



Recent scientific publications relevant to mobile telephony

October 2009

Details

Australia: Comparison Between Two Models for Interactions Between Electric and Magnetic Fields and Proteins in Cell Membranes, [Halgamuge et al., Environmental Engineering Science](#), 26(10):1473-1480, October 2009.

'...Investigations on exposure to electromagnetic have generated conflicting results both in epidemiological and laboratory studies, leaving their possible health consequences largely inconclusive...'

Austria: Survey of electromagnetic field exposure in bedrooms of residences in lower Austria, [Tomitsch et al., Bioelectromagnetics](#), Published Online: 24 Sep 2009.

'...The highest values of RF-EMFs were caused by DECT telephone base stations (max = 28979 $\mu\text{W}/\text{m}^2$) and mobile phone base stations (max = 4872 $\mu\text{W}/\text{m}^2$)...'

France: Evaluation of the Potential Biological Effects of the 60-GHz Millimeter Waves Upon Human Cells, [Zhadobov et al., IEEE Transactions on Antennas and Propagation](#), 57(10):2949-2956, Oct. 2009.

'...It was shown that millimeter-wave radiation at 60.42 GHz and with a maximum incident power density of 1 mW/cm² does not alter cell viability, gene expression, and protein conformation.'

Germany: Physicians appeals on the dangers of mobile communication – what is the evidence? Assessment of public health data, [zur Nieden et al., International Journal of Hygiene and Environmental Health](#), Available online 6 September 2009.

'...with the data available no time related increases and surely no "dramatic increase" can be identified, even if the limited comparability is considered. This analysis strongly suggests that the allegations of the quoted appeals are not supported by public health data.'

India: Fifty-gigahertz Microwave Exposure Effect of Radiations on Rat Brain, [Kesari et al., Applied Biochemistry and Biotechnology](#), 158(1):126-139, July, 2009.

'...Result shows that the chronic exposure to these radiations causes DNA double-strand break. In addition to these, PKC decreased significantly in whole brain and hippocampus... We conclude that these radiations can have a significant effect on the whole brain.'

India: Microwave Exposure Affecting Reproductive System in Male Rats, [Kesari et al., Applied Biochemistry and Biotechnology](#), Published Online: September 18, 2009.

'...Results also indicate a decrease in percentage of G2/M transition phase of cell cycle in exposed group as compared to sham exposed... We conclude that these radiations may have a significant effect on reproductive system of male rats, which may be an indication of male infertility.'

Israel: The influence of handheld mobile phones on human parotid gland secretion, [Goldwein et al., Oral Diseases](#), Published Online: 8 Sep 2009.

'...Parotid glands adjacent to handheld MPH in use respond by elevated salivary rates and decreased protein secretion...'

Italy: Transient DNA damage induced by high-frequency electromagnetic fields (GSM 1.8 GHz) in the human trophoblast HTR-8/SVneo cell line evaluated with the alkaline comet assay, [Franzellitti et al., Mutation Research/Fundamental and Molecular Mechanisms of Mutagenesis](#), Available online 12 October 2009.

'...alterations were rapidly recovered and the DNA integrity of HF-EMF exposed cells was similar to that of sham-exposed cells within 2 h of recovery in the absence irradiation. Our data suggest that HF-EMF with a carrier frequency and modulation scheme typical of the GSM signal may affect the DNA integrity.'

Nigeria: 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, [Otitoloju et al., Bulletin of Environmental Contamination and Toxicology](#), Published Online: 9 October 2009.

'...The implications of the observed increase occurrence of sperm head abnormalities on the reproductive health of humans living in close proximity to GSM base stations were discussed.'

Slovak Republic: Immunohistochemical Study of Postnatal Neurogenesis After Whole-body Exposure to Electromagnetic Fields: Evaluation of Age- and Dose-Related Changes in Rats, [Orendáčová et al., Cellular and Molecular Neurobiology](#), 29(6-7):981-990, September, 2009.

'...Our results indicate that the concerns about the possible risk of EMF generated in connection with production, transmission, distribution, and the use of electrical equipment and communication sets are justified at least with regard to early postnatal neurogenesis.'

South Africa: The effect of electromagnetic radiation in the mobile phone range on the behaviour of the rat, [Daniels et al., Metabolic Brain Disease](#), Published Online: October 13, 2009.

