emitted by various electronic and wireless devices. To date, there has been no evidence of a relationship between EMF exposure and the symptoms reported by IEI-EMF sufferers, with the majority of double-blind provocation studies failing to find any significant differences in symptom severity between active and sham exposure conditions. A number of studies have also shown that sham exposures are sufficient to trigger symptoms in IEI-EMF participants, leading many to suggest that the condition may be the result of a harmful nocebo effect, where conscious or subconscious symptom expectation following a perceived exposure to EMF leads to the formation or detection of symptoms.

Yet, despite the importance of such IEI-EMF symptoms, the aetiology of the condition remains highly contentious. A number of methodological concerns have been raised which some believe may explain the current null findings in relation to EMF exposure. While it is possible that these potential limitations may have masked real effects of EMF exposure on symptoms, this needs to be determined empirically. Furthermore, much remains to be clarified in terms of the nocebo effect itself. While there has been some suggestion that mainstream media reports and science communications negatively influence people’s beliefs about EMF exposure, only one study has demonstrated that this may contribute to the presentation of a nocebo effect, and only in those with high pre-existing levels of anxiety.

Building on these concepts, the results of two studies investigating the determinants of IEI-EMF will be presented. The first addresses the methodological concerns of IEI-EMF provocation studies by taking a novel, case-study approach to testing (self-reported) sensitive individuals, using a sufficient number of EMF-tailored sham and active provocation

**Abstract**

Idiopathic Environmental Intolerance attributed to Electromagnetic Fields (IEI-EMF) is a condition in which a small proportion of the population report experiencing a wide range of non-specific symptoms which they attribute to the non-ionising electromagnetic fields (EMF)
and subsequently became involved in environment health realising the need to focus on prevention of chronic diseases.

Pri studied genetic regulation of cellular oxidative stress responses for her doctoral studies at UNSW in the late 1990s and has continued her interest in this area - pathologically involved in almost every disease. Investigating cytotoxic effects of various environmental pollutants via complex cellular pathways, she furthers the understanding of the health impact of our changing world.

Pri has a particular interest in the biological and health effects of currently permitted “low intensity” microwave/radiofrequency electromagnetic radiation (MW/RF-EMR) widely used for mobile and wireless communication and surveillance technologies.

ABSTRACT

Man-made non-ionizing electromagnetic radiation (EMR), both radio frequency (RF) (including microwaves) emanating from modern wireless communication/surveillance systems and extremely low frequency electromagnetic fields from power lines/electrical appliances have been investigated to assess the potential impact on human health. Here, we focus on RF-EMR that has increased exponentially around the globe over the last few decades due to a rapid expansion of mobile/wireless/satellite technologies. The WHO/IARC classified RF-EMR as a 2B possible human carcinogen in 2011. Scientific evidence has emerged since, epidemiological evidence linking mobile/cordless phone use to brain cancer, as well as experimental evidence of genotoxicity and carcinogenicity has led to calls for an update to this classification.

Current RF exposure regulation in many countries, including Australia,