Recent scientific publications relevant to mobile telephony

February 2011

Details

**Austria:** Essential problems in the interpretation of epidemiologic evidence for an association between mobile phone use and brain tumours, *Kundi, Comptes Rendus Physique*, Posted online 3 February 2011.

‘...It is shown that the solution of these problems affords knowledge about the mechanism of action by which exposure increases the risk of manifest disease.’

**France:** In situ detection of gliosis and apoptosis in the brains of young rats exposed in utero to a Wi-Fi signal, *Aït-Aïssa et al., Comptes Rendus Physique*, Published online 3 January 2011.

‘...Comparison among sham and exposed groups revealed no significant differences, suggesting that in utero and post-natal exposure to Wi-Fi did not damage the brains of the young rats.’

**France:** Whole body exposure at 2100 MHz induced by plane wave of random incidences in a population, *Conil et al., Comptes Rendus Physique*, Published online 3 January 2011.

‘...A recent French anthropometric database of more than 3500 adults is used to build the probability distribution function of the whole body SAR for a random direction of arrival.’

**France:** Effects of radiofrequency field on the blood-brain barrier: A systematic review from 2005 to 2009, *Perrin et al., Comptes Rendus Physique*, Published online 30 December 2010.

‘...We conclude that recent studies provide no convincing proof of deleterious effects of RF on the integrity of the BBB, for specific absorption rates (SAR) up to 6 W/kg.’

**France:** Evaluation of the co-genotoxic effects of 1800 MHz GSM radiofrequency exposure and a chemical mutagen in cultured human cells, *Perrin et al., Comptes Rendus Physique*, Published online 30 December 2010.

‘...exposure of cells to electromagnetic fields with SARs of 2 to 16 W/kg did not increase the DNA damage induced by 4NQO...In conclusion, no co-genotoxic effect of radiofrequency was found at levels of exposure that did not induce heating.’

**France:** Medical practitioners and electromagnetic fields (EMF): Testing their concern, *Salomon, Comptes Rendus Physique*, Published online 26 January 2011.
‘...Close to citizens in issues concerning health, they are increasingly questioned by their patients on various other issues, including electromagnetic fields (EMF). Research has shown, however, that their knowledge about H&E issues is poor, although their opinions carry weight...’

**France:** Complaints in environmental health and the construction of risk as cultural resource, *Calvez, Comptes Rendus Physique*, Published online 30 December 2010.

‘...the social foundations of the notion of health risks and its uses as a cultural resource to develop a community of victims prevent any agreement between local activists and experts on the definition of the health problem.’


‘...Our study did not show any in vitro aneuploidogenic effect of GSM using FISH and is not in agreement with the results of previous research.’

**Germany:** Effects of electromagnetic fields emitted by mobile phones (GSM 900 and WCDMA/UMTS) on the macrostructure of sleep, *Danker-Hopfe et al.*, *Journal of Sleep Research*, March 2011.

‘...The few significant results are not indicative of a negative impact on sleep architecture. From the present results there is no evidence for a sleep-disturbing effect of GSM 900 and WCDMA exposure.’

**Germany:** Electromagnetic exposure of scaffold-free three-dimensional cell culture systems, *Daus et al.*, *Bioelectromagnetics*, Published online: 28 January 2011.

‘...We found that inhomogeneities in the EMF due to electrodes and conducting lines of the MEA chip had only a minor influence on the field distribution in the spheroid if the exposure parameters were chosen carefully.’

**Germany:** Spindle disturbances in human–hamster hybrid (AL) cells induced by the electrical component of the mobile communication frequency range signal, *Schrader et al.*, *Bioelectromagnetics*, Published Online: 22 December 2010.

‘...the results of the present study indicate that an exposure of cells to EMF at E-field strengths of 45 and 90 V/m, as well as to the separated E component of the EMF, induces significant spindle disturbances in ana- and telophases of the cell cycle.’

**Greece:** Short-term memory in mice is affected by mobile phone radiation, *Ntzouni et al.*, *Pathophysiology*, Published online 26 November 2010.

‘...the primary EMF target may be the information transfer pathway connecting the entorhinal-parahippocampal regions which participate in the ORT memory task.’


‘...Data on individual exposures to cell phones are not available in the registry data, and no causal association with parotid malignant tumors can be ascertained from these ecologic data...’
Russia: An international project to confirm soviet-era results on immunological and teratological effects of RF field exposure in wistar rats and comments on Grigoriev et al. [2010], Repacholi et al., Bioelectromagnetics, Published online: 15 December 2010.

