



Recent scientific publications relevant to mobile telephony

May 2014

Details

Germany: Do people understand IARC's 2B categorization of RF fields from cell phones?, [Wiedemann et al., Bioelectromagnetics](#), Published online: 15 April 2014.

'...both the characterization of the probability of carcinogenicity, as well as the description of the risk increase given in the IARC press release, was mostly misunderstood by study participants. Respondents also greatly overestimated the magnitude of the potential risk. Our study results showed that IARC needs to improve their scientific communications.'

Estonia: Microwave effect on diffusion: a possible mechanism for non-thermal effect, [Hinrikus et al., Electromagnetic Biology and Medicine](#), Posted online on May 23, 2014.

'...result is consistent with the proposed mechanism of low-level microwave effect: microwave radiation, rotating dipolar water molecules, causes high-frequency alterations of hydrogen bonds between water molecules, thereby affects its viscosity and makes faster diffusion.'

France: Mobile phone use and brain tumours in the CERENAT case-control study, Coureau et al., [Occupational & Environmental Medicine](#), Published Online First 9 May 2014.

'...No association with brain tumours was observed when comparing regular mobile phone users with non-users... However, the positive association was statistically significant in the heaviest users when considering life-long cumulative duration...and number of calls for gliomas...'

Japan: Computation of Temperature Elevation in a Fetus Exposed to Ambient Heat and Radio Frequency Fields, [Hirata et al., Numerical Heat Transfer](#), Part A: Applications, 65(12):1176-1186, 15 June 2014.

'...When the pregnant woman model is exposed to ambient temperature of 35-45°C, the core temperature elevations in the mother and the fetus are almost identical. Contrarily, the fetal temperature elevation for radio-frequency exposure is higher than that in the mother.'

New Zealand: Comment: Mobile phones, brain tumors, and the limits of science, [Elwood, Bioelectromagnetics](#), Published online: 12 May 2014.

'...Uncertainties must remain about risks occurring 10-15 years or more after first use, and in relationship to high intensities of use. The "possibility" of a hazard can probably never be denied. But a more realistic question is can the likely probability of a substantial risk be set aside, given the lack of evidence of a hazard within the time and exposure characteristics which have been studied, and the lack of any clear mechanism or supporting evidence from experimental studies...'

Switzerland: Radio-frequency electromagnetic field (RF-EMF) exposure levels in different European outdoor urban environments in comparison with regulatory limits, [Urbiniello et al., *Environment International*](#), 68(0):49-54, July 2014.

'...All exposure levels were far below international reference levels proposed by ICNIRP (International Commission on Non-Ionizing Radiation Protection). Our study did not find indications that lowering the regulatory limit results in higher mobile phone base station exposure levels.'

The Netherlands: Modelling indoor electromagnetic fields (EMF) from mobile phone base stations for epidemiological studies, [Beekhuizen et al., *Environment International*](#), 67:22-26, June 2014.

'...We found a Spearman correlation of 0.73 between modelled and measured total downlink RF-EMF from base stations. The average modelled and measured RF-EMF were 0.053 and 0.041 mW/m², respectively...'

Turkey: Increased DNA oxidation (8-OHdG) and protein oxidation (AOPP) by Low level electromagnetic field (2.45 GHz) in rat brain and protective effect of garlic, [Gürler et al., *International Journal of Radiation Biology*](#), Posted online on May 21, 2014.

'...low level EMF at 2.45 GHz MWR increases the DNA damage in both brain tissues and plasma of the rats whereas it increases protein oxidation only in plasma. It may also be argued that the use of garlic decreases these effects.'

Ukraine: Changes in mitochondrial functioning with electromagnetic radiation of ultra high frequency as revealed by electron paramagnetic resonance methods, [Burlaka et al., *International Journal of Radiation Biology*](#), 90(5):357-362, May 2014.

'... (i) Abnormalities in the mitochondrial ETC of liver and aorta cells are more pronounced for animals radiated in a pulsed mode; (ii) the alterations in the functioning of the mitochondrial ETC cause increase of superoxide radicals generation rate in all samples, formation of cellular hypoxia, and intensification of the oxide-initiated metabolic changes; and (iii) electron paramagnetic resonance methods could be used to track the qualitative and quantitative changes in the mitochondrial ETC caused by the UHF EMR.'

USA: The epidemiology of glioma in adults: a "state of the science" review, [Ostrom et al., *neuro-oncology*](#), Published online May 19, 2014.

'...The potential influence of occupational exposures and cellular phones has also been examined, with inconclusive results. We provide a "state of the science" review of current research into causes and risk factors for gliomas in adults.'

USA: Smart meters and public acceptance: comparative analysis and governance implications, [Hess, *Health, Risk & Society*](#), 16(3):243-258, 2014.

'...opposition may be higher where the roll-out of smart meters is rapid and without an opt-out provision; technological differences (for example, wired versus wireless) may contribute to levels of public opposition; and challengers to incumbent parties of either the right or left may also contribute to public opposition...'

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. www.gsma.com/mobile-and-health

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