



Recent scientific publications relevant to mobile telephony

October 2013

Details

China: Study of Oxidative Stress in Human Lens Epithelial Cells Exposed to 1.8 GHz Radiofrequency Fields, [Ni et al., PLoS ONE](#), 8(8):e72370, Published: August 26, 2013.

'...Oxidative stress is present in HLE B3 cells exposed to 1.8 GHz low-intensity RF and that the increased production of ROS may be related to down-regulation of four antioxidant enzyme genes induced by RF exposure.'

China: The Standard Chinese Head Building Used for Numerical Calculation of Specific Absorption Rate of Electromagnetic Radiation, [Ma et al., Advanced Materials Research](#), 791 - 793(1362-1367, September, 2013.

'...background of building a standard Chinese head, international research status, as well as the urgency of relative research and study at present in China, and discusses the key steps of the standard Chinese head building...'

France: Interference between Active Implanted Medical Devices and Electromagnetic Field Emitting Devices is Rare but Real: Results of an Incidence Study in a Population of Physicians in France, [Hours et al., Pacing and Clinical Electrophysiology](#), Published online: 13 SEP 2013.

'...Although minor, the risk of interference between EMF sources and AIMDs is real and calls for vigilance. It particularly concerns antitheft and airport security gates, though other sources may also cause incidents.'

Germany: No influence of acute RF exposure (GSM-900, GSM-1800, and UMTS) on mouse retinal ganglion cell responses under constant temperature conditions, [Ahlers et al., Bioelectromagnetics](#), Published online: 21 September 2013.

'...we conclude that RF-EMF exposure at three mobile phone frequencies (GSM-900, GSM-1800, UMTS) and SARs up to 20W/kg has no acute effects on retinal ganglion cell responses under constant temperature conditions.'

Ghana: Levels of electric field strength within the immediate vicinity of FM radio stations in Accra, Ghana, [Azah et al., Radiation Protection Dosimetry](#), 156(4):395-400, September 1, 2013.

'...values are very low and are far below the reference level set by the International Commission on Non-Ionizing Radiation Protection and therefore do not pose any known hazard to the inhabitants of Accra, Ghana...'

Iran: An update on mobile phones interference with medical devices, [Mahmoud Pashazadeh et al., Radiation Protection Dosimetry](#), 156(4):401-406, September 1, 2013.

'...besides mitigating interference, using mobile phones at a reasonable distance from medical devices and developing technology standards can lead to their effective use in hospital communication systems.'

Iran: Maternal mobile phone exposure adversely affects the electrophysiological properties of Purkinje neurons in rat offspring, [Haghani et al., Neuroscience](#), 250:588-598, 10 October 2013.

'...prenatal EMF exposure results in altered electrophysiological properties of Purkinje neurons. However, these changes may not be severe enough to alter the cerebellum-dependent functional tasks.'

Iran: Male reproductive health under threat: Short term exposure to radiofrequency radiations emitted by common mobile jammers, [Mortazavi et al., Journal of Human Reproductive Sciences](#), 6(2):124-128, 2013.

'...it can be suggested that in countries that have not banned mobile jammer use, legislations should be urgently passed to restrict the use of these signal blocking devices in public or private places.'

Israel: Cellular Phone Antenna with a Small Irradiation of the Human Head, [Levin et al., IEEE Antennas and Propagation Magazine](#), 55(4):113-127, August 2013.

'...To facilitate the field calculations in the near zone of the antennas, a method based on replacing a piecewise-homogenous medium by an equivalent homogenous medium is used. The calculations and the experimental results in the presence of the head qualitatively agreed.'

Italy: Adaptive response in human blood lymphocytes exposed to non-ionizing radiofrequency fields: resistance to ionizing radiation-induced damage, [Sannino et al., Journal of Radiation Research](#), Published online: August 26, 2013.

'...These observations thus suggested a RF-induced AR and induction of resistance to subsequent damage from XR. There was variability between the donors in RF-induced AR. The data reported in our earlier investigations also indicated a similar induction of AR in human blood lymphocytes that had been pre-exposed to RF (AD) and subsequently treated with a chemical mutagen, mitomycin C'

The Netherlands: Design of an ecological momentary assessment study of exposure to radiofrequency electromagnetic fields and non-specific physical symptoms, [Bogers et al., BMJ Open](#), 3(8): August 1, 2013.

'...The study has several advantages over previous studies, including assessment of personal EMF exposure and non-specific physical symptoms by an ecological method with a minimised chance of recall bias...some methodological issues including a high participant burden, reactivity, compliance to the study protocol and the potential of chance findings due to multiple statistical testing will be accounted for and limited as much as possible.' (CD)...