‘...The International Oversight Committee (IOC) provided oversight on the conduct of the studies and was the firewall committee that dealt with the sponsors and researchers. This paper gives the IOC comments and conclusions on the differing results between the two studies.’

Russia: Comments from the Russian group on Repacholi et al. “An international project to confirm soviet era results on immunological and teratological effects of RF field exposure in wistar rats and comments on Grigoriev et al. [2010]”, Grigoriev, Bioelectromagnetics, Published online: 22 December 2010.

‘...In our opinion, the experimental results provide a very important conclusion: non-thermal radiofrequency (RF) electromagnetic fields (EMF) are biologically active and long-term exposure provokes a compensatory response in living organisms.’

South Korea: One-year, simultaneous combined exposure of CDMA and WCDMA radiofrequency electromagnetic fields to rats, Jin et al., International Journal of Radiation Biology, 1-8, Posted online: December 21, 2010.

‘...that one-year chronic exposure to CDMA (849 MHz) and WCDMA (1.95 GHz) RF simultaneously at 2.0 W/kg for 45-min RF exposure periods (total, 4 W/kg) did not increase chronic illness in rats...’

Spain: Study on number of cases of cancer near a cell tower, Hueso et al., El Boletín Epidemiológico Semanal, Published January 2011.

‘...there was no significant increase in the cancer types within the studied cohort.’

Spain: Cytostatic response of NB69 cells to weak pulse-modulated 2.2 GHz radar-like signals, Trillo et al., Bioelectromagnetics, Published online: 28 January 2011.

‘...These results indicate that a pulse-modulated RF radiation with high instantaneous amplitude and low average power can induce cytostatic responses on specific, sensitive cancer cell lines...’

Sweden: Health risk assessment of electromagnetic fields: a conflict between the precautionary principle and environmental medicine methodology, Dämvik et al., Reviews on Environmental Health, Published October 2010.

‘...Our investigation shows that the precautionary principle is not being used for its intended purpose in relation to exposure to EMF. The reason for this position is that decision-makers are being misled by inaccurate risk assessments.’


‘...The risk for reporting mental health symptoms at follow-up was greatest among those who had perceived accessibility via mobile phones to be stressful....’

‘...Applications include...the detailed dosimetric analysis of the exposure of the brain during cell phone use, improved design of exposure setups for human studies...’

Switzerland: Sense and sensibility in the context of radiofrequency electromagnetic field exposure, Röösli et al., Comptes Rendus Physique, Published online: 30 December 2010.

‘...Health disturbances were considerably more prevalent in the EHS group compared to the rest of the study population. However, we did not find evidence that health disturbances of EHS individuals were associated with RF-EMF exposure.’

Switzerland: Impact of random and systematic recall errors and selection bias in case–control studies on mobile phone use and brain tumors in adolescents (CEFALO study), Aydin et al., Bioelectromagnetics, Published online: 3 February 2011.

‘...cases overestimated their number of calls by 9% on average and controls by 34%. Cases also overestimated their duration of calls by 52% on average and controls by 163%. The participation rates in CEFALO were 83% for cases and 71% for controls...’


‘...The increased use of mobile phones between 1985 and 2003 has not led to a noticeable change in the incidence of brain cancer in England between 1998 and 2007. The observed increase in the rate of cancers in the temporal lobe, if caused by mobile phone use, would constitute <1 additional case per 100,000 people in that period. These data do not indicate a pressing need to implement a precautionary principle by means of population-wide interventions to reduce RF exposure from mobile phones.’

USA: The brain is not a radio receiver for wireless phone signals: Human tissue does not demodulate a modulated radiofrequency carrier, Davis et al., Comptes Rendus Physique, Published online 30 December 2010.

‘...In recent experiments it has been shown that biological cells do not exhibit significant electrical nonlinearity to be able to demodulate low frequency signals present as modulations of a RF carrier. This makes irrelevant any hypothetical interactions between RF electromagnetic waves and biological systems involving such demodulation mechanisms. Your wireless phone is not an athermal hazard to your brain.’


‘...50-minute cell phone exposure was associated with increased brain glucose metabolism in the region closest to the antenna. This finding is of unknown clinical significance.’

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](http://www.gsmworld.com/health)

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