov;42(3):233-41. [H+]

Lyskov E et al, (October 2001) Provocation study of persons with perceived electrical hypersensitivity and controls using magnetic field exposure and recording of electrophysiological characteristics, Bioelectromagnetics. 2001 Oct;22(7):457-62 [H+]

Madhukara, J., Kumaran, M.S. & Abraham, A. (2008) Cell phone dermatitis. Indian Journal of Dermatology, Venereology and Leprology, 74, 500–501. [H+]

Mailankot M et al, (2009) Radio frequency electromagnetic radiation (RF-EMR) from GSM (0.9/1.8GHz) mobile phones induces oxidative stress and reduces sperm motility in rats, Clinics (Sao Paulo). 2009;64(6):561-5. [View [W+]

Malagoli C et al, (March 2010) Risk of hematological malignancies associated with magnetic fields exposure from power lines: a case-control study in two municipalities of northern Italy, Environ Health. 2010 Mar 30;9:16 [View Comments and Link [H+]

Manti L et al, (May 2008) Effects of Modulated Microwave Radiation at Cellular Telephone Frequency (1.95 GHz) on X-Ray-Induced Chromosome Aberrations in Human Lymphocytes In Vitro, Radiat Res. 2008 May;169(5):575-83. [[H+]

Manucy, T.K., Bennett, R.A., Greenacre, C.B., Roberts, R.E., Schumacher, J. & Sharon, L.D. (1998) Squamous Cell Carcinoma of the Mandibular Beak in a Buffon?s Macaw (Ara ambigua). Journal of Avian Medicine and Surgery, 12, 158-166. [H*]

Manville, A.M. (2008) Towers, turbines, power lines, and buildings—steps being taken by the US Fish and Wildlife Service to avoid or minimize take of migratory birds at these structures. Tundra to tropics: connecting birds, habitats and people. Proceedings of the 4th International Partners in Flight Conference p. 13–16. [B+]

Mariucci G et al, (August 2010) Brain DNA damage and 70-kDa heat shock protein expression in CD1 mice exposed to extremely low frequency magnetic fields, Int J Radiat Biol. 2010 Aug;86(8):701-10. [W+]

Markova E et al, (September 2005) Microwaves from GSM mobile telephones affect 53BP1 and gamma-H2AX foci in human lymphocytes from hypersensitive and healthy persons, Environ Health Perspect. 2005 Sep;113(9):1172-7. [V [H+]

Martínez, A.B. (2003) The effects of microwave radiation on the wildlife. Preliminary results. [W+]

Maskarinec G et al, (1994) Investigation of increased incidence in childhood leukemia near radio towers in Hawaii: preliminary observations, J Environ Pathol Toxicol Oncol. 1994;13(1):33-7. [H+]

Maskey D et al, (February 2010) Effect of 835 MHz radiofrequency radiation exposure on calcium binding proteins in the hippocampus of the mouse brain, Brain Res. 2010 Feb 8;1313:232-41. Epub 2009 Dec 5. [View on Pubmed [W+]

Maskey D et al, (July 2010) Chronic 835-MHz radiofrequency exposure to mice hippocampus alters the distribution of calbindin and GFAP immunoreactivity, Brain Res. 2010 Jul 30;1346:237-46. Epub 2010 Jun 17. [View on Pub [W+]

Maslanyj MP et al, (August 2005) Investigation and Identification of Sources of Residential Magnetic Field Exposures in the United Kingdom Childhood Cancer Study (UKCCS), HPA-RPD-005 - ISBN 0 85951 564 8. [H*]

Maslanyj MP et al, (March 2007) Investigation of the sources of residential power frequency magnetic field exposure in the UK Childhood Cancer Study, J Radiol Prot. 2007 Mar;27(1):41-58. [H*]

Masuda H et al, (July 2009) Effects of 915 MHz electromagnetic-field radiation in TEM cell on the blood-brain barrier and neurons in the rat brain, Radiat Res. 2009 Jul;172(1):66-73. [W-]

Mathur R, (2008) Effect of chronic intermittent exposure to AM radiofrequency field on responses to various types of noxious stimuli in growing rats, Electromagn Biol Med. 2008;27(3):266-76. [W+]

Matronchik AY, Belyaev IY et al, (2008) Mechanism for combined action of microwaves and static magnetic field: slow non uniform rotation of charged nucleoid, Electromagn Biol Med. 2008;27(4):340-54. [H+]

Mazor R et al, (January 2008) Increased levels of numerical chromosome aberrations after in vitro exposure of human peripheral blood lymphocytes to radiofrequency electromagnetic fields for 72 hours, Radiat Res. 2008 Jan;169(1):28-37 [View Com [H+]

McBride ML et al, (May 1999) Power-frequency electric and magnetic fields and risk of childhood leukemia in Canada, Am J Epidemiol. 1999 May 1;149(9):831-42. [H-]

McCann J et al, (August 1998) The genotoxic potential of electric and magnetic fields: an update, Mutat Res. 1998 Aug;411(1):45-86. [H*]

McCann J et al, (July 1993) A critical review of the genotoxic potential of electric and magnetic fields, Mutat Res. 1993 Jul;297(1):61-95. [H-]

McIntosh RL, Anderson V, (September 2010) SAR versus S(inc): What is the appropriate RF exposure metric in the range 1-10 GHz? Part II: Using complex human body models, [H*]

McMahan S et al, (January 1994) Depressive symptomatology in women and residential proximity to high-voltage transmission lines, Am J Epidemiol. 1994 Jan 1;139(1):58-63. [H-]

McNamee DA et al, (February 2009) A literature review: the cardiovascular effects of exposure to extremely low frequency electromagnetic fields, Int Arch Occup Environ Health. 2009 Feb 17. [Epub ahead of print]. [View [H*]

McNamee JP, Chauhan V., (September 2009) Radiofrequency radiation and gene/protein expression: a review, Radiat Res. 2009 Sep;172(3):265-87. [H*]

McQuade JM et al, (May 2009) Radiofrequency-radiation exposure does not induce detectable leakage of albumin across the blood-brain barrier, Radiat Res. 2009 May;171(5):615-21. [H-]

Mee T et al, (April 2009) Occupational exposure of UK adults to ELF magnetic fields, Occup Environ Med. 2009 Apr 20. [Epub ahead of print]. [H*]

Meo SA, Al-Drees AM, (2005) Mobile phone related-hazards and subjective hearing and vision symptoms in the Saudi population, Int J Occup Med Environ Health. 2005;18(1):53-7. [H+]

Meo, S.A. & Al Dreess, A.M. (2005) Mobile phone related hazards and subjective hearing and vision symptoms in the Saudi population. International Journal of Occupational Medicine and Environmental Health, 18, 45-49. [H+]

Meral I et al, (September 2007) Effects of 900-MHz electromagnetic field emitted from cellular phone on brain oxidative stress and some vitamin levels of guinea pigs, Brain Res. 2007 Sep 12;1169:120-4. Epub 2007 Jul 17 [View Comments and Links [W+]

Merzenich H et al, (October 2008) Childhood Leukemia in Relation to Radio Frequency Electromagnetic Fields in the Vicinity of TV and Radio Broadcast Transmitters, Am J Epidemiol. 2008 Oct 3. [Epub ahead of print]. [Vie [H-]

Michaelis J et al, (January 1998) Combined risk estimates for two German population-based case-control studies on residential magnetic fields and childhood acute leukemia, Epidemiology. 1998 Jan;9(1):92-4.. [View on Pu [H+]

Michaelis J et al, (March 1997) Childhood leukemia and electromagnetic fields: results of a population-based case-control study in Germany, Cancer Causes Control. 1997 Mar;8(2):167-74. [H+]

Michelozzi P et al, (June 2002) Adult and childhood leukemia near a high-power radio station in Rome, Italy, Am J Epidemiol. 2002 Jun 15;155(12):1096-103. [H+]

Michelozzi P et al, (November 2001) Leukemia mortality and incidence of infantile leukemia near the Vatican Radio Station of Rome, Epidemiol Prev. 2001 Nov-Dec;25(6):249-55. [H+]

Mild KH et al, (2007) Pooled analysis of two Swedish case-control studies on the use of mobile and cordless telephones and the risk of brain tumours diagnosed during 1997-2003, Int J Occup Saf Ergon. 2007;13(1):63-71. [H+]

Mild KH et al, (April 2009) Background ELF magnetic fields in incubators: A factor of importance in cell culture work, Cell Biol Int. 2009 Apr 23. [Epub ahead of print]. [H*]

Milham S, (November 2009) Most cancer in firefighters is due to radio-frequency radiation exposure not inhaled carcinogens, Med Hypotheses. 2009 Nov;73(5):788-9. Epub 2009 May 22. [H*]

Milham S, Morgan LL, (May 2008) A new electromagnetic exposure metric: High frequency voltage transients associated with increased cancer incidence in teachers in a california school, Am J Ind Med. 2008 May 29. [Epub ahead of print] [View Comm [H+]

Milham S, Ossiander EM, (March 2001) Historical evidence that residential electrification caused the emergence of the childhood leukemia peak, Med Hypotheses. 2001 Mar;56(3):290-5. [H+]

Milham, S. (2009) Most cancer in firefighters is due to radio-frequency radiation exposure not inhaled carcinogens. Medical hypotheses, 73, 788–789. [H+]

