



Strategic Research Development Committee

**Call for Expressions of Interest for
Centre of Research Excellence in Radiofrequency
Electromagnetic Energy**

Supporting Documentation

Background

The Commonwealth Government's Radiofrequency Electromagnetic Energy (EME) Program was established in late 1996 in response to government and public concerns about the possible health effects from electromagnetic energy emissions from radiocommunication devices, such as mobile phones and mobile phone towers.

The Government's Radiofrequency EME Program is funded by a levy imposed on the radiocommunication licence fees, and has three components:

- research on possible health effects of radiofrequency EME exposure
- public dissemination of information about radiofrequency EME public health issues
- Australia's contribution to, and participation in, the World Health Organisation (WHO) Electromagnetic Fields (EMF) Research Coordination Project

The Commonwealth asked the National Health and Medical Research Council (NHMRC) to manage the research component of the Program. The public information component is managed by the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA).

National Health and Medical Research Council's Research Program

The Strategic Research Development Committee (SRDC), a Principal Committee of the NHMRC, oversees the Radiofrequency EME research program through its EME Expert Committee on behalf of the NHMRC. The program focuses on possible health effects from electromagnetic energy emissions from radiocommunication devices.

The NHMRC has funded, and continues to fund, a number of studies related to EME in such areas as neurophysiology, neuropsychology and cancer biology. Areas investigated, or under investigation, include:

- the short and long-term effects of mobile phone use on hearing and eyesight
- the effects of electromagnetic emissions on quality of sleep
- whether there is an increased risk of brain and other tumours
- whether exposure causes an increase in cancer rates in mice
- the effects of radiofrequency electromagnetic energy emissions on memory, attention and problem solving in humans.

Notwithstanding the results of this research, the EME Expert Committee is now at a point where it wishes to strengthen the Australian research effort and move forward with its research agenda in Australia. Although the previous calls for research have resulted in worthy applications, the Committee was disappointed with the limited number of applications received, and the apparent limited pool of researchers in the Australian EME field.

The Committee believes that the establishment of a Centre of Research Excellence in Radiofrequency Electromagnetic Energy will provide an ideal opportunity to build up current research expertise in EME-related areas. The Centre's integrated capacity building program will also ensure that Australia's EME research workforce is well prepared for future and related research in this important area

The Committee feels that a broader and multi-disciplinary approach is required for future EME research. To this end, the Committee encourages research interest from a wide field. A team that includes investigators who have not have previously considered bringing their research expertise to EME-related fields, and/or those who would not normally consider NHMRC as a source of research funding is encouraged. The proposed Centre, either physical or virtual, has the potential to facilitate different models of research by bringing together researchers from areas not normally associated with EME.

The Committee believes that the establishment of a Centre of Research Excellence in Radiofrequency EME in Australia will offer a unique opportunity for investigators from diverse areas and organisations to work cooperatively in a challenging, new and exciting environment.

This Expression of Interest stage is the first stage of the two-stage application process. Further information is provided at Attachment A *Process for Submitting Expressions of Interest*.

The purpose of this paper is to provide background information on the NHMRC's Radiofrequency Electromagnetic Energy Research Program, to set out the aims of the Centre of Research Excellence in Radiofrequency Electromagnetic Energy, and to present the Committee's ideas and suggestions as to how the Centre will operate.

The Centre of Research Excellence in Radiofrequency Electromagnetic Energy

The aims of the Centre of Research Excellence are as follows.

1. Increase knowledge by conducting research on possible health effects associated with electromagnetic energy emissions from radiocommunication devices, such as mobile phones and mobile phone towers, and to facilitate translation of research findings into policy and practice

2. Increase research capacity, including research training and career development, through conducting a comprehensive and integrated program
3. Encourage and facilitate broad cross-disciplinary research collaboration. The range of disciplines could include dosimetry, basic biology, epidemiology, clinical sciences, physical sciences, engineering, neuropsychology
4. Promote and enhance radiofrequency EME research and research outcomes, through broad and impartial collaboration and interaction with other researchers and other organisations

Each of these aims is discussed in further detail below. This information should be taken into consideration when preparing Expressions of Interest, noting that Expressions of Interest are the first stage in the application process.

1. Increase knowledge by conducting research on possible health effects associated with electromagnetic energy emissions from radiocommunication devices, such as mobile phones and mobile phone towers, and to facilitate translation of research findings into policy and practice

The Centre will be expected to undertake research in areas related to possible health effects associated with the use of mobile phones, mobile phone towers, and other communication devices and equipment that emit radiofrequency EME.

