

## **PhD in Signal Processing for Nuclear Magnetic Resonance Spectroscopy**

\$26,650 per annum (tax-free) for 3 years.

Metabolomics has emerged as a promising field in the study of gene expression, disease, toxicity, and drugs. It has the potential to significantly enhance and speed up the drug development process. One of the techniques to detect metabolites in bio-fluids relies on nuclear magnetic spectroscopy (NMRS). However, NMRS currently suffers from a lack of sensitivity and leaves many biomarkers undetected. A scholarship is available for PhD research into novel signal processing techniques aimed at improving the performance of NMRS in the context of metabolomics. The project involves a collaboration with a team from the bio-chemistry department at the University of Cambridge who are able to supply real NMRS data.

Applicants must be Australian citizens or permanent residents and should have at least First Class Honours (or equivalent) in an undergraduate degree in electrical engineering or another relevant discipline. Desirable attributes include:

- Strong background in mathematics and signal processing
- Good programming skills in Matlab
- Interest in statistical methods for estimation and detection
- Interest in doing cutting edge research in an area that is highly relevant to the advancement of medical technology.

Interested applications should direct their enquiries and/or send a CV (including a description of an relevant experience) to Dr. Elias Aboutanios on [elias@ieee.org](mailto:elias@ieee.org) and by phone on 02-9385 5010.