Miller SC, Furniss MJ, (December 1998) Bruton's tyrosine kinase activity and inositol 1,4,5-trisphosphate production are not altered in DT40 lymphoma B cells exposed to power line frequency magnetic fields, J Biol Chem. 1998 Dec 4;273(49):3261 [H+]

Misra, A. & Gupta, D.C. (2007) Microwave and EMR Pollution Due to Mobile Towers and Mobile Phones [H+]

Mixson, T.A., Abramson, C.I., Nolf, S.L., Johnson, G.A., Serrano, E. & Wells, H. (2009) Effect of GSM Cellular Phone Radiation on the Behavior of Honey Bees (Apis mellifera). Science Of Bee Culture, 22. [Es-]

Miyakoshi J et al, (February 2000) Suppression of heat-induced HSP-70 by simultaneous exposure to 50 mT magnetic field, Life Sci. 2000 Feb 18;66(13):1187-96. [H+]

Miyakoshi J, (February 2005) Effects of static magnetic fields at the cellular level, Prog Biophys Mol Biol. 2005 Feb-Apr;87(2-3):213-23. [H+]

Mohammadi, S., Taghavi-Dehaghani, M., Gharaati, M.R., Masoomi, R. & Ghiassi-Nejad, M. (2006) Adaptive response of blood lymphocytes of inhabitants residing in high background radiation areas of ramsar-micronuclei, apoptosis and comet assays. Journal of radiation research, 609140008. [H+]

Morabito C et al, (February 2010) Modulation of redox status and calcium handling by extremely low frequency electromagnetic fields in C2C12 muscle cells: A real-time, single-cell approach, Free Radic Biol Med. 2010 Feb 15;48(4):579-89. Epub 2 [H+]

Morgan LL, (April 2009) Estimating the risk of brain tumors from cellphone use: Published case-control studies, Pathophysiology. 2009 Apr 6. [Epub ahead of print]Click here to read. [H+]

Morgan RW et al, (March 2000) Radiofrequency exposure and mortality from cancer of the brain and lymphatic/hematopoietic systems, Epidemiology. 2000 Mar;11(2):118-27. [H-]

Morgan, L.L. (2006) Mobile phone use and risk of glioma in adults: Study has many flaws. British Medical Journal, 332, 1035. [H+]

Mortazavi SM et al, (May 2007) Prevalence of subjective poor health symptoms associated with exposure to electromagnetic fields among university students, Bioelectromagnetics. 2007 May;28(4):326-30. [H-]

Moszczynski P et al, (1999) The effect of various occupational exposures to microwave radiation on the concentrations of immunoglobulins and T lymphocyte subsets, Wiad Lek. 1999;52(1-2):30-4. [H+]

Moulder JE, (1998) Power-frequency fields and cancer, Crit Rev Biomed Eng. 1998;26(1-2):1-116. [H*]

Mousavy SJ et al, (April 2009) Effects of mobile phone radiofrequency on the structure and function of the normal human hemoglobin, Int J Biol Macromol. 2009 Apr 1;44(3):278-85. [H+]

Mousavy, S.J., Riazi, G.H., Kamarei, M., Aliakbarian, H., Sattarahmady, N., Sharifizadeh, A., Safarian, S., Ahmad, F. & Moosavi-Movahedi, A.A. (2009) Effects of mobile phone radiofrequency on the structure and function of the normal human hemoglobin. International journal of biological macromolecules, 44, 278-285. [H+]

Mudie, N.Y., Gusev, B.I., Pivina, L.M., Schoemaker, M.J., Rijinkova, O.N., Apsalikov, K.N. & Swerdlow, A.J. (2007) Sex Ratio in the Offspring of Parents with Chronic Radiation Exposure from Nuclear Testing in Kazakhstan. Radiation research, 168, 600-607. [H+]

Munshi, A. & Jalali, R. (2002) Cellular phones and their hazards: the current evidence. The National medical journal of India, 15, 275-277. [H+]

Murphy JC et al, (March 1993) International Commission for Protection Against Environmental Mutagens and Carcinogens. Power frequency electric and magnetic fields: a review of genetic toxicology, Mutat Res. 1993 Mar;296(3):221-40 [View Comment [H*]

Muscat JE et al, (April 2002) Handheld cellular telephones and risk of acoustic neuroma, Neurology. 2002 Apr 23;58(8):1304-6. [H-]

Muscat JE et al, (December 2000) Handheld cellular telephone use and risk of brain cancer, JAMA. 2000 Dec 20;284(23):3001-7. [H-]

Myers A et al, (December 1990) Childhood cancer and overhead powerlines: a case-control study, Br J Cancer. 1990 Dec;62(6):1008-14. [H-]

Myung SK et al, (November 2009) Mobile phone use and risk of tumors: a meta-analysis, J Clin Oncol. 2009 Nov 20;27(33):5565-72. Epub 2009 Oct 13. [H+]

Nagle, J.C. (2009) ESSAY: CELL PHONE TOWERS AS VISUAL POLLUTION. ND JL Ethics & Pub Pol?y, 23, 537–673. [H*]

Narayanan SN et al, (May 2010) Effect of radio-frequency electromagnetic radiations (RF-EMR) on passive avoidance behaviour and hippocampal morphology in Wistar rats, Ups J Med Sci. 2010 May;115(2):91-6. [View on Pubme [W+]

Navarro EA et al, (December 2003) The Microwave Syndrome: A Preliminary Study in Spain, Electromagn Biol Med 22(2-3): 161-169. [H+]

Navarro, E.A., Segura, J., Portolés, M. & Gómez-Perretta de Mateo, C. (2003) The microwave syndrome: a preliminary study in Spain. Electromagnetic biology and medicine, 22, 161–169. [H+]

Navas-Acien A et al, (December 2002) Interactive effect of chemical substances and occupational electromagnetic field exposure on the risk of gliomas and meningiomas in Swedish men, Cancer Epidemiol Biomarkers Prev. 2002 Dec;11(12):1678-83 [Vi [H*]

Nicholls, B. & Racey, P.A. (2007) Bats avoid radar installations: Could electromagnetic fields deter bats from colliding with wind turbines. PloS One, 2, e297. [H+]

Nieto-Hernandez R et al, (November 2008) Can evidence change belief? Reported mobile phone sensitivity following individual feedback of an inability to discriminate active from sham signals, J Psychosom Res. 2008 Nov;65(5):453-60 [View Comment [H*]

Nikolova T et al, (October 2005) Electromagnetic fields affect transcript levels of apoptosis-related genes in embryonic stem cell-derived neural progenitor cells, FASEB J. 2005 Oct;19(12):1686-8. [H+]

Nittby H et al, (2008) Radiofrequency and extremely low-frequency electromagnetic field effects on the blood-brain barrier, Electromagn Biol Med. 2008;27(2):103-26. [H+]

Nittby H et al, (August 2009) Increased blood-brain barrier permeability in mammalian brain 7 days after exposure to the radiation from a GSM-900 mobile phone, Pathophysiology. 2009 Aug;16(2-3):103-12. Epub 2009 Apr 2. [W+]

Nittby H et al, (November 2007) Cognitive impairment in rats after long-term exposure to GSM-900 mobile phone radiation, Bioelectromagnetics. 2007 Nov 28 [Epub ahead of print]. [W+]

Nittby, H., Brun, A., Eberhardt, J., Malmgren, L., Persson, B.R.R. & Salford, L.G. (2009) Increased blood-brain barrier permeability in mammalian brain 7 days after exposure to the radiation from a GSM-900 mobile phone. Pathophysiology, 16, 103–112. [H+]

Noonan CW et al, (February 2002) Occupational exposure to magnetic fields in case-referent studies of neurodegenerative diseases, Scand J Work Environ Health. 2002 Feb;28(1):42-8. [H+]

Novikov VV et al, (March 2009) Effect of weak combined static and extremely low-frequency alternating magnetic fields on tumor growth in mice inoculated with the Ehrlich ascites carcinoma, Bioelectromagnetics. 2009 Mar 6. [Epub ahead of print] [W+]

Ntzouni, M.P., Stamatakis, A., Stylianopoulou, F. & Margaritis, L.H. (2010) Short-term memory in mice is affected by mobile phone radiation. Pathophysiology. [W+]

Nylund R, Leszcynski D, (September 2006) Mobile phone radiation causes changes in gene and protein expression in human endothelial cell lines and the response seems to be genome- and proteome-dependent, Proteomics 2006 Sep;6(17):4769-80 [View [H+]

O'Sullivan, J. (2009) Electromagnetic Photon Waves. [H*]

Oberfeld G et al, (October 2004) The Microwave Syndrome - Further Aspects of a Spanish Study, Conference Proceedings. [H+]

Oberfeld, G., Enrique, N.A., Manuel, P., Ceferino, M. & Claudio, G.P. (2004) The Microwave Syndrome: Further Aspects of a Spanish Study. Presented at an International Conference in Kos (Greece) [H+]

Oberto G et al, (September 2007) Carcinogenicity study of 217 Hz pulsed 900 MHz electromagnetic fields in Pim1 transgenic mice, Radiat Res. 2007 Sep;168(3):316-26. [W-]

O'Connor RP et al, (July 2010) Exposure to GSM RF fields does not affect calcium homeostasis in human endothelial cells, rat pheocromocytoma cells or rat hippocampal neurons, PLoS One. 2010 Jul 27;5(7):e11828. [View on [H-]

