



Recent scientific publications relevant to mobile telephony

April 2007

Details

Austria: High-resolution numerical model of the middle and inner ear for a detailed analysis of radio frequency absorption, [Schmid et al, Physics in Medicine and Biology](#), 52(7):1771-1781, 7 April 2007.

'...For typical output power values of real handheld mobile communication devices the obtained results showed only very small amounts of absorbed RF power in the middle and inner ear organs...These results indicate that temperature-related biologically relevant effects on the middle and inner ear, induced by the RF emissions of typical handheld mobile communication devices, are unlikely.'

Finland: Orientations in adolescent use of information and communication technology: A digital divide by sociodemographic background, educational career, and health, [Koivusilta et al, Scandinavian Journal of Public Health](#), 35(1):95-103, 2007.

'...There exists a digital divide among adolescents: orientation to computer use is more common in educated well-off families while digital gaming and mobile phone use accumulate at the opposite end of the spectrum. Poorest health was reported by mobile phone users. High social background and success at school signify better health, independently of the ways of using ICT.'

France: Validation of the questionnaire used in the INTERPHONE Study: Measuring mobile telephone use in France, [Hours et al, Environnement, Risques & Santé](#), 6(2):101-109, Mars-Avril 2007.

'...While recall of the number of calls was good...subjects considerably overestimated the average duration of calls...The correlation between the real monthly number of calls and the real monthly duration of calls, as measured by the operators, is good. The number of calls appears to be a more reliable indicator of mobile telephone use than their duration.'

Italy: Mobile phone emission modulates interhemispheric functional coupling of EEG alpha rhythms, [Vecchio et al, European Journal of Neuroscience](#), 25(6):1908-1913, March 2007

'...Results showed that, compared to Sham stimulation, GSM stimulation modulated the interhemispheric frontal and temporal coherence at alpha 2 and alpha 3 bands. The present results suggest that prolonged mobile phone emission affects not only the cortical activity but also the spread of neural synchronization conveyed by interhemispherical functional coupling of EEG rhythms.'

Sweden: Genetic variation in p53 and ATM haplotypes and risk of glioma and meningioma, [Malmer et al, Journal of Neuro-Oncology](#), 82(3):229-237, May 2007.

'...This study found both positive and negative associations of haplotypes in p53 for glioblastoma and ATM for meningioma. This study provides new data that could add to our understanding of brain tumour susceptibility.'

Switzerland: Exposure modeling of high-frequency electromagnetic fields, [Bürgi et al, Journal of Exposure Science and Environmental Epidemiology](#), Online Publication: 4 April 2007.

'...coefficients between measurements and modeling were 0.63 and 0.77 for the total HF-EMF strengths and for all mobile phone frequency bands. First evaluation of our geospatial model yielded substantial agreement between modeling and measurements. However, before the model can be applied for future epidemiologic research, additional validation studies focusing on indoor values are needed to improve model validity.'

Switzerland: Does impulsivity relate to perceived dependence on and actual use of the mobile phone?, [Billieux et al, Applied Cognitive Psychology](#), 21(4):527-537, 2007.

'...This scale identifies four distinct components associated with impulsive behaviour: Urgency, lack of Premeditation, lack of Perseverance, and Sensation Seeking. The results showed that a relationship can be established between the use of and perceived dependence on the cellular phone and two facets of impulsivity: Urgency and lack of Perseverance.'

UK: Survey of mobile phone use and their chronic effects on the hearing of a student population, [Davidson et al, International Journal of Audiology](#), 46(3):113-118, March 2007.

'...Text-messaging was more popular than talking. High or long-term users reported no worse hearing, tinnitus, or balance than low or short-term users. The results of this study confirm that the prevalence of mobile phone ownership amongst students is extremely high. However there appear to be no harmful effects of mobile phone usage on their audiovestibular systems within the range of exposure of the study, insofar as can be detected by the self-report method employed.'

UK: Dielectric properties of porcine cerebrospinal tissues at microwave frequencies: in vivo, in vitro and systematic variation with age, [Peyman et al, Physics in Medicine and Biology](#), 52(8):2229-2245, 21 April 2007.

'...The in vitro study was extended to include tissue from pigs weighing approximately 10, 50 and 250 kg to re-visit the question of the variation of dielectric properties with age. White matter and spinal chord showed significant variation as function of animal age, no age-related variations were recorded for grey matter.'

UK: Denaturation of hen egg white lysozyme in electromagnetic fields: A molecular dynamics study, [English, Journal of Chemical Physics](#), March 2007.

'...Significant nonthermal field effects were noted, such as marked changes in the protein's secondary structure which led to accelerated incipient local denaturation relative to zero-field conditions. This occurred primarily as a consequence of alignment of the protein's total dipole moment with the external field, although the enhanced molecular mobility and dipolar alignment of water molecules is influential on sidechain motion in solvent-exposed regions.'

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