



Recent scientific publications relevant to mobile telephony

## May 2013

### Details

**Canada:** Replication of heart rate variability provocation study with 2.4-GHz cordless phone confirms original findings, [Havas et al., \*Electromagnetic Biology and Medicine\*, 32\(2\):253-266](#), June 2013.

*'..Based on the HRV analyses of the 69 subjects, 7% were classified as being "moderately to very" sensitive, 29% were "little to moderately" sensitive, 30% were "not to little" sensitive and 6% were "unknown"...'*

**France:** Assessment of Real Exposure to GSM Mobile Telephones Using the SYRPOM, [Picard et al., \*Radiation Protection Dosimetry\*](#), Published online: May 17, 2013.

*'...The first such campaign consisted of assessing the mean power received by a typical mobile telephone user carrying out various activities. The second campaign was aimed at (1) comparing the mean radiated power when stationary and when moving and (2) assessing and contrasting different models of handsets in terms of the mean radiated power...'*

**France:** Study of the influence of the laterality of mobile phone use on the SAR induced in two head models, [Ghanmi et al., \*Comptes Rendus Physique\*](#), Available online 11 April 2013.

*'...results have shown that depending on the phantom head models, the SAR distribution in the brain can vary because of differences in anatomical proportions and in the geometry of the head models. The induced SAR in child head and in sub-regions of the brain is significantly higher (up to 30%) compared to the adult head...'*

**Italy:** Feasibility for Microwaves Energy to Affect Biological Systems Via Nonthermal Mechanisms: A Systematic Approach, [Apollonio et al., \*IEEE Transactions on Microwave Theory and Techniques\*](#), 61(5):2031-2045, May 2013.

*'...The authors conclude that only through a multiscale methodology it is possible to perform a comprehensive study of the nonthermal effects, based on affordable and realistic in silico models.'*

**Italy:** Nonlinear heart rate variability measures under electromagnetic fields produced by GSM cellular phones, [Parazzini et al., \*Electromagnetic Biology and Medicine\*](#), 32(2):173-181, June 2013.

*'...The analysis of the data shows there was no statistically significant effect due to GSM exposure on the nonlinear dynamics of HRV.'*

**Japan:** Cellular and Molecular Responses to Radio-Frequency Electromagnetic Fields, [Miyakoshi, \*Proceedings of the IEEE\*](#), Published online: 2 April 2013.

*'...results of most recent studies show no marked effects of RF exposure at the cellular and genetic levels. However, some studies have suggested RF effects, and these results require further investigation...'*

**Malta:** Dielectric properties of muscle and liver from 500 MHz-40 GHz, [Abdilla et al., \*Electromagnetic Biology and Medicine\*](#), 32(2):244-252, June 2013.

*'...tissue dielectric properties are measured using an open-ended coaxial probe technique from 500 MHz up to 40 GHz. We present dielectric data for ex vivo bovine and porcine muscle and liver tissues at 37°C...'*

**The Netherlands:** Different Roles and Viewpoints of Scientific Experts in Advising on Environmental Health Risks, [Spruijt et al., \*Risk Analysis\*](#), Published online: 6 March 2013.

*'...particular expert roles depend on the specific environmental health risk. The results indicate that different expert roles exist among scientists who provide policy advice on environmental health risks...'*

**Nigeria:** Study of Variations of Radiofrequency Power Density from Mobile Phone Base Stations with Distance, [Ayinmode et al., \*Radiation Protection Dosimetry\*](#), Published online: April 25, 2013.

*'...The result of this study demonstrates that exposure of people to RF radiation from phone BTSs in Ibadan city is far less than the recommended limits by International scientific bodies.'*

**Poland:** The properties of human body phantoms used in calculations of electromagnetic fields exposure by wireless communication handsets or hand-operated industrial devices, [Zradzinski, \*Electromagnetic Biology and Medicine\*](#), 32(2):226-235, June 2013.

*'...An analysis of the properties of over 30 human body numerical phantoms was performed which has been used in recently published investigations related to the assessment of EMF exposure by various sources...'*

**South Korea:** The effects of exposure to 915 MHz radiofrequency identification on cerebral glucose metabolism in rat: A [F-18] FDG micro-PET study, [Kim et al., \*International Journal of Radiation Biology\*](#), Posted online on May 7, 2013.

*'...the relative cerebral glucose metabolic rate was unchanged in the frontal, temporal and parietal cortices of the 915 MHz RFID-exposed rats, compared with rats in cage-control and sham-exposed groups...'*

**South Korea:** A Miniaturized Broadband Multi-State Reflectometer Integrated on a Silicon MEMS Probe for Complex Permittivity Measurement of Biological Material, [Kim et al., \*IEEE Transactions on Microwave Theory and Techniques\*](#), 61(5):2205-2214, May 2013.

*'...The performance of the fabricated reflectometer has been verified by comparing the measured permittivities of 0.9% saline, pork muscle, and pork fat with the reference data...'*

**Switzerland:** Analysis of mobile phone design features affecting radiofrequency power absorbed in a human head phantom, [Kuehn et al., \*Bioelectromagnetics\*](#), Published online: 26 March 2013.

*'...Service technology accounted for the greatest variability in compliance test SARs that ranged from AMPS (highest) to CDMA, iDEN, TDMA, and GSM (lowest). However, the dominant factor for SARs during use is the time-averaged antenna input power, which may be much less than the maximum power used in testing. This factor is largely defined by the communication system...'*

**Switzerland:** Experimental System for Real-Time Assessment of Potential Changes in Protein Conformation Induced by Electromagnetic Fields, [Beyer et al., \*Bioelectromagnetics\*](#), Published online: 2 May 2013.

*'...system comprises an exposure chamber installed within the measurement compartment of a spectropolarimeter and allows real-time observation of the circular dichroism (CD) signal of the protein during EMF exposure...'*

**Taiwan:** The incidence rate and mortality of malignant brain tumors after 10 years of intensive cell phone use in Taiwan, Hsu et al., [European Journal of Cancer Prevention](#), Published online: 14 April 2013.

*'...we do not detect any correlation between the morbidity/mortality of malignant brain tumors and cell phone use in Taiwan...'*

**UK:** Mobile phone use and risk of brain neoplasms and other cancers: prospective study, Benson et al., [International Journal of Epidemiology](#), Published online: May 8, 2013.

*'...In this large prospective study, mobile phone use was not associated with increased incidence of glioma, meningioma or non-CNS cancers.'*

**USA:** Hemispheric dominance and cell phone use, [Seidman, M, JAMA Otolaryngology-Head & Neck Surgery](#), 139(5):466-470, May 2013.

*'...An association exists between hand dominance laterality of cell phone use (73%) and our ability to predict hemispheric dominance...Literature suggests a possible relationship between cell phone use and cancer. The fact that few tumors were identified in this population does not rule out an association.'*

**USA:** Swedish review strengthens grounds for concluding that radiation from cellular and cordless phones is a probable human carcinogen, [Davis et al., Pathophysiology](#), Available online 7 May 2013.

*'...Many nations, phone manufacturers, and expert groups, advise prevention in light of these concerns by taking the simple precaution of "distance" to minimize exposures to the brain and body...'*

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The MMF is an international association of wireless communications manufacturers established to support scientific research in relation to mobile telephony and health [www.mmfa.info](http://www.mmfa.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](http://www.gsma.com/mobile-and-health)

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