Odaci E et al, (August 2008) Effects of prenatal exposure to a 900 Mhz electromagnetic field on the dentate gyrus of rats: a stereological and histopathological study, Brain Res. 2008 Aug 16. [Epub ahead of print]. [Vi [W+]

Oftedal G et al, (May 2000) Symptoms experienced in connection with mobile phone use, Occup Med (Lond). 2000 May;50(4):237-45. [H+]

Oftedal G et al, (May 2007) Mobile phone headache: a double blind, sham-controlled provocation study, Cephalalgia. 2007 May;27(5):447-55. [H-]

Oktay MF, Dasdag S, (2006) Effects of intensive and moderate cellular phone use on hearing function, Electromagn Biol Med. 2006;25(1):13-21. [H+]

Oktem F et al, (July 2005) Oxidative damage in the kidney induced by 900-MHz-emitted mobile phone: protection by melatonin, Arch Med Res. 2005 Jul-Aug;36(4):350-5. [H+]

Okudan N et al, (2010) Effects of long-term 50 Hz magnetic field exposure on the micro nucleated polychromatic erythrocyte and blood lymphocyte frequency and argyrophilic nucleolar organizer regions in lymphocytes of mice, Neuro Endocrinol Let [W-]

Okudan N et al, (2010) Effects of long-term 50 Hz magnetic field exposure on the micro nucleated polychromatic erythrocyte and blood lymphocyte frequency and argyrophilic nucleolar organizer regions in lymphocytes of mice, Neuro Endocrinol Let [W-]

Olsen JH et al, (October 1993) Residence near high voltage facilities and risk of cancer in children, BMJ. 1993 Oct 9;307(6909):891-5. [H+]

Oral B et al, (November 2006) Endometrial apoptosis induced by a 900-MHz mobile phone: preventive effects of vitamins E and C, Adv Ther. 2006 Nov-Dec;23(6):957-73. [H+]

Orendacova J et al, (March 2009) Immunohistochemical Study of Postnatal Neurogenesis After Whole-body Exposure to Electromagnetic Fields: Evaluation of Age- and Dose-Related Changes in Rats, Cell Mol Neurobiol. 2009 Mar 21. [Epub ahead of prin [H+]

Orjan, H. (2007) Radio, TV towers linked to increased risk of melanoma, www.foodconsumer.org ——————————————————————————————————— [H+]

Oschman, J.L. (2005) Energy and the healing response. Journal of Bodywork and Movement Therapies, 9, 3-15. [H+]

others. (2009) Acute myeloid leukemia following radioactive iodine therapy for papillary carcinoma of the thyroid. Turkish Journal of Hematology, 26, 97-99. [H+]

Otitoloju AA et al, (October 2009) Preliminary study on the induction of sperm head abnormalities in mice, Mus musculus, exposed to radiofrequency radiations from global system for mobile communication base stations, Bull Environ Contam Toxico [W+]

Ouellet-Hellstrom R, Stewart WF, (November 1993) Miscarriages among female physical therapists who report using radio- and microwave-frequency electromagnetic radiation, Am J Epidemiol. 1993 Nov 15;138(10):775-86. [Vie [H+]

Ozguner F et al, (August 2005) Comparative analysis of the protective effects of melatonin and caffeic acid phenethyl ester (CAPE) on mobile phone-induced renal impairment in rat, Mol Cell Biochem. 2005 Aug;276(1-2):31-7 [View Comments and Lin [W+]

Ozguner F et al, (September 2004) Prevention of mobile phone induced skin tissue changes by melatonin in rat: an experimental study, Toxicol Ind Health. 2004 Sep;20(6-10):133-9. [W+]

Paglialonga A et al, (May 2008) Analysis of time-frequency fine structure of transiently evoked otoacoustic emissions to study the effects of exposure to GSM radiofrequency fields, J Acoust Soc Am. 2008 May;123(5):3855 [View Comments and Links [H-]

Palumbo R et al, (September 2008) Exposure to 900 MHz Radiofrequency Radiation Induces Caspase 3 Activation in Proliferating Human Lymphocytes, Radiat Res. 2008 Sep;170(3):327-34. [H+]

Panagopoulos D et al, (2004) Effect of GSM 900-MHz Mobile Phone radiation on the reproductive capacity of Drosophila melanogaster, Electromagn Biol Med 23(1): 29-43. [W+]

Panagopoulos D et al, (January 2007) Cell death induced by GSM 900-MHz and DCS 1800-MHz mobile telephony radiation, Mutat Res. 2007 Jan 10;626(1-2):69-78. [H+]

Panagopoulos DJ, Margaritis LH, (May 2010) The identification of an intensity 'window' on the bioeffects of mobile telephony radiation, Int J Radiat Biol. 2010 May;86(5):358-66. [H+]

Panda NK et al, (February 2010) Audiologic disturbances in long-term mobile phone users, J Otolaryngol Head Neck Surg. 2010 Feb 1;39(1):5-11. [H+]

Papageorgiou CC et al, (April 2006) Acute mobile phone effects on pre-attentive operation, Neurosci Lett. 2006 Apr 10-17;397(1-2):99-103. [H+]

Park SK et al, (August 2004) Ecological study on residences in the vicinity of AM radio broadcasting towers and cancer death: preliminary observations in Korea, Int Arch Occup Environ Health. 2004 Aug;77(6):387-94. [Vi [H+]

Pathak, C.M., Avti, P.K., KUMAR, S., Khanduja, K.L. & Sharma, S.C. (2007) Whole body exposure to low-dose gamma radiation promotes kidney antioxidant status in Balb/c mice. Journal of radiation research, 703020009. [H+]

Patruno A et al, (October 2009) Extremely low frequency electromagnetic fields modulate expression of inducible nitric oxide synthase, endothelial nitric oxide synthase and cyclooxygenase-2 in the human keratinocyte cell line HaCat: potential [H+]

Pattazhy, S. Electromagnetic Radiation (EMR) Clashes With Honeybees. [Es+]

Pavicic I, Trosic I, (August 2008) In vitro testing of cellular response to ultra high frequency electromagnetic field radiation, Toxicol In Vitro. 2008 Aug;22(5):1344-8. [H+]

Pearce MS et al, (September 2007) Paternal occupational exposure to electro-magnetic fields as a risk factor for cancer in children and young adults: a case-control study from the North of England, Pediatr Blood Cancer. 2007 Sep;49(3):280-6 [V [H+]

Perentos N et al, (2008) The effect of GSM-like ELF radiation on the alpha band of the human resting EEG, Conf Proc IEEE Eng Med Biol Soc. 2008;2008:5680-3. [H+]

Perez FP et al, (April 2008) Electromagnetic field therapy delays cellular senescence and death by enhancement of the heat shock response, Exp Gerontol. 2008 Apr;43(4):307-16. [H+]

Perez-Castejon C et al, (December 2009) Exposure to ELF-pulse modulated X band microwaves increases in vitro human astrocytoma cell proliferation, Histol Histopathol. 2009 Dec;24(12):1551-61. [H+]

Perez-Castejon C et al, (December 2009) Exposure to ELF-pulse modulated X band microwaves increases in vitro human astrocytoma cell proliferation, Histol Histopathol. 2009 Dec;24(12):1551-61. [H+]

Perry S et al, (May 1989) Power frequency magnetic field; depressive illness and myocardial infarction, Public Health. 1989 May;103(3):177-80. [H+]

Persinger MA, (2006) A potential multiple resonance mechanism by which weak magnetic fields affect molecules and medical problems: the example of melatonin and experimental "multiple sclerosis", Med Hypotheses. 2006;66(4):811-5 [View Comments [H+]

Petersen, R.C. (1983) Bioeffects of microwaves: a review of current knowledge. Journal of Occupational and Environmental Medicine, 25, 103. [H+]

Petridou E et al, (November 1997) Electrical power lines and childhood leukemia: a study from Greece, Int J Cancer. 1997 Nov 4;73(3):345-8. [H-]

Peyman A et al, (June 2009) Evaluation Of Exposure Of School Children To Electromagnetic Fields From Wireless Computer Networks (Wi-Fi): Phase 1 Laboratory Measurements,. [H*]

Phillips JL et al, (March 2009) Electromagnetic fields and DNA damage, Pathophysiology. 2009 Mar 3. [Epub ahead of print]. [H+]

Phillips JL et al, (September 1992) Magnetic field-induced changes in specific gene transcription, Biochim Biophys Acta. 1992 Sep 24;1132(2):140-4. [H+]

Pipkin JL et al, (September 1999) Induction of stress proteins by electromagnetic fields in cultured HL-60 cells, Bioelectromagnetics. 1999 Sep;20(6):347-57. [H+]

Pokorny J et al, (May 2008) Biophysical aspects of cancer--electromagnetic mechanism, Indian J Exp Biol. 2008 May;46(5):310-21. [H*]

Pollan M et al, (March 2001) Breast cancer, occupation, and exposure to electromagnetic fields among Swedish men, Am J Ind Med. 2001 Mar;39(3):276-85. [H-]

Poole C et al, (February 1993) Depressive symptoms and headaches in relation to proximity of residence to an alternating-current transmission line right-of-way, Am J Epidemiol. 1993 Feb 1;137(3):318-30. [View on Pubmed [H+]

Poulletier de Gannes F et al, (September 2008) Amyotrophic Lateral Sclerosis (ALS) and extremely-low frequency (ELF) magnetic fields: a study in the SOD-1 transgenic mouse model, Amyotroph Lateral Scler. 2008 Sep 1:1-4. [Epub ahead of print]CI [H-]

