PhD Scholarship at Australian Centre for Space Engineering Research

Required Background:	Bachelor/Masters Degree in Physics or Electrical Engineering
Keywords:	Signal processing, SAR, Image processing
Preferred Experience:	Knowledge of SAR, signal processing, and image processing
Application Deadline:	31/03/2012
Supervisors:	Robert Middleton, Prof Andrew Dempster
Contact:	Robert Middleton (r.middleton@unsw.edu.au)

Synthetic Aperture Radar-based forestry change detection

As part of carbon monitoring, it is useful to be able to monitor the extents of forests and to detect thinning and the incursion of roads. Many forested areas are very remote and very large, and imaging these optically is difficult owing to the lighting and clear weather requirements. However, L-band Synthetic Aperture Radar (SAR) is able to penetrate cloud and mist and is active, so does not require sun illumination.

SAR produces map-like complex reflectivity images of the surveyed area, and it will be necessary to automatically and reliably detect changes between successive images.

The aim of this PhD is to develop and demonstrate a method for detecting change in forests from time series of SAR imagery. The work may include some or all of the following activities: investigating existing methods of change detection for forests, developing and implementing methods for change detection in forests, characterizing different types of forest and deforestation experimentally and or computationally.

ACSER [and the Garada Project – if applicable] will be providing scholarships for some students. All prospective students should, however, apply for:
• Australian Postgraduate Award (APA; for Australian citizens) OR an
• International Postgraduate Research Scholarship (IPRS; International students).

Suitability for the ACSER and Garada scholarships will be assessed in the same way as applicants for APA and IPRS. For more information about these scholarships please go to
http://research.unsw.edu.au/postgraduate-research-scholarships.

Further Information on the project may be obtained from Robert Middleton (r.middleton@unsw.edu.au)