



Recent scientific publications relevant to mobile telephony

August 2014

Details

Croatia: Cell oxidation–reduction imbalance after modulated radiofrequency radiation, [Marjanovic et al., *Electromagnetic Biology and Medicine*](#), Online on August 13, 2014.

'...Under the given laboratory conditions, modulated RF radiation might cause impairment in cell oxidation–reduction equilibrium within the growing cells...'

France: A comprehensive tool for image-based generation of fetus and pregnant women mesh models for numerical dosimetry studies, [Dahdouh et al., *Physics in Medicine and Biology*](#), 59(16):4583-4602, 21 August 2014.

'...3D articulated fetal growth model covering the main phases of pregnancy and a pregnant woman model combining the utero-fetal structures and a deformable non-pregnant woman body envelope...'

France: Influence of pregnancy stage and fetus position on the whole-body and local exposure of the fetus to, [Varsier et al., *Physics in Medicine and Biology*](#), 59(17):4913-4927, 7 September 2014.

'...Both whole-body and average brain exposures of the fetus decrease during the first pregnancy trimester, while they advance during the pregnancy due to the rapid weight gain of the fetus in these first stages. From the beginning of the second trimester, the whole-body and the average brain exposures are quite stable...'

Finland: The Shielding of Inbound Radiofrequency Electromagnetic Fields at Workplaces, [Koppel et al., *Safety of Technogenic Environment*](#), 5(29-37), 2014.

'...Under semicontrolled conditions the best shielding capability was achieved by metallized fabric, followed by iron wire netting and foil paper. Iron bars produced moderate screening whereas graphite paint and metallic frame proved to have little effect...'

Germany: Experimental investigation of possible warmth perception from a head exposure system for human provocation studies with TETRA handset-like signals, [Dorn et al., *Bioelectromagnetics*](#), published online: 6 August 2014.

'...Measurements revealed a temperature rise proportional to the supplied RF power with an average temperature increase measured at the two locations of 0.8 °C following the high exposure level of 6 W/kg. However, subjects were not able to distinguish between exposure conditions based on their subjective perception...'

Hungary: Lack of interaction between concurrent caffeine and mobile phone exposure on visual target detection: An ERP study, [Trunk et al., *Pharmacology Biochemistry and Behavior*](#), 124:412-420, September 2014.

'...the present results did not demonstrate any interactive or synergistic effects of caffeine and UMTS MP like EMF exposure on basic neural or cognitive measures...'

Iran: Effects of 940 MHz EMF on bioluminescence and oxidative response of stable luciferase producing HEK cells, [Sefidbakht et al., *Photochemical & Photobiological Sciences*](#), 13(7): 1082-1092, 2014.

'...Ability in cells to overcome oxidative stress and compensate the luciferase activity could also be responsible for the adaptive response mechanism detected in ionizing radiation studies with RF-EMF pre-treatments...'

Israel: Numerical simulation of pressure waves in the cochlea induced by a microwave pulse, [Yitzhak et al., *Bioelectromagnetics*](#), published online: 6 AUG 2014.

'...Dependence of the pressure amplitude at the cochlea on the frequency, the direction of propagation, and the polarization of the incident electromagnetic radiation, as well as on the pulse width, was investigated...'

Japan: Measurement of the dielectric properties of the epidermis and dermis at frequencies from 0.5 GHz to 110 GHz, Sasaki et al., [Physics in Medicine and Biology](#), 59(16): 4739- 4748, 21 August 2014.

'...Experimental results agreed with the data reported by Gabriel for the dermis of up to 20 GHz, which is the upper limit of the range of frequencies at which Gabriel reported measurements. For frequencies of 20 C100 GHz, the experimental results indicated larger values than those extrapolated from Gabriel's data using parametric expansion...'

Romania: Influence of microwave frequency electromagnetic radiation on terpene emission and content in aromatic plants, [Soran et al., *Journal of Plant Physiology*](#), 171(15): 1436-1443, 15 September 2014.

'...There was a direct relationship between microwave-induced structural and chemical modifications of the three plant species studied...'

Spain: Study of Electromagnetic Compatibility in Hospital Environments, [Gutiérrez et al., *Journal of Electromagnetic Analysis and Applications*](#), 6(7): 141-155 June 2014.

'...More than fifty hospitals were studied in these three countries, considering the following aspects: the hospital personnel's awareness of the problem, whether the hospitals have performed previous studies of this type, the appearance of problems in medical equipment due to this interference, the origin of the interference, and the failures that have appeared in computers due to electromagnetic interference...'

Switzerland: Real-time assessment of possible electromagnetic-field-induced changes in protein conformation and thermal stability, [Beyer et al., *Bioelectromagnetics*](#), published online: 14 August 2014.

'...Obtained with the different experimental protocols indicate, however, that the conformational equilibrium of GrpE is insensitive to electromagnetic fields in the tested range of frequency and field strength...'

Turkey: Determination of factors affecting willingness to pay for low SAR value cell phones: A case study of Turkey, [Yayar et al., *Theoretical and Applied Economics*](#), 5(594): 97-112, 2014.

'...Age of the consumer, average monthly income, sickness feeling during long cell phone calls, awareness of SAR value, double SIM-card phone, use of earphone, level of social responsibility had positive coefficient values and were statistically significant...'

Turkey: Effects of prenatal 900 MHz electromagnetic field exposures on the histology of rat kidney, [Ulubay et al., *International Journal of Radiation Biology*](#), Posted online on August 1, 2014.

'...Prenatal exposure of rat kidneys to 900 MHz EMF resulted in increased total kidney volume and decreased the numbers of glomeruli. Moreover, MEL and ω -3 prevented adverse effects of EMF on the kidneys...'

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