Pourlis AF, (March 2009) Reproductive and developmental effects of EMF in vertebrate animal models, Pathophysiology. 2009 Mar 7. [Epub ahead of print]. [H+]

Pourlis, A.F. (2009) Reproductive and developmental effects of EMF in vertebrate animal models. Pathophysiology, 16, 179-189. [W+]

Preece AW et al, (2005) Effect of 902 MHz mobile phone transmission on cognitive function in children, Bioelectromagnetics Suppl 7 S138-43. [H+]

Preece AW et al, (June 2007) Health response of two communities to military antennae in Cyprus, Occup Environ Med. 2007 Jun;64(6):402-8. [H+]

Preece, A. (2003) Mobile Phones and Cognitive Function. Electromagnetic environments and health in building, 405. [H+]

Preece, A.W., Georgiou, A.G., Dunn, E.J. & Farrow, S.C. (2007) Health response of two communities to military antennae in Cyprus. Occupational and environmental medicine, 64, 402. [H+]

Prihoda TJ, (March 2009) Genetic damage in mammalian somatic cells exposed to extremely low frequency electro-magnetic fields: A meta-analysis of data from 87 publications (1990-2007), Int J Radiat Biol. 2009 Mar;85(3):196-213 [View Comments a [W+]

Prisco MG et al, (December 2008) Effects of GSM-modulated radiofrequency electromagnetic fields on mouse bone marrow cells, Radiat Res. 2008 Dec;170(6):803-10. [W-]

Ragbetli MC et al, (July 2010) The effect of mobile phone on the number of Purkinje cells: a stereological study, Int J Radiat Biol. 2010 Jul;86(7):548-54. [H+]

Rajaei F et al, (January 2010) Effects of extremely low-frequency electromagnetic field on fertility and heights of epithelial cells in pre-implantation stage endometrium and fallopian tube in mice, Zhong Xi Yi Jie He Xue Bao. 2010 Jan;8(1):56 [W+]

Rajkovic V et al, (August 2010) Studies on the synergistic effects of extremely low-frequency magnetic fields and the endocrine-disrupting compound atrazine on the thyroid gland, Int J Radiat Biol. 2010 Aug 10. [Epub ahead of print] [View Comm [H-]

Rajkovic V et al, (July 2005) Histological characteristics of cutaneous and thyroid mast cell populations in male rats exposed to power-frequency electromagnetic fields, Int J Radiat Biol. 2005 Jul;81(7):491-9. [View o [W+]

Rajkovic V et al, (November 2005) The effect of extremely low-frequency electromagnetic fields on skin and thyroid amine- and peptide-containing cells in rats: an immunohistochemical and morphometrical study, Environ Res. 2005 Nov;99(3):369-77 [W+]

Rajkovic V et al, (September 2006) Light and electron microscopic study of the thyroid gland in rats exposed to power-frequency electromagnetic fields, J Exp Biol. 2006 Sep;209(Pt 17):3322-8. [W+]

Rao VS et al, (March 2008) Nonthermal effects of radiofrequency-field exposure on calcium dynamics in stem cell-derived neuronal cells: elucidation of calcium pathways, Radiat Res. 2008 Mar;169(3):319-29. [View on Pubm [H+]

Ravindra T et al, (December 2006) Melatonin in pathogenesis and therapy of cancer, Indian J Med Sci. 2006 Dec;60(12):523-35. [H*]

Redmayne M et al, (April 2010) Cordless telephone use: implications for mobile phone research, J Environ Monit. 2010 Apr 9;12(4):809-12. Epub 2010 Feb 2. [H*]

Reeves GI, (March 2000) Review of extensive workups of 34 patients overexposed to radiofrequency radiation, Aviat Space Environ Med. 2000 Mar;71(3):206-15. [H*]

REFLEX Report, (December 2004) Risk Evaluation of Potential Environmental Hazards From Low Frequency Electromagnetic Field Exposure Using Sensitive in vitro Methods, A project funded by the European Union under the programme "Quality of Life a [H+]

Reichmanis M et al, (1979) Relation between suicide and the electromagnetic field of overhead power lines, Physiol Chem Phys. 1979;11(5):395-403. [H+]

Reif JS et al, (August 2005) Human responses to Residential RF exposure, 2 RO1 ES0008117-04. [H+]

Reif JS et al, (February 1995) Residential exposure to magnetic fields and risk of canine lymphoma, Am J Epidemiol. 1995 Feb 15;141(4):352-9. [H+]

Reipert BM et al, (1996) Exposure to extremely low frequency magnetic fields has no effect on growth rate or clonogenic potential of multipotential haemopoietic progenitor cells, Growth Factors. 1996;13(3-4):205-17. [V [H-]

Reiser H et al, (October 1995) The influence of electromagnetic fields on human brain activity, Eur J Med Res. 1995 Oct 16;1(1):27-32. [H+]

Remondini D et al, (September 2006) Gene expression changes in human cells after exposure to mobile phone microwaves, Proteomics 2006 Sep;6(17):4745-54. [H+]

Repacholi, M. (2009) The reality of mobile phones and cancer. The New Scientist, 204, 26–27. [H+]

Reyes-Guerrero G et al, (March 2010) Extremely low-frequency electromagnetic fields differentially regulate estrogen receptor-alpha and -beta expression in the rat olfactory bulb, Neurosci Lett. 2010 Mar 3;471(2):109-13. Epub 2010 Jan 18 [View [W+]

Rezk AY et al, (February 2008) Fetal and neonatal responses following maternal exposure to mobile phones, Saudi Med J. 2008 Feb;29(2):218-23. [H+]

Ribeiroa E et al, (January 2007) Effects of subchronic exposure to radio frquency from a conventional cellular telephone on testicular function in adult rats, J Urol 177(1): 395-399. [W-]

Richter E et al, (July 2000) Cancer in radar technicians exposed to radiofrequency/microwave radiation: sentinel episodes, Int J Occup Environ Health. 2000 Jul-Sep;6(3):187-93. [H+]

Robertson JA et al, (August 2009) Low-frequency pulsed electromagnetic field exposure can alter neuroprocessing in humans, J R Soc Interface. 2009 Aug 5. [Epub ahead of print]. [H+]

Rodriguez C et al, (January 2004) Regulation of antioxidant enzymes: a significant role for melatonin, J Pineal Res. 2004 Jan;36(1):1-9. [H*]

Rodriguez C et al, (January 2004) Regulation of antioxidant enzymes: a significant role for melatonin, J Pineal Res. 2004 Jan;36(1):1-9. [H*]

Roosli M et al, (February 2004) Symptoms of ill health ascribed to electromagnetic field exposure--a questionnaire survey, Int J Hyg Environ Health. 2004 Feb;207(2):141-50. [H*]

Roosli M, (March 2008) Radiofrequency electromagnetic field exposure and non-specific symptoms of ill health: A systematic review, Environ Res. 2008 Mar 20. [H-]

Röösli, M. (2008) Radiofrequency electromagnetic field exposure and non-specific symptoms of ill health: a systematic review. Environmental research, 107, 277–287. [H+]

Rothman KJ et al, (May 1996) Overall mortality of cellular telephone customers, Epidemiology. 1996 May;7(3):303-5. [H*]

Roux D et al, (November 2007) High frequency (900 MHz) low amplitude (5 V m(-1)) electromagnetic field: a genuine environmental stimulus that affects transcription, translation, calcium and energy charge in tomato., Planta. 2007 Nov 20 [Epub a [P+]

Rubin GJ et al, (April 2006) Are some people sensitive to mobile phone signals? Within participants double blind randomised provocation study, BMJ. 2006 Apr 15;332(7546):886-91. [H-]

Rubin GJ et al, (January 2010) Idiopathic environmental intolerance attributed to electromagnetic fields (formerly 'electromagnetic hypersensitivity'): An updated systematic review of provocation studies, Bioelectromagnetics. 2010 Jan;31(1):1- [H-]

Rubin GJ et al, (March 2005) Electromagnetic hypersensitivity: a systematic review of provocation studies, Psychosom Med. 2005 Mar-Apr;67(2):224-32. [H-]

Ruediger HW, (March 2009) Genotoxic effects of radiofrequency electromagnetic fields, Pathophysiology. 2009 Mar 12. [Epub ahead of print]. [H+]

Ruiz-Gomez MJ, Martinez-Morillo M, (2009) Electromagnetic fields and the induction of DNA strand breaks, Electromagn Biol Med. 2009;28(2):201-14. [H*]

Russo P et al, (August 2010) A numerical coefficient for evaluation of the environmental impact of electromagnetic fields radiated by base stations for mobile communications, Bioelectromagnetics. 2010 Aug 5. [Epub ahead of print] [View Comment [H*]

Sadetzki S et al, (February 2008) Cellular Phone Use and Risk of Benign and Malignant Parotid Gland Tumors A Nationwide Case-Control Study, Am J Epidemiol. 2007 Dec 6 [Epub ahead of print]. [H+]

Saffer JD, Thurston SJ, (October 1995) Short exposures to 60 Hz magnetic fields do not alter MYC expression in HL60 or Daudi cells, Radiat Res. 1995 Oct;144(1):18-25. [H-]

SAGE, (April 2007) SAGE first interim assessment: Power Lines and Property, Wiring in Homes, and Electrical Equipment in Homes,. [H+]

