



Recent scientific publications relevant to mobile telephony

## September 2014

### Details

**Brazil:** Determination of Measurement Points in Urban Environments for Assessment of Maximum Exposure to EMF Associated with a Base Station, [Linhares et al., International Journal of Antennas and Propagation](#), 2014(7), Published 8 September 2014.

*'...In the line of sight (LOS) situation, the region of maximum exposure can still be analytically estimated with good results...'*

**China:** Intermediate frequency magnetic field generated by a wireless power transmission device does not cause genotoxicity in vitro, [Shi et al., Bioelectromagnetics](#), Published online: 4 SEP 2014.

*'...Exposure to 90 kHz IFMF generated by WPT based on magnetic resonance at 93.36  $\mu$ T for 2 and 4 h does not cause detectable cellular genotoxicity...'*

**Greece:** An interlaboratory comparison programme on radio frequency electromagnetic field measurements: The second round of the scheme, [Nicolopoulou et al., Radiation Protection Dosimetry](#), Published online: September 8, 2014.

*'...Possible sources of errors for each participating laboratory were discussed, and the overall evaluation of their performances was determined by using an aggregated performance statistic...'*

**Iran:** Analysis of rat testicular proteome following 30-days exposure to 900 MHz electromagnetic field radiation, [Sepehrimanesh et al., ELECTROPHORESIS](#), Accepted manuscript online: 21 AUG 2014.

*'...Effects of radio-frequency modulated electromagnetic fields (RF-EMF) exposure on proteome, particularly in protein species in the rodent testis...'*

**Italy:** Electromagnetic fields and EEG spiking rate in patients with focal epilepsy, [Curcio et al., Clinical Neurophysiology](#), Published Online: August 11, 2014.

*'...No signs were found of an increased risk of incoming seizures for these patients as a consequence of using mobile phones...'*

**Japan:** Multigenerational effects of whole body exposure to 2.14 GHz W-CDMA cellular phone signals on brain function in rats, [Shirai et al., Bioelectromagnetics](#), Published online: 4 SEP 2014.

*'...It was concluded that under the experimental conditions applied, multigenerational whole body exposure to 2.14 GHz W-CDMA signals for 20 h/day did not cause any adverse effects on the F1, F2, and F3 offspring...'*

**Poland:** Influence of Electric, Magnetic, and Electromagnetic Fields on the Circadian System: Current Stage of Knowledge, [Lewczuk et al., Biomed Res International](#), 2014(13): Article ID 169459 Published 22 July 2014.

*'...Reviews the data on the effect of electric, magnetic, and electromagnetic fields on melatonin and cortisol rhythms—two major markers of the circadian system as well as on sleep...'*

**South Korea:** Evaluation of radiofrequency exposure levels from multiple wireless installations in population dense areas in Korea, [Kim et al., \*Bioelectromagnetics\*](#), Published online: 4 SEP 2014.

*'...The measured exposure levels were very low compared with the international exposure guidelines and Korean human protection notice. The highest total exposure ratio was  $5.1 \times 10^{-3}$  (approximately 7.1% of guideline limits)...'*

**Spain:** Adaptive framework for uncertainty analysis in electromagnetic field measurements, [Prieto et al., \*Radiation Protection Dosimetry\*](#), Published online: August 19, 2014.

*'...Validity of the proposed techniques is assessed from measurements performed with a broadband radiation meter and an isotropic field probe. The developed framework significantly outperforms GUM approach, achieving a reduction of 28 % in measurement uncertainty...'*

**Spain:** Electromog and species conservation, [Balmori, \*Science of The Total Environment\*](#), 496(0):314-316, 15 October 2014.

*'...Briefly reviews the available scientific information on this topic and recommends further studies and specific lines of research to confirm or refute the experimental results to date...'*

**Sweden:** Odor and Noise Intolerance in Persons with Self-Reported Electromagnetic Hypersensitivity, [Nordin et al., \*International Journal of Environmental Research and Public Health\*](#), 11(9):8794-8805, Published: 27 August 2014.

*'...The findings suggest an association between EHS and odor and noise intolerance, encouraging further investigation of individual factors for understanding EMF-related symptoms.'*

**Switzerland:** Development of a new generation of high-resolution anatomical models for medical device evaluation: the Virtual Population 3.0, [Gosselin et al., \*Physics in Medicine and Biology\*](#), 59(18):5287, 21 September 2014.

*'...Implementation of quality control procedures, re-segmentation at higher resolution, more-consistent tissue assignments, enhanced surface processing and numerous anatomical refinements...'*

**Switzerland:** EMF Monitoring—Concepts, Activities, Gaps and Options, [Dürrenberger et al., \*International Journal of Environmental Research and Public Health\*](#), 11(9):9460-9479, 11 September 2014.

*'...Review the current state of EMF exposure monitoring activities in Europe, to comment on the scientific challenges and deficiencies, and to describe appropriate strategies and tools for EMF exposure assessment and monitoring...'*

**Switzerland:** Temporal trends of radio-frequency electromagnetic field (RF-EMF) exposure in everyday environments across European cities, [Urbiniello et al., \*Environmental Research\*](#), 134:134-142, October 2014.

*'...Increase of RF-EMF exposure levels has been observed between April 2011 and March 2012 in various microenvironments of three European cities. Nevertheless, exposure levels were still far below regulatory limits of each country...'*

**Switzerland:** Time Averaged Transmitter Power and Exposure to Electromagnetic Fields from Mobile Phone Base Stations, [Bürgi et al., \*International Journal of Environmental Research and Public Health\*](#), 11(8): 8025-8037, 2014.

*'...UMTS duty factor  $F \approx 0.32 \pm 0.08$  for the 24 h-average is obtained, i.e., the average output power corresponds to about a third of the maximum power. We also give duty factors for GSM based on simple approximations and a lower limit for LTE estimated from the base load on the signalling channels...'*

**Turkey:** The effects of prenatal exposure to a 900-MHz electromagnetic field on the 21-day-old male rat heart, [Türedi et al., \*Electromagnetic Biology and Medicine\*](#), Posted online on August 28, 2014.

*'...Exposure to EMF in the prenatal period causes oxidative stress and histopathological changes in male rat pup heart tissue...'*

**USA:** Cell biology and EMF safety standards, [Blank, \*Electromagnetic Biology and Medicine\*](#), Posted online on August 25, 2014.

*'...The cellular stress response is far more sensitive to EMF than to an increase in temperature. It should be obvious that an EMF safety standard should be based on the more sensitive, natural biological response...'*

**USA:** International and National Expert Group Evaluations: Biological/Health Effects of Radiofrequency Fields, [Vijayalaxmi et al., \*International Journal of Environmental Research and Public Health\*](#), 11(9):9376-9408, Published: 10 September 2014.

*'...International organizations have considered all of these data as well as the observations reported in human epidemiological investigations to set-up the guidelines or standards (based on the quality of published studies and the "weight of scientific evidence" approach) for RF exposures in occupationally exposed individuals and the general public...'*

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