ANNUAL REPORT on EMF ACTVITIES in ITALY (2015)

General research activities related to EMF health

During 2015, research activities in Italy related to EMF effects on health involved different topics. Papers on epidemiological studies regarding ELF and childhood leukemia (ARIMORA, SETIL) as well as occupational exposure were published.

In vitro studies on molecular and cellular endpoints were performed, along with a number of investigations on electrochemioterapy and medical applications of PEMF.

Studies on workers evaluated exposure of operators from radio base stations, onset of Amyotrophic Lateral Sclerosis (ALS) related to occupational and environmental exposure to xenobiotics including EMF, exposure levels to gradient magnetic fields in MRI workers.

For what concerns exposure assessment, studies have been focused on the foetal exposure to ELF magnetic fields (Fiocchi et al., 2015; Liorni et al., 2015). Moreover, Gajsek et al. published a study on monitoring the RF fields in Europe (Gajsek et al., 2015). Paffi et al. studied the exposure levels inside train compartments (Paffi et al, 2015a).

The effect of exposure to WLAN has been investigated by Fiocchi and colleagues (Zentai et al., 2015a). Fiocchi et al. also investigated the dosimetry assessment of RF emitted by WLAN systems (Zentai et al., 2015b).

As to biomedical applications of EMF, the breathing activity of astronauts has been investigated by Baldi et al. (Baldi et al., 2015). Paffi and colleagues studied characterization of electrodes for Deep Brain Stimulation (Paffi et al., 2015b), and proposed a model for real-time calculation of the electric field in magnetic stimulation (Paffi et al., 2015c). Parazzini and colleagues studied the inter-individual variability in modelling the electric field generated by transcranial Direct Current Stimulation tDCS (Parazzini et al., 2015).

A system for electromagnetic guide of running blind athletes has been proposed by Pieralisi and collaborators (Pieralisi et al., 2015).

Activities on medical applications were also performed at ENEA, involving in particular thermal ablation (study on change of dielectric and morphologic properties of tissues during ablation), magneto-liposomes acting as drug carriers in vivo, and use of RFId in tumour monitoring.

New policies and legislations regarding EMF exposure

Nothing relevant with respect previous year.

Areas of public concern and national responses

Nothing relevant with respect previous year.

Public information activities

Nothing relevant with respect previous year.

ANNEX: Quoted references

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