Sainudeen Sahib. (2011) Impact of mobile phone on the density of Honey Bees. Munis Entomology & Zoology, 6, 396-399. [Es+]

Saito T et al, (2010) Power-frequency magnetic fields and childhood brain tumors: a case-control study in Japan, J Epidemiol. 2010;20(1):54-61. Epub 2009 Nov 14. [H+]

Salama N et al, (December 2009) The mobile phone decreases fructose but not citrate in rabbit semen: a longitudinal study, Syst Biol Reprod Med. 2009 Dec;55(5-6):181-7. [W+]

Salama N et al, (March 2010) Effects of exposure to a mobile phone on sexual behavior in adult male rabbit: an observational study, Int J Impot Res. 2010 Mar;22(2):127-33. [W+]

Salford L et al, (June 2003) Nerve cell damage in mammalian brain after exposure to microwaves from GSM mobile phones, Environ Health Perspect 2003 Jun;111(7):881-3; discussion A408. [W+]

Samkange-Zeeb F et al, (May 2004) Validation of self-reported cellular phone use, J Expo Anal Environ Epidemiol. 2004 May;14(3):245-8. [H*]

Sandstrom M et al, (February 2001) Mobile phone use and subjective symptoms. Comparison of symptoms experienced by users of analogue and digital mobile phones, Occup Med (Lond). 2001 Feb;51(1):25-35. [H+]

Sandstrom M et al, (January 1997) Neurophysiological effects of flickering light in patients with perceived electrical hypersensitivity, J Occup Environ Med. 1997 Jan;39(1):15-22. [H+]

Sannino A et al, (June 2009) Human fibroblasts and 900 MHz radiofrequency radiation: evaluation of DNA damage after exposure and co-exposure to 3-chloro-4-(dichloromethyl)-5-hydroxy-2(5h)-furanone (MX), Radiat Res. 2009 Jun;171(6):743-51 [View [H-]

Sannino A et al, (June 2009) Induction of adaptive response in human blood lymphocytes exposed to radiofrequency radiation, Radiat Res. 2009 Jun;171(6):735-42. [H+]

Santini MT et al, (April 2009) Cellular effects of extremely low frequency (ELF) electromagnetic fields, Int J Radiat Biol. 2009 Apr;85(4):294-313. [H+]

Santini R et al, (July 2002) Investigation on the health of people living near mobile telephone relay stations: I/Incidence according to distance and sex, Pathol Biol (Paris) 2002 Jul;50(6):369-73. [H+]

Santini R et al, (September 2003) Symptoms experienced by people in vicinity of base stations: II/ Incidences of age, duration of exposure, location of subjects in relation to the antennas and other electromagnetic factors, Pathol Biol (Paris) [H+]

Saracci R, Samet J, (June 2010) Commentary: Call me on my mobile phone...or better not?--a look at the INTERPHONE study results, Int J Epidemiol. 2010 Jun;39(3):695-8. Epub 2010 May 17. [H*]

Sarimov R et al, (2004) Nonthermal GSM Microwaves Affect Chromatin Conformation in Human Lymphocytes Similar to Heat Shock, IEEE Trans Plasma Sci 2004; 32 (4): 1600 - 1608. [H+]

Saunders, R. (2005) Static magnetic fields: animal studies. Progress in Biophysics and Molecular Biology, 87, 225-239. [W+]

Saunders, T. (2002) The boiled frog syndrome: your health and the built environment. Academy Press. [H+]

Savitz DA et al, (February 1994) Prevalence of depression among electrical workers, Am J Ind Med. 1994 Feb;25(2):165-76. [H*]

Savitz DA et al, (July 1988) Case-control study of childhood cancer and exposure to 60-Hz magnetic fields, Am J Epidemiol. 1988 Jul;128(1):21-38. [H+]

Savitz DA et al, (October 2000) Case-cohort analysis of brain cancer and leukemia in electric utility workers using a refined magnetic field job-exposure matrix, Am J Ind Med. 2000 Oct;38(4):417-25. [H*]

Savitz, D.A. (2003) Health effects of electric and magnetic fields: Are we done yet? Epidemiology, 14, 15. [H+]

Scaringi M et al, (September 2007) Evaluation of the genotoxicity of the extremely low frequency-magnetic fields (ELF-MF) in workers exposed for professional reasons, G Ital Med Lav Ergon. 2007 Jul-Sep;29(3 Suppl):420-1 [View Comments and Link [H-]

Schilling CJ, (April 1997) Effects of acute exposure to ultrahigh radiofrequency radiation on three antenna engineers, Occup Environ Med. 1997 Apr;54(4):281-4. [H+]

Schoemaker MJ et al, (October 2005) Mobile phone use and risk of acoustic neuroma: results of the Interphone case-control study in five North European countries, Br J Cancer. 2005 Oct 3;93(7):842-8. [H+]

Schreier N et al, (2006) The prevalence of symptoms attributed to electromagnetic field exposure: a cross-sectional representative survey in Switzerland, Soz Praventivmed. 2006;51(4):202-9. [H*]

Schrottner J et al, (April 2007) Investigation of electric current perception thresholds of different EHS groups, Bioelectromagnetics. 2007 Apr;28(3):208-13. [H*]

Schuz J et al, (2009) Risks for central nervous system diseases among mobile phone subscribers: a Danish retrospective cohort study, PLoS ONE. 2009;4(2):e4389. Epub 2009 Feb 5. [H+]

Schuz J et al, (December 2006) Cellular telephone use and cancer risk: update of a nationwide Danish cohort, J Natl Cancer Inst. 2006 Dec 6;98(23):1707-13. [H-]

Schuz J et al, (July 2006) Radiofrequency electromagnetic fields emitted from base stations of DECT cordless phones and the risk of glioma and meningioma (Interphone Study Group, Germany), Radiat Res. 2006 Jul;166(1 Pt 1):116-9 [View Comments [H-]

Schuz J et al, (March 2001) Residential magnetic fields as a risk factor for childhood acute leukaemia: results from a German population-based case-control study, Int J Cancer. 2001 Mar 1;91(5):728-35. [H+]

Schuz J et al, (March 2006) Cellular phones, cordless phones, and the risks of glioma and meningioma (Interphone Study Group, Germany), Am J Epidemiol. 2006 Mar 15;163(6):512-20. [H*]

Schuz J, Ahlbom A, (October 2008) Exposure to electromagnetic fields and the risk of childhood leukaemia: a review, Radiat Prot Dosimetry. 2008 Oct 16. [Epub ahead of print]. [H*]

Schwarz C et al, (May 2008) Radiofrequency electromagnetic fields (UMTS, 1,950 MHz) induce genotoxic effects in vitro in human fibroblasts but not in lymphocytes, Int Arch Occup Environ Health. 2008 May;81(6):755-67. [[H+]

Seetharaman, R., Uthayakumar, G.S., Gurusamy, N. & Kumaravel, N. (2009) Mobile phone usage and cancer. pp. 627-632. [H+]

Seitz H et al, (October 2005) Electromagnetic hypersensitivity (EHS) and subjective health complaints associated with electromagnetic fields of mobile phone communication--a literature review published between 2000 and 2004, Sci Total Environ. [H-]

Seitz, H., Stinner, D., Eikmann, T., Herr, C. & Roosli, M. (2005) Electromagnetic hypersensitivity (EHS) and subjective health complaints associated with electromagnetic fields of mobile phone communication–a literature review published between 2000 and 2004. Science of the total environment, 349, 45–55. [H+]

Sekijima M et al, (March 2010) 2-GHz band CW and W-CDMA modulated radiofrequency fields have no significant effect on cell proliferation and gene expression profile in human cells, J Radiat Res (Tokyo). 2010;51(3):277-84. Epub 2010 Mar 9 [View [H-]

Severini M et al, (January 2010) Metamorphosis delay in Xenopus laevis (Daudin) tadpoles exposed to a 50 Hz weak magnetic field, Int J Radiat Biol. 2010 Jan;86(1):37-46. [W+]

Sharifian A et al, (May 2008) Effect of extremely low frequency magnetic field on antioxidant activity in plasma and red blood cells in spot welders., Int Arch Occup Environ Health. 2008 May 27. [H*]

Sharma VP et al, (October 2009) Mobile phone radiation inhibits Vigna radiata (mung bean) root growth by inducing oxidative stress, Sci Total Environ. 2009 Oct 15;407(21):5543-7. Epub 2009 Aug 13. [P+]

Sharma, V.P. & Kumar, N.R. (2010) Changes in honeybee behaviour and biology under the influence of cellphone radiations. Current Science, 98, 1376. [Es+]

Sharma, V.P., Singh, H.P., Kohli, R.K. & Batish, D.R. (2009) Mobile phone radiation inhibits Vigna radiata (mung bean) root growth by inducing oxidative stress. Science of The Total Environment, 407, 5543-5547. [P+]

Sheppard AR et al, (October 2008) Quantitative evaluations of mechanisms of radiofrequency interactions with biological molecules and processes, Health Phys. 2008 Oct;95(4):365-96. [H*]

Sievert, U., Eggert, S., Goltz, S. & Pau, H.W. (2007) Effects of Electromagnetic Fields Emitted by Cellular Phone on Auditory and Vestibular Labyrinth= Wirkung elektromagnetischer Felder des GSM-Mobilfunksystems auf auditives und vestibul\Ares Labyrinth und Hirnstamm*. Laryngo-, Rhino-, Otologie, 86, 264-270. [H+]

