



Recent scientific publications relevant to mobile telephony

**July 2014**

## Details

**China:** Adaptive Response in Animals Exposed to Non-Ionizing Radiofrequency Fields: Some Underlying Mechanisms, [Cao et al., International Journal of Environmental Research and Public Health](#), 11(4): 4441-4448, Published: 22 April 2014.

*'...We have presented a brief review of all of our own and other independent investigations on radiofrequency fields-induced adaptive response and some underlying mechanisms discussed...'*

**China:** Exposure to 1800 MHz radiofrequency radiation impairs neurite outgrowth of embryonic neural stem cells, [Chen et al., Scientific Reports](#), 4, published 29 May 2014.

*'...Suggested that 1800 MHz RF-EMF exposure impairs neurite outgrowth of eNSCs. More attention should be given to the potential adverse effects of RF-EMF exposure on brain development...'*

**Germany:** Nonthermal Effects of Lifelong High-Frequency Electromagnetic Field Exposure on Social Memory Performance in Rats, [Schneider, Behavioral Neuroscience](#), Published online: Jul 7, 2014.

*'...EMF-exposed females exhibited no differences in sniffing duration compared with controls. In contrast, the sniffing durations of EMF-exposed males at 3 months of age were significantly affected...These findings provide new insight into the nonthermal effects of long-term high-frequency EMF exposure on memory...'*

**India:** A cross-sectional case control study on genetic damage in individuals residing in the vicinity of a mobile phone base station, [Gandhi et al., Electromagnetic Biology and Medicine](#), Posted online on July 9, 2014.

*'...The genetic damage evident in the participants of this study needs to be addressed against future disease-risk, which in addition to neurodegenerative disorders, may lead to cancer...'*

**Iran:** Non-Linear Adaptive Phenomena Which Decrease The Risk of Infection After Pre-Exposure to Radiofrequency Radiation, [Mortazavi et al., Dose-Response](#), 12(12):233-245, May 2014.

*'...Our findings contribute to the assumption that radiofrequency-induced adaptive response can be used as an efficient method for decreasing the risk of infection in immunosuppressed irradiated individuals. The implication of this phenomenon in human's long term stay in the space is also discussed...'*

**Italy:** Temperature Increase in the Fetus Exposed to UHF RFID Readers, [Fiocchi et al., IEEE Transactions on Biomedical Engineering](#), 61(7):2011-2019, July 2014.

*'...The maximum temperature increase of the fetus and of the pregnancy-related tissues is relatively high (even about 0.7 degC), not too far from the known threshold of biological effects. However, this increase is confined to a small volume in the tissues...'*

**Japan:** Analysis of in situ electric field and specific absorption rate in human models for wireless power transfer system with induction coupling, [Sunohara et al., \*Physics in Medicine and Biology\*, 59\(14\):3721, 21 July 2014.](#)

*'...The peak value of the SAR averaged over a 10 g of tissue and that of the in situ electric field are 72 nW kg<sup>-1</sup> and 91 mV m<sup>-1</sup> for a transmitted power of 1 W...'*

**Malaysia:** Electromagnetic Radiation Health Effects in Exposed and Non-Exposed Residents in Penang, [Suleiman et al., \*Journal of Geoscience and Environment Protection\*, 2\(77-83\), April 2014.](#)

*'...The existence of TELCO tower in these communities has detrimental health effects towards the residents who were exposed to the electromagnetic fields radiation that was emitted...'*

**Singapore:** Lifestyle Risk Factors Associated with Threatened Miscarriage: A Case-Control Study, [Tan et al., \*Journal of Fertilization: In Vitro - IVF-Worldwide, Reproductive Medicine, Genetics & Stem Cell Biology\*, 2\(2\):123, May 30, 2014.](#)

*'...Prolonged mobile phone and computer use and fish oil supplementation are potential novel correlates of threatened miscarriage that deserve further study...'*

**Switzerland:** Theoretical assessment of the maximum obtainable power in wireless power transfer constrained by human body exposure limits in a typical room scenario, [Xi Lin et al., \*Physics in Medicine and Biology\*, 59\(13\):3453-3464, 7 July 2014.](#)

*'...The optimal operating frequency, at which the highest transmitter source power can be utilized without exceeding the exposure limits, is found to be around 2 MHz. Finally, a formulation is proposed to estimate the maximum obtainable power of WPT in a typical room scenario while adhering to the human body exposure compliance mandates...'*

**UK:** Average absorption cross-section of the human body measured at 1–12 GHz in a reverberant chamber: results of a human volunteer study, Flintoft et al., [Physics in Medicine and Biology](#), 59(13):3297, 7 July 2014.

*'...The strongest correlation is with body surface area (BSA) at all frequencies above 1 GHz, however direct proportionality to BSA is not established until above 5 GHz. When the average ACS is normalized to the BSA, the resulting absorption efficiency shows a negative correlation with the estimated thickness of subcutaneous body fat...'*

**UK:** The LEXNET Project: Wireless Networks and EMF: Paving the Way for Low-EMF Networks of the Future, [Tesanovic et al., \*IEEE Vehicular Technology Magazine\*, 9\(2\):20-28, June 2014.](#)

*'...The results of a new survey on RF-EMF exposure risk perception together with a comprehensive overview of the EMF footprint of existing and emerging networks. On the basis of these findings, we then put forward the rationale for EMF-aware networking...'*

**USA:** Why children absorb more microwave radiation than adults: The consequences, [Morgan et al., \*Journal of Microscopy and Ultrastructure\*, Available online 15 July 2014.](#)

*'...Children absorb more MWR than adults because their brain tissues are more absorbent, their skulls are thinner and their relative size is smaller...'*

**Ukraine:** The influence of direct mobile phone radiation on sperm quality, [Gorpinchenko et al., \*Central European Journal of Urology\*, 67\(1\):65-71, 2 July 2014.](#)

*'...A correlation exists between mobile phone radiation exposure, DNA-fragmentation level and decreased sperm motility...'*

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