



**WHO International EMF Project
Report on EMF activities in Australia during 2010-2011**

Research – EMF and Health

The majority of Australian research into health effects of EMF/EMR/EME over the last 7 years has been conducted under the auspices of the Australian Centre for Radiofrequency Bioeffects Research (ACRBR), which has been funded by the National Health and Medical Research Council of Australia (NHMRC) from a levy on the telecommunications industry. Further to this, NHMRC funds individual research projects, many of which, but not all, are also conducted within ACRBR.

Recent publications from Australian research include:

- *Use of mobile phones and changes in cognitive function in adolescents*, Thomas et al
- *Effects of 2G and 3G Mobile Phones on Human Alpha Rhythms: Resting EEG in Adolescents, Young Adults and Older Adults*, Croft et al
- *A Study of the Specific Electromagnetic Effects of Microwave Radiation on Escherichia coli*, Shamis et al
- *Low intensity microwave radiation as modulator of the L: -lactate dehydrogenase activity*, Vojisavljevic et al

The funding for ACRBR ceased in January 2010. NHMRC is currently considering applications for a similar Centre of Research Excellence in EMF/EMR, with their verdict to be announced during 2011. The ACRBR has recently announced that it will cease operating on 27th May.

The projects which are continuing with NHMRC funding, or which are funded from other sources, include:

- Australian arm of Mobi-Kids
- Examination of psychological outcomes in students using RF devices (ExPOSURE)
- Determining EME exposure levels in schools
- Thermal effects of RF radiation on brain tissue
- The effect of RF on free-radicals formation
- Mobile phone exposure and emotional processing
- RF alpha change mechanisms

The ACRBR held its annual public symposium titled "Science and Wireless" in November 2010. The symposium was created to help raise public awareness of mobile phone research and answer questions about the health effects of mobile phones and Wi-Fi in schools, home and the workplace. The latest scientific research into telecommunications related health matters was made available, along with scientists and advisors who discussed policy and matters of concern. There was a keynote address on the Interphone results by Prof Bruce Armstrong followed by a community address, media address and a panel discussion. More information on the symposium is available at <http://acrbr.org.au/sw2010/Default.aspx>.

Review of scientific literature on health effects of RF EMR

ARPANSA is currently cataloguing scientific research papers, and reviews, that have been published since the ARPANSA RF exposure Standard was prepared in 2000- 2002. The aim is to assess this literature to enable a recommendation to be made regarding the need to formally review the RF Standard. To date, 215 epidemiological, 208 human provocation, 351 in vivo and 291 in vitro papers have been catalogued and classification started.

Policies and Legislation: ACIF Code of Practice

Australia has a mandatory industry code of practice, *Deployment of Mobile Phone Network Infrastructure Industry Code (ACIF C564:2004)*, that specifies requirements for consultation and other matters in regard to the installation or upgrading of mobile phone base stations. One of these requirements is the preparation of the ARPANSA Environmental EME Report that provides predictions of maximum levels of exposure in the vicinity of a proposed base station. A substantial review of the Code has recently been undertaken with the outcomes to be available in 2011.

ARPANSA Standard for ELF and Static Electric and Magnetic Fields

ARPANSA's Radiation Health Committee is considering feedback from consultations with industry, State regulators and public representatives, including the cost-effectiveness of the exposure limits of the proposed standard, as is necessary for Australia's process for adopting standards with regulatory implications. It is hoped the document will be released shortly for final consultation within Australia's 9 jurisdictions, although no definite date for publication has been set.

Revision of RF Measurement Standard AS/NZS 2772.2

A near final draft of the AS/NZS 2772.2 RF Assessment Standard was voted on by the responsible committee and some further editorial changes have been made to improve the readability of the document. It is now proceeding through Standards Australia editing procedures towards publication in the near future.

Public Concern

ELF magnetic fields from electrical power infrastructure remain the main focus of public concern as expressed to ARPANSA. Mobile telephony and other wireless technologies, and particularly living in the vicinity of base stations remain as significant issues. The recent deployment of smart-meter technology with wireless data communication has also prompted enquiries.

Public Information

ARPANSA has continued publishing on its web site, summaries and, sometimes comments, on recent scientific papers dealing with EMF/EMR and health. The papers are selected on the basis of importance to the protection of health, on perceived likely interest to the wider public and where Australian research is reported. The summaries are available at

<http://www.arpansa.gov.au/RadiationProtection/EMR/literature/index.cfm>.

ARPANSA operates an Electromagnetic Radiation Health Complaints Register which accepts submissions from people who believe they are suffering symptoms caused by electromagnetic fields or radiation from any source. A small number (49) of submissions have been received since the register started in July 2003 and they cover a wide range of complaints and suggested sources of EMR.

ARPANSA provides a summary and analysis of total submissions each year (they are available at <http://www.arpansa.gov.au/RadiationProtection/emr/index.cfm>).

Base Station Survey

Measurements of exposure levels around a small sample of mobile phone base stations, has continued with detailed results from 19 base stations, 95 measurement locations in total, being published on the internet. As expected, results show that the calculated predictions used in the EME reports overestimate the maximum exposure by a small factor. They also show the wide variation that can be found even within 1 m of a given location. A small number of further measurements are planned for the coming year. The results from the survey are available at

<http://www.arpansa.gov.au/RadiationProtection/BaseStationSurvey/index.cfm>