Simko M et al, (August 2001) Micronucleus induction in Syrian hamster embryo cells following exposure to 50 Hz magnetic fields, benzo(a)pyrene, and TPA in vitro, Mutat Res. 2001 Aug 22;495(1-2):43-50. [W+]

Simko M, Mattsson MO, (September 2004) Extremely low frequency electromagnetic fields as effectors of cellular responses in vitro: possible immune cell activation, J Cell Biochem. 2004 Sep 1;93(1):83-92. [View on Pubme [H+]

Sims S, Dent P, (2005) High-voltage Overhead Power Lines and Property Values: A Residential Study in the UK, Urban Studies, Vol. 42, No. 4, 665-694 (2005). [H+]

Singh B, Bate LA, (November 1996) Responses of pulmonary intravascular macrophages to 915-MHz microwave radiation: ultrastructural and cytochemical study, Anat Rec. 1996 Nov;246(3):343-55. [H+]

Sinha, A.K. (2008) Bio-social issues in health. Northern Book Centre. [H*]

Sirav B et al, (2009) Radio frequency radiation (RFR) from TV and radio transmitters at a pilot region in Turkey, Radiat Prot Dosimetry. 2009;136(2):114-7. Epub 2009 Aug 11. [H+]

Sirav B, Seyhan N, (2009) Blood-brain barrier disruption by continuous-wave radio frequency radiation, Electromagn Biol Med. 2009;28(2):215-22. [H+]

Soda A et al, (August 2008) Effect of exposure to an extremely low frequency-electromagnetic field on the cellular collagen with respect to signaling pathways in osteoblast-like cells, J Med Invest. 2008 Aug;55(3-4):267-78 [View Comments and L [H+]

Soderqvist F et al, (2010) Radiofrequency fields, transthyretin, and Alzheimer's disease, J Alzheimers Dis. 2010;20(2):599-606. [H+]

Soderqvist F et al, (April 2009) Mobile and cordless telephones, serum transthyretin and the blood-cerebrospinal fluid barrier: a cross-sectional study, Environ Health. 2009 Apr 21;8:19. [H+]

Soderqvist F et al, (August 2009) Exposure to an 890-MHz mobile phone-like signal and serum levels of S100B and transthyretin in volunteers, Toxicol Lett. 2009 Aug 25;189(1):63-6. Epub 2009 May 7. [H+]

Soeyonggo, T. & Wang, S. (2010) Cell Phones and Cancer: A Short Communication. University of Toronto Medical Journal, 87, 125. [H+]

Sokolovic D et al, (September 2008) Melatonin Reduces Oxidative Stress Induced by Chronic Exposure of Microwave Radiation from Mobile Phones in Rat Brain, J Radiat Res (Tokyo). 2008 Sep 29. [Epub ahead of print]. [View [W+]

Sommer AM et al, (January 2009) Effects of Radiofrequency Electromagnetic Fields (UMTS) on Reproduction and Development of Mice: A Multi-generation Study, Radiat Res. 2009 Jan;171(1):89-95. [W-]

Stam R, (October 2010) Electromagnetic fields and the blood-brain barrier, Brain Res Rev. 2010 Oct 5;65(1):80-97. Epub 2010 Jun 13 [H*]

Stang A et al, (January 2001) The possible role of radiofrequency radiation in the development of uveal melanoma, Epidemiology. 2001 Jan;12(1):7-12. [H+]

Stang A et al, (January 2009) Mobile phone use and risk of uveal melanoma: results of the risk factors for uveal melanoma case-control study, J Natl Cancer Inst. 2009 Jan 21;101(2):120-3. Epub 2009 Jan 13. [View on Pub [H-]

Stenberg B et al, (October 2002) Medical and social prognosis for patients with perceived hypersensitivity to electricity and skin symptoms related to the use of visual display terminals, Scand J Work Environ Health. 2002 Oct;28(5):349-57 [Vie [H+]

Stovner LJ et al, (2008) Nocebo as headache trigger: evidence from a sham-controlled provocation study with RF fields, Acta Neurol Scand Suppl. 2008;188:67-71. [H-]

St-Pierre LS et al, (April 2008) Altered blood chemistry and hippocampal histomorphology in adult rats following prenatal exposure to physiologically-patterned, weak (50-500 nanoTesla range) magnetic fields, Int J Radiat Biol. 2008 Apr;84(4):3 [W+]

Strayer D et al, (March 2003) Cell phone-induced failures of visual attention during simulated driving, J Exp Psychol Appl Mar;9(1):23-32 [H*]

Summers-Smith, J.D. (2003) The decline of the House Sparrow: a review. British Birds, 96, 439–446. [B+]

Sun W et al, (October 2010) Effects of 50-Hz magnetic field exposure on hormone secretion and apoptosis-related gene expression in human first trimester villous trophoblasts in vitro, Bioelectromagnetics. 2010 Oct;31(7):566-72 [View Comments a [H+]

Swanson J et al, (September 2006) Power-frequency electric and magnetic fields in the light of Draper *et al.* 2005, Ann N Y Acad Sci. 2006 Sep;1076:318-30. [H*]

Szmigielski S et al, (1998) Alteration of diurnal rhythms of blood pressure and heart rate to workers exposed to radiofrequency electromagnetic fields, Blood Press Monit. 1998;3(6):323-30. [H+]

Szmigielski S, (February 1996) Cancer morbidity in subjects occupationally exposed to high frequency (radiofrequency and microwave) electromagnetic radiation, Sci Total Environ. 1996 Feb 2;180(1):9-17. [H+]

Szmigielski. (2007) Influnce of radar radiation on Breeding biology of Tits (Parus sp.). Electromagnetic biology and Medicine, 26, 235-238. [B+]

Szyjkowska A et al, (October 2005) Subjective symptoms related to mobile phone use--a pilot study, Pol Merkur Lekarski. 2005 Oct;19(112):529-32. [H*]

Takahashi S et al, (March 2010) Lack of adverse effects of whole-body exposure to a mobile telecommunication electromagnetic field on the rat fetus, Radiat Res. 2010 Mar;173(3):362-72. [W-]

Takebayashi T et al, (December 2006) Mobile phone use and acoustic neuroma risk in Japan, Occup Environ Med. 2006 Dec;63(12):802-7. [H-]

Takebayashi T et al, (February 2008) Mobile phone use, exposure to radiofrequency electromagnetic field, and brain tumour: a case-control study, Br J Cancer. 2008 Feb 12;98(3):652-9. [H-]

Takebayashi, T., Varsier, N., Kikuchi, Y., Wake, K., Taki, M., Watanabe, S., Akiba, S. & Yamaguchi, N. (2008) Mobile phone use, exposure to radiofrequency electromagnetic field, and brain tumour: a case-control study. British journal of cancer, 98, 652-659. [H*]

Tamarkin L et al, (May 1982) Decreased nocturnal plasma melatonin peak in patients with estrogen receptor positive breast cancer, Science. 1982 May 28;216(4549):1003-5. [H*]

Tamarkin L et al, (November 1981) Melatonin inhibition and pinealectomy enhancement of 7,12-dimethylbenz(a)anthracene-induced mammary tumors in the rat, Cancer Res. 1981 Nov;41(11 Pt 1):4432-6. [W*]

Tanner, J.A., Romero-Sierra, C. & Davie, S.J. (1967) Non-thermal effects of microwave radiation on birds. Nature, 216, 1139. [B+]

Tanwar, V.S. (2006a) Living dangerously in Indian cities: An RF radiation pollution perspective. Proceedings of the 9th INCEMIC, p. 458–466. Bangalore. [H+]

Tattersall JE et al, (June 2001) Effects of low intensity radiofrequency electromagnetic fields on electrical activity in rat hippocampal slices, Brain Res. 2001 Jun 15;904(1):43-53. [W+]

Tekriwal, S.K. & Choudhary, M. (2010) Electro magnetic radiation: Legislative and Judicial intent. pp. 451-457. [H*]

Theriault G, Li CY, (September 1997) Risks of leukaemia among residents close to high voltage transmission electric lines, Occup Environ Med. 1997 Sep;54(9):625-8. [H+]

Thomas S et al, (February 2010) Exposure to radio-frequency electromagnetic fields and behavioural problems in Bavarian children and adolescents, Eur J Epidemiol. 2010 Feb;25(2):135-41. Epub 2009 Dec 4. [View on Pubmed [H+]

Thun-Battersby S et al, (August 1999) Exposure of Sprague-Dawley rats to a 50-Hertz, 100-microTesla magnetic field for 27 weeks facilitates mammary tumorigenesis in the 7,12-dimethylbenz[a]-anthracene model of breast cancer, Cancer Res. 1999 A [W+]

Thuroczy G et al, (2008) Exposure to 50 Hz magnetic field in apartment buildings with built-in transformer stations in Hungary, Radiat Prot Dosimetry. 2008;131(4):469-73. Epub 2008 Jul 30. [H*]

Tikhonova GI et al, (September 2003) Remote effects of occupational and non-occupational exposure to electromagnetic fields of power-line frequency. Epidemiological studies, Radiats Biol Radioecol. 2003 Sep-Oct;43(5):555-8 [View Comments and L [H*]

