

Session: T2
Tutorial 2: How to conduct personal radiofrequency electromagnetic field measurement surveys
Tuesday June 7, 2016 • 08:30 - 09:30
Zaal Rector Vermeylen

T2-1 [08:30]

Radiofrequency electromagnetic fields (RF-EMF): how to characterize exposure?

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Many epidemiological studies into RF-EMF and health effects have so far relied on self-reported cumulative call time, number of calls or years of mobile phone ownership. Such questionnaire-based exposure assessment clearly provides easy, yet crude estimates of exposure to RF-EMF. With the development of portable measurement devices for radiofrequency electromagnetic fields, a number of possibilities have emerged to characterize exposure in an objective and quantitative way, in real-time. The subject that is studied can be a person (personal measurements), a specific place (spot measurements) or an environment that is considered to be of public interest (microenvironmental survey). Yet, these study designs bring along their own advantages and challenges when conducting, analyzing and interpreting the measurements. The real-time nature of the data allows us to gather a richness of measurement data within a relatively short time. Several challenges relate to technical and practical limitations of conducting any measurement study, whether it is environmental or personal. During this tutorial, we consider several of those issues: cross-talk, imperfect isotropy, body shielding, sources close to the body, selection bias and more, and guided by examples from the research practice, we will provide tools to help make careful considerations during the study design process.

T2-2 [09:00]

Personal RF-EMF exposure of adolescents and adults: first results from Slovenia

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Although RF exposure surveys have been carried out in the general environment using recently developed personal measurement devices (exposure meters), comprehensive measurement of exposure with a true population based sampling frame and a common protocol across number of countries has never been conducted. This has limited the generalisability of survey results and hampered attempts to estimate population-level exposures. In the framework of the EU FP7 funded international multi-center research project GERoNiMO (Generalised EMF Research using Novel Methods) assessment of RF EMF exposures following a common measurement protocol in the general population in a number of representative European countries (Switzerland, Slovenia, Spain, Denmark, Italy, Netherlands) is carried out. Personal surveys have also tended to assess cumulative exposure from all RF sources. First results of the measurements from 50 adolescents and 50 parents in Slovenia will be presented. In addition, the results of average personal RF-EMF exposure and average personal RF-EMF exposure by different activities and technologies will be compared and correlate with the results already collected by other countries.