New Zealand: The relationship between adolescents' well-being and their wireless phone use: a cross-sectional study, [Redmayne et al., Environmental Health](#), 12(1):90, Published: 22 October 2013.

'...To safeguard young people's well-being, we suggest limiting their use of cellphones and cordless phones to less than 15 minutes daily, and employing a speaker-phone device for longer daily use. We recommend parental measures are taken to prevent young people being woken by their cellphones.'

Serbia: Statistical analysis of electromagnetic radiation measurements in the vicinity of GSM/UMTS base station antenna masts, [Koprivica et al., Radiation Protection Dosimetry](#), Published online: September 19, 2013.

'...the total electric field strength in the vicinity of base station antenna masts in no case exceeded 10 V m⁻¹, which is quite below the International Commission on Non-Ionizing Radiation Protection reference levels. At horizontal distances >50

m from the mast bottom, the median and maximum values were <1 and 2 V m⁻¹, respectively.'

South Korea: Association between vestibular schwannomas and mobile phone use, [Moon et al., Tumor Biology](#), Published online: 27 August 2013.

'...tumors may coincide with the more frequently used ear of mobile phones and tumor volume that showed strong correlation with amount of mobile phone use, thus there is a possibility that mobile phone use may affect tumor growth.'

Sweden: Case-control study of the association between malignant brain tumours diagnosed between 2007 and 2009 and mobile and cordless phone use, [Hardell et al., International Journal of Oncology](#), Published online: September 24, 2013.

'...confirmed previous results of an association between mobile and cordless phone use and malignant brain tumours. These findings provide support for the hypothesis that RF-EMFs play a role both in the initiation and promotion stages of carcinogenesis.'

Turkey: Recent Reports of Wi-Fi and Mobile Phone-Induced Radiation on Oxidative Stress and Reproductive Signaling Pathways in Females and Males, [Naziroglu et al., The Journal of Membrane Biology](#), 1-7, October 2013.

'...the results of current studies indicate that oxidative stress from exposure to Wi-Fi and mobile phone-induced EMR is a significant mechanism affecting female and male reproductive systems. However, there is no evidence to this date to support an increased risk of female and male infertility related to EMR exposure.'

Turkey: Wi-Fi (2.45 GHz)- and Mobile Phone (900 and 1800 MHz)-Induced Risks on Oxidative Stress and Elements in Kidney and Testis of Rats During Pregnancy and the Development of Offspring, [Özorak et al., Biological Trace Element Research](#), 1-9, 8 October 2013.

'...Wi-Fi- and mobile phone-induced EMR caused oxidative damage by increasing the extent of lipid peroxidation and the iron level, while decreasing total antioxidant status, copper, and GSH values...'

Ukraine: Overproduction of free radical species in embryonal cells exposed to low intensity radiofrequency radiation, [Burlaka et al., Experimental Oncology](#), 35(3):2013.

'...Exposure of developing quail embryos to extremely low intensity RF-EMR of GSM 900 MHz during at least one hundred and fifty-eight hours leads to a significant overproduction of free radicals/reactive oxygen species and oxidative damage of DNA in embryo cells...'

USA: Complexities of sibling analysis when exposures and outcomes change with time and birth order, [Sudan et al., Journal of Exposure Science and Environmental Epidemiology](#), Online: 25 September 2013.

'...We estimated associations between cell phone exposures and behavioral problems while accounting for the random family effect among siblings...the association was strongest for first-born siblings...and negative for later-born siblings...which may be because of increases in cell phone use with later birth year...'

USA: Are frequent dental x-ray examinations associated with increased risk of vestibular schwannoma?, [Han et al., Special Supplements](#), 117(Special Suppl):78-83, December 2012.

'...the authors identified only a single factor that was associated with a higher risk of VS: individuals exposed to dental x-rays...No relationship was found between the use of cell phones or cordless phones and VS.'

USA: Autism and EMF? Plausibility of a pathophysiological link - Part I, [Herbert et al., Pathophysiology](#), Available online 4 October 2013.

'...review pathophysiological damage to core cellular processes that are associated both with ASCs and with biological effects of EMF/RFR exposures that contribute to chronically disrupted homeostasis...'

USA: Autism and EMF? Plausibility of a pathophysiological link part II, [Herbert et al., Pathophysiology](#), Available online 8 October 2013.

'...increases in reported ASCs that are coincident in time with the deployment of wireless technologies, we need aggressive investigation of potential ASC-EMF/RFR links. The evidence is sufficient to warrant new public exposure standards benchmarked to low-intensity (non-thermal) exposure levels...'

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

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