Tkalec M et al, (November 2008) Effects of radiofrequency electromagnetic fields on seed germination and root meristematic cells of Allium cepa L, Mutat Res. 2008 Nov 5. [Epub ahead of print]. [P+]

Tomenius L, (1986) 50-Hz electromagnetic environment and the incidence of childhood tumors in Stockholm County, Bioelectromagnetics. 1986;7(2):191-207. [H+]

Tomitsch J et al, (April 2010) Survey of electromagnetic field exposure in bedrooms of residences in lower Austria, Bioelectromagnetics. 2010 Apr;31(3):200-8. [H*]

Tonini R et al, (November 2001) Calcium protects differentiating neuroblastoma cells during 50 Hz electromagnetic radiation, Biophys J. 2001 Nov;81(5):2580-9. [H+]

Touitou Y et al, (June 2003) Magnetic fields and the melatonin hypothesis: a study of workers chronically exposed to 50-Hz magnetic fields, Am J Physiol Regul Integr Comp Physiol. 2003 Jun;284(6):R1529-35. [View on Pub [H-]

Tuinstra R et al, (1998) Protein kinase C activity following exposure to magnetic field and phorbol ester, Bioelectromagnetics. 1998;19(8):469-76. [H+]

Tynes T et al, (March 1996) Incidence of breast cancer in Norwegian female radio and telegraph operators, Cancer Causes Control. 1996 Mar;7(2):197-204. [H+]

Tynes T et al, (May 2003) Residential and occupational exposure to 50 Hz magnetic fields and malignant melanoma: a population based study, Occup Environ Med. 2003 May;60(5):343-7. [H+]

Tynes T, Haldorsen T, (February 1997) Electromagnetic fields and cancer in children residing near Norwegian high-voltage power lines, Am J Epidemiol. 1997 Feb 1;145(3):219-26. [H-]

Tynes T, Haldorsen T, (October 2003) Residential and occupational exposure to 50 Hz magnetic fields and hematological cancers in Norway, Cancer Causes Control. 2003 Oct;14(8):715-20. [H*]

Ubeda A et al, (1994) Chick embryo development can be irreversibly altered by early exposure to weak extremely-low-frequency magnetic fields, Bioelectromagnetics. 1994;15(5):385-98. [B+]

Uckun FM et al, (November 1995) Exposure of B-lineage lymphoid cells to low energy electromagnetic fields stimulates Lyn kinase, J Biol Chem. 1995 Nov 17;270(46):27666-70. [H+]

UKCCS, (December 1999) Exposure to power-frequency magnetic fields and the risk of childhood cancer. UK Childhood Cancer Study Investigators, Lancet. 1999 Dec 4;354(9194):1925-31. [H-]

Valberg PA et al, (July 1997) Can low-level 50/60 Hz electric and magnetic fields cause biological effects?, Radiat Res. 1997 Jul;148(1):2-21. [H*]

Valberg, P.A., Kavet, R. & Rafferty, C.N. (1997) Can low-level 50/60 Hz electric and magnetic fields cause biological effects? Radiation Research, 148, 2–21. [H+]

Valbonesi P et al, (March 2008) Evaluation of HSP70 Expression and DNA Damage in Cells of a Human Trophoblast Cell Line Exposed to 1.8 GHz Amplitude-Modulated Radiofrequency Fields, Radiat Res. 2008 Mar;169(3):270-9. [[H-]

van Kleef E et al, (June 2010) Risk and benefit perceptions of mobile phone and base station technology in Bangladesh, Risk Anal. 2010 Jun;30(6):1002-15. Epub 2010 Apr 8. [H*]

van Rongen E et al, (October 2009) Effects of radiofrequency electromagnetic fields on the human nervous system, J Toxicol Environ Health B Crit Rev. 2009 Oct;12(8):572-97. [H-]

van Wijngaarden E et al, (April 2000) Exposure to electromagnetic fields and suicide among electric utility workers: a nested case-control study, Occup Environ Med. 2000 Apr;57(4):258-63. [H+]

van Wijngaarden E et al, (July 2001) Population-based case-control study of occupational exposure to electromagnetic fields and breast cancer, Ann Epidemiol. 2001 Jul;11(5):297-303. [H+]

van Wijngaarden E, (January 2003) An exploratory investigation of suicide and occupational exposure, J Occup Environ Med. 2003 Jan;45(1):96-101. [H+]

van Zwieten MJ et al, (September 1984) Differences in DMBA-induced mammary neoplastic responses in two lines of Sprague-Dawley rats, Eur J Cancer Clin Oncol. 1984 Sep;20(9):1199-204. [W*]

Vanderstraeten J, Verschaeve L, (September 2008) Gene and protein expression following exposure to radiofrequency fields from mobile phones, Environ Health Perspect. 2008 Sep;116(9):1131-5. [H*]

vanEngelsdorp, D., Hayes Jr, J., Underwood, R.M. & Pettis, J.S. (2010) A survey of honey bee colony losses in the United States, fall 2008 to spring 2009. [Es+]

VanZant, K. Does the cost of our technology become too high? Gorillas at risk from cellphones. [W+]

Velizarov S et al, (February 1999) The effects of radiofrequency fields on cell proliferation are non-thermal, Bioelectrochem Bioenerg. 1999 Feb;48(1):177-80. [H+]

Verkasalo PK et al, (December 1997) Magnetic fields of transmission lines and depression, Am J Epidemiol. 1997 Dec 15;146(12):1037-45. [H+]

Verkasalo PK et al, (October 1993) Risk of cancer in Finnish children living close to power lines, BMJ. 1993 Oct 9;307(6909):895-9. [H*]

Verloock L et al, (April 2010) Procedure for assessment of general public exposure from WLAN in offices and in wireless sensor network testbed, Health Phys. 2010 Apr;98(4):628-38. [H*]

Verschaeve L, (November 2008) Genetic damage in subjects exposed to radiofrequency radiation, Mutat Res. 2008 Nov 27. [Epub ahead of print]. [H+]

Vianale G et al, (April 2008) Extremely low frequency electromagnetic field enhances human keratinocyte cell growth and decreases proinflammatory chemokine production, Br J Dermatol. 2008 Apr 10 [Epub ahead of print]. [H+]

Viel JF et al, (August 2009) Radiofrequency exposure in the French general population: band, time, location and activity variability, Environ Int. 2009 Nov;35(8):1150-4. Epub 2009 Aug 4. [H+]

Viel JF et al, (March 2009) Residential exposure to radiofrequency fields from mobile-phone base stations, and broadcast transmitters: a population-based survey with personal meter, Occup Environ Med. 2009 Mar 30. [Epub ahead of print] [View C [H*]

Vijayalaxmi , Obe G, (July 2005) Controversial cytogenetic observations in mammalian somatic cells exposed to extremely low frequency electromagnetic radiation: a review and future research recommendations, Bioelectromagnetics. 2005 Jul;26(5): [W*]

Vijayalaxmi , Prihoda TJ, (May 2008) Genetic damage in mammalian somatic cells exposed to radiofrequency radiation: a meta-analysis of data from 63 publications (1990-2005), Radiat Res. 2008 May;169(5):561-74. [View on [W*]

Villeneuve PJ et al, (February 2002) Brain cancer and occupational exposure to magnetic fields among men: results from a Canadian population-based case-control study, Int J Epidemiol. 2002 Feb;31(1):210-7. [View on Pub [H+]

Vorobyov V et al, (May 2010) Repeated exposure to low-level extremely low frequency-modulated microwaves affects cortex-hypothalamus interplay in freely moving rats: EEG study, Int J Radiat Biol. 2010 May;86(5):376-83. [W+]

Vrijheid M et al, (April 2006) Validation of short term recall of mobile phone use for the Interphone study, Occup Environ Med. 2006 Apr;63(4):237-43. [H*]

Vrijheid M et al, (May 2008) Recall bias in the assessment of exposure to mobile phones, J Expo Sci Environ Epidemiol. 2008 May 21. [H-]

Vrijheid M et al, (May 2009) Determinants of mobile phone output power in a multinational study - implications for exposure assessment, Occup Environ Med. 2009 May 21. [Epub ahead of print]. [H*]

Wake K et al, (October 2009) The estimation of 3D SAR distributions in the human head from mobile phone compliance testing data for epidemiological studies, Phys Med Biol. 2009 Oct 7;54(19):5695-706. Epub 2009 Sep 1. [[H*]

Wakeford R, (August 2004) The cancer epidemiology of radiation, Oncogene. 2004 Aug 23;23(38):6404-28. [H*]

Wallace D et al, (January 2010) Do TETRA (Airwave) Base Station Signals Have a Short-Term Impact on Health and Well-Being? A Randomized Double-Blind Provocation Study, Environ Health Perspect. 2010 Jan 14. [Epub ahead of print] [View Comments [H-]

Walleczek J, (October 1992) Electromagnetic field effects on cells of the immune system: the role of calcium signaling, FASEB J. 1992 Oct;6(13):3177-85. [H+]

Wang B, Lai H, (January 2000) Acute exposure to pulsed 2450-MHz microwaves affects water-maze performance of rats, Bioelectromagnetics. 2000 Jan;21(1):52-6. [W+]

Wang Q et al, (July 2004) Effect of 900MHz electromagnetic fields on energy metabolism of cerebral cortical neurons in postnatal rat, Wei Sheng Yan Jiu. 2004 Jul;33(4):428-9, 432. [W+]