Rather than increased knowledge being an end in itself, the translation of research findings into practice and/or policy is important to this NHMRC Program. The Committee is interested to hear how the Centre will facilitate the effective translation of its research outcomes into policy and practice.

The WHO research agenda and deliberations may be of use here. However, the NHMRC also welcomes new and original research questions relevant to the Australian environment. An excerpt from the WHO Research Agenda is at Attachment B and further details may be found at URL: <http://www.who.int/peh-emf/research/agenda/en/index.html>

It should be noted that, while the Committee has considered the possibility of research studies on the relationship between mobile phone use and motor vehicle accidents, it appears that the health risk from mobile phone use while driving is more related to distraction, rather than EME emissions. As such, the Committee is of the opinion that mobile phone use and motor vehicle accident as an area of research is not within the remit of the Program at this time.

Applicants are reminded that all research undertaken must be of high scientific merit and must conform to accepted ethics standards, in accordance with the principles of the *Joint NHMRC/AVCC Statement and Guidelines on Research Practice*, and the *National Statement on Ethical Conduct in Research Involving Humans*.

2. Increase research capacity, including research training and career development, through conducting a comprehensive and integrated program

This aspect of the Centre is considered essential to Australia's EME-related research effort and research workforce in this area.

The Committee would like to encourage the Centre to set up both formal and informal training programs, aimed at all levels of researchers and recommends that the training

programs offered by the Centre be those that will enhance research techniques, and facilitate research career development, in EME-related areas. The Committee has a particular interest in fostering skills in dosimetry.

In the formal sense, applicants are encouraged to submit plans for training at doctoral level, postdoctoral level and for their early post-doctoral career. Potential scholars could consider the possibility of spending time at international institutions. The scholars, however, would be expected to return to Australia to continue their research careers and to assist with the training of new researchers.

To reinforce the more formal education programs and to promote exchange of knowledge, the Committee suggests that the Centre include informal training, such as mentoring and in-service teaching.

3. Encourage and facilitate broad cross-disciplinary research collaboration.

The range of disciplines could include, but is not limited to, the following

- dosimetry
- basic biology,
- epidemiology
- clinical science
- physical sciences
- engineering
- psychology
- neuropsychology

The Committee believes that working across disciplines has the potential to enhance the skills of existing investigators, and stimulate interest from new researchers. For this reason, investigators who would not normally apply to the NHMRC are encouraged to consider participation in the work of the Centre. Research involving investigators from a range of disciplines (who would not normally work together) has the potential to provide an efficient means of sharing resources, skills and knowledge, and to offer a new perspective to EME research in Australia.

It is hoped that a collaborative effort will facilitate a new approach to EME research issues and, at the same time, provide opportunities for investigators to work in a unique and challenging environment.

4. Promote and enhance Radiofrequency EME research and research outcomes, through broad and impartial collaboration and interaction with other researchers and other organisations

As previously noted in this paper, there is an apparent shortage of expertise in Australia in EME-related fields. For this reason, the Committee believes it is essential to encourage the current small number of experts to share their skills through collaboration and interaction with other researchers and other organisations.

Collaboration with the telecommunication industry is acceptable, however, the Centre would be required to ensure the integrity of NHMRC funds and the direction of the research to ensure impartiality.

Funding for the Centre

Total funding of \$500,000 per annum is available to support a physical or virtual centre for a period of 5 years. A funding-dependent review will take place at mid-term (at approximately 3 years) with ongoing support dependent on a satisfactory outcome.

During the funding period, the Centre is encouraged to investigate other sources of funding so that its research program will be financially sustainable with the possibility that the Centre become an independent body.

Should the Centre receive funds from a non-government source during the funding period, NHMRC requires that the Centre ensure the integrity of the research and the impartiality of the funding arrangement. Further, while additional funding to support the work of the Centre is encouraged, NHMRC accountability requires that there is clear identification and acquittal of the NHMRC contribution.

Structure of the Centre

As stated, the Centre of Research Excellence in Radiofrequency Electromagnetic Energy may be actual (ie comprising a single physical entity or institute) or virtual (ie geographically disparate, linking a collaborative research effort from several different organisations).

The preferred management structure would be one that oversees a range of activities including management of the scientific and research aspects of the Centre, researcher development and support, and the financial and administrative management of the Centre.

Development of a business plan covering these aspects is strongly recommended.

Note: Additional enquires about the intent and aims of the Centre may be directed to Professor Don Cameron on (07) 3240 7663, or to Professor Judith Black on (02) 9351 6121.