'...We found no significant differences in the spatial memory test, and morphological assessment of the brain also yielded non-significant differences between the groups...'

South Korea: No effects of mobile phone use on cortical auditory change-detection in children: An ERP study, [Kwon et al., Bioelectromagnetics](#), Published Online: 21 Sep 2009.

'...We found that a short exposure (two 6 min blocks for each side) to mobile phone EMF has no statistically significant effects on the neural change-detection profile measured with the MMN...'

South Korea : Mobile Phone Use and Risk of Tumors: A Meta-Analysis, [Myung et al., Journal of Clinical Oncology](#), Published Online: 13 October 2009.

'...The current study found that there is possible evidence linking mobile phone use to an increased risk of tumors from a meta-analysis of low-biased case-control studies. Prospective cohort studies providing a higher level of evidence are needed.'

Sweden: Symptoms, personality traits, and stress in people with mobile phone-related symptoms and electromagnetic hypersensitivity, [Johansson et al., Journal of Psychosomatic Research](#), Available online 30 September 2009.

'...The findings support the idea of a difference between people with symptoms related to specific EMF sources and people with general EHS with respect to symptoms and anxiety, depression, somatization, exhaustion, and stress...'

Switzerland: A model for radiofrequency electromagnetic field predictions at outdoor and indoor locations in the context of epidemiological research, [Bürqi et al., Bioelectromagnetics](#), Published Online: 15 Oct 2009.

'...Although the modeling of shielding effects by walls and roofs requires considerable simplifications of a complex environment, we found a comparable accuracy of the model for indoor and outdoor points.'

Switzerland: Prevalence of nuclear cataract in Swiss veal calves and its possible association with mobile telephone antenna base stations, [Hässig et al., Schweizer Archiv fuer Tierheilkunde](#), 151(10):471-478, October 2009.

'...It has not been shown that the antennas actually affected stress... there are a lot of other possibilities for nuclear cataract beside MPBS. Further studies on the influence of electromagnetic fields during embryonic development animal or person at risk are indicated.'

Turkey: Effect of Electromagnetic Field Induced by Radio Frequency Waves at 900 to 1800 MHz on Bone Mineral Density of Iliac Bone Wings, [Atay et al., Journal of Craniofacial Surgery](#), 20(5):1556-1560, September 2009.

'...The mean dual-energy x-ray absorptiometry values measured from group 1 were slightly lower than those from group 2, but there was no statistically significant difference between the groups ($P > 0.05$). In addition, the mean values of group 1 were not as low as those measured in osteopeny or osteoporosis cases...'

Turkey: The protective effect of caffeic acid phenethyl ester (CAPE) on oxidative stress in rat liver exposed to the 900 MHz electromagnetic field, [Koyu et al., Toxicology and Industrial Health](#), 25(6):429-434, July 1, 2009.

'...It can be concluded that CAPE may prevent the 900 MHz EMF-induced oxidative changes in liver by strengthening the antioxidant defense system by reducing reactive oxygen species and increasing antioxidant enzyme activities.'

Turkey: The cardiac effects of a mobile phone positioned closest to the heart, [Tamer et al., Anatolian Journal of Cardiology](#), 10(9):380-384, October 2009.

'...We conclude that MP has no effect on hemodynamic (heart rate, blood pressure) and cardiac electrical activity (P-wave and QT dispersions) parameters when it is positioned on the chest in immediate proximity to the heart...'

USA: Electromagnetic Field Treatment Protects Against and Reverses Cognitive Impairment in Alzheimer's Disease Mice, [Arendash, et al., Journal of Alzheimer's Disease](#), Publish Online: 11 September 2009.

'...caution should be taken in extrapolating these mouse studies to humans, we conclude that EMF exposure may represent a non-invasive, non-pharmacologic therapeutic against Alzheimer's disease and an effective memory-enhancing approach in general.'

The MMF is an international association of wireless communications manufacturers established to support scientific research in relation to mobile telephony and health www.mmfai.info

The GSM Association (GSMA) is the global trade association that exists to promote, protect and enhance the interests of GSM mobile operators throughout the world. <http://www.gsmworld.com/health>

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