Wang Q et al, (July 2004) Effect of 900MHz electromagnetic fields on energy metabolism of cerebral cortical neurons in postnatal rat, Wei Sheng Yan Jiu. 2004 Jul;33(4):428-9, 432. [W+]

Wang Q et al, (March 2005) Effect of 900Mhz electromagnetic fields on energy metabolism in postnatal rat cerebral cortical neurons, Wei Sheng Yan Jiu. 2005 Mar;34(2):155-8. [W+]

Wang Q et al, (September 2005) Effect of 900 MHz electromagnetic fields on the expression of GABA receptor of cerebral cortical neurons in postnatal rats, Wei Sheng Yan Jiu. 2005 Sep;34(5):546-8. [W+]

Wang Q et al, (September 2005) Effect of 900 MHz electromagnetic fields on the expression of GABA receptor of cerebral cortical neurons in postnatal rats, Wei Sheng Yan Jiu. 2005 Sep;34(5):546-8. [W+]

Warnke, U. (2007) Bees, birds and mankind. [B+]

Warren HG et al, (April 2003) Cellular telephone use and risk of intratemporal facial nerve tumor, Laryngoscope. 2003 Apr;113(4):663-7. [H-]

Wartenberg D, (2001) Residential EMF exposure and childhood leukemia: meta-analysis and population attributable risk, Bioelectromagnetics. 2001;Suppl 5:S86-104. [H+]

Wasserman, F.E., Dowd, C., Schlinger, B.A., Byman, D., Battista, S.P. & Kunz, T.H. (1984) The effects of microwave radiation on avian dominance behavior. Bioelectromagnetics, 5, 331-339. [B+]

Wei M et al, (February 2000) Exposure to 60-Hz magnetic fields and proliferation of human astrocytoma cells in vitro, Toxicol Appl Pharmacol. 2000 Feb 1;162(3):166-76. [H+]

Wertheimer N et al, (1995) Childhood cancer in relation to indicators of magnetic fields from ground current sources, Bioelectromagnetics. 1995;16(2):86-96. [H+]

Wertheimer N, Leeper E, (March 1979) Electrical wiring configurations and childhood cancer, Am J Epidemiol. 1979 Mar;109(3):273-84. [H+]

Westerman R, Hocking B, (May 2004) Diseases of modern living: neurological changes associated with mobile phones and radiofrequency radiation in humans, Neurosci Lett. 2004 May 6;361(1-3):13-6. [H+]

Wey HE et al, (February 2000) 50-Hertz magnetic field and calcium transients in Jurkat cells: results of a research and public information dissemination (RAPID) program study, Environ Health Perspect. 2000 Feb;108(2):135-40 [View Comments and [H-]

Weyandt TB et al, (November 1996) Semen analysis of military personnel associated with military duty assignments, Reprod Toxicol. 1996 Nov-Dec;10(6):521-8 [View Comments and [H+]

WHO. (2010) WHO | What is the International EMF Project?, http://www.who.int/peh-emf/project/EMF_Project/en/index1.html [H*]

Wiart J et al, (July 2008) Analysis of RF exposure in the head tissues of children and adults, Phys Med Biol. 2008 Jul 7;53(13):3681-95. [H*]

Wiholm C et al, (September 2008) Mobile phone exposure and spatial memory, Bioelectromagnetics. 2008 Sep 15. [Epub ahead of print]. [H+]

Wijngaarden, E. van, Savitz, D.A., Kleckner, R.C., Cai, J. & Loomis, D. (2000) Exposure to Electromagnetic Fields and Suicide among Electric Utility Workers: A Nested Case-Control Study. Occupational and Environmental Medicine, 57, 258-263. [H+]

Wilen J et al, (April 2003) Subjective symptoms among mobile phone users--a consequence of absorption of radiofrequency fields?, Bioelectromagnetics. 2003 Apr;24(3):152-9. [H+]

Wilen J et al, (April 2006) Psychophysiological tests and provocation of subjects with mobile phone related symptoms, Bioelectromagnetics 2006 Apr;27(3):204-14. [H-]

Wilson BW, (1988) Chronic exposure to ELF fields may induce depression, Bioelectromagnetics. 1988;9(2):195-205. [H+]

Winker R et al, (August 2005) Chromosomal damage in human diploid fibroblasts by intermittent exposure to extremely low-frequency electromagnetic fields, Mutat Res. 2005 Aug 1;585(1-2):43-9. [H+]

Wolf R, Wolf D, (April 2004) Increased incidence of cancer near a cell-phone transmitter station, International Journal of Cancer Prevention, 1(2) April 2004. [H+]

Woods M et al, (November 2000) Lyn and syk tyrosine kinases are not activated in B-lineage lymphoid cells exposed to low-energy electromagnetic fields, FASEB J. 2000 Nov;14(14):2284-90. [H-]

Xu S et al, (October 2009) Exposure to 1800 MHz radiofrequency radiation induces oxidative damage to mitochondrial DNA in primary cultured neurons, Brain Res. 2010 Jan 22;1311:189-96. Epub 2009 Oct 30. [H+]

Yakymenko I, Sidorik E, (July 2010) Risks of carcinogenesis from electromagnetic radiation of mobile telephony devices, Exp Oncol. 2010 Jul;32(2):54-60. [H+]

Yan JG et al, (2008) Upregulation of specific mRNA levels in rat brain after cell phone exposure, Electromagn Biol Med. 2008;27(2):147-54. [W+]

Yan JG et al, (October 2007) Effects of cellular phone emissions on sperm motility in rats, Fertil Steril. 2007 Oct;88(4):957-64. Epub 2007 Jul 12. [W+]

Yang Y et al, (December 2008) Case-only study of interactions between DNA repair genes (hMLH1, APEX1, MGMT, XRCC1 and XPD) and low-frequency electromagnetic fields in childhood acute leukemia, Leuk Lymphoma. 2008 Dec;49(12):2344-50 [View Comme [H+]

Yang Y et al, (December 2008) Case-only study of interactions between DNA repair genes (hMLH1, APEX1, MGMT, XRCC1 and XPD) and low-frequency electromagnetic fields in childhood acute leukemia, Leuk Lymphoma. 2008 Dec;49(12):2344-50 [View Comme [H+]

Yao K et al, (May 2008) Effect of superposed electromagnetic noise on DNA damage of lens epithelial cells induced by microwave radiation, Invest Ophthalmol Vis Sci. 2008 May;49(5):2009-15. [H+]

Yao K et al, (May 2008) Electromagnetic noise inhibits radiofrequency radiation-induced DNA damage and reactive oxygen species increase in human lens epithelial cells, Mol Vis. 2008 May 19;14:964-9. [H+]

Yeolekar, M.E. & Sharma, A. (2004) Use of Mobile Phones in ICU-Why Not Ban? JOURNAL-ASSOCIATION OF PHYSICIANS OF INDIA, 52, 311-313. [H+]

Yildirim MS et al, (2010) Effect of mobile phone station on micronucleus frequency and chromosomal aberrations in human blood cells, Genet Couns. 2010;21(2):243-51. [H-]

Yokus B et al, (October 2008) Extremely low frequency magnetic fields cause oxidative DNA damage in rats, Int J Radiat Biol. 2008 Oct;84(10):789-95. [W+]

Yurekli A et al, (2006) GSM base station electromagnetic radiation and oxidative stress in rats, Electromagn Biol Med 25(3):177-88. [W+]

Zach, R. & Mayoh, K.R. (1982) Breeding Biology of Trees Swallows and House Wrens in a Gradient of Gamma Radiation. Ecology, 1720–1728. [B+]

Zach, R. & Mayoh, K.R. (1984b) Gamma Radiation Effects on Nestling Tree Swallows. Ecology, 65, 1641-1647. [B+]

Zach, R. & Mayoh, K.R. (1986) Gamma-radiation effects on nestling House Wrens: a field study. Radiation research, 105, 49–57. [B-]

Zach, R., Hawkins, J.L. & Sheppard, S.C. (1993) Effects of ionizing radiation on breeding swallows at current radiation protection standards. Environmental toxicology and chemistry, 12, 779–786. [B-]

Zareen N et al, (March 2009) Derangement of chick embryo retinal differentiation caused by radiofrequency electromagnetic fields, Congenit Anom (Kyoto). 2009 Mar;49(1):15-9. [B+]

Zecca L et al, (1998) Biological effects of prolonged exposure to ELF electromagnetic fields in rats: III. 50 Hz electromagnetic fields, Bioelectromagnetics. 1998;19(1):57-66. [W+]

Zhang SZ et al, (August 2008) Effect of 1.8 GHz radiofrequency electromagnetic fields on gene expression of rat neurons, Zhonghua Lao Dong Wei Sheng Zhi Ye Bing Za Zhi. 2008 Aug;26(8):449-52. [W+]

Zhao Z et al, (July 1994) The effects of radiofrequency (< 30 MHz) radiation in humans, Rev Environ Health. 1994 Jul-Dec;10(3-4):213-5. [H-]

Zhijian C et al, (January 2010) Impact of 1.8-GHz radiofrequency radiation (RFR) on DNA damage and repair induced by doxorubicin in human B-cell lymphoblastoid cells, Mutat Res. 2010 Jan;695(1-2):16-21. Epub 2009 Oct 13 [View Comments and Link [H+]

Zhou, S.A. & Uesaka, M. (2006) Bioelectrodynamics in living organisms. International Journal of Engineering Science, 44, 67-92. [H*]