Scholarship Description
A/Professor Linlin Ge is seeking to appoint three (3) PhD scholars to work closely with him and his team on a newly funded ARC Discovery project exploring advanced features of state-of-the-art radar remote sensing satellites in collaboration with Stanford University and NASA Jet Propulsion Laboratory.

Satellite synthetic aperture radar (SAR) remote sensing has been increasingly used to measure ground surface deformation caused by natural and anthropogenic activities such as earthquakes, groundwater extraction, and mining. It is an important tool in safeguarding significant infrastructure. The aims of the project are to develop advanced techniques to further enhance SAR through exploiting polarizations of electromagnetic radiation, incorporating the new wide-area imaging mode, and integrating multi-geometry & multi-source ground displacement measurements. The expected outcomes are a suite of innovative techniques that aim to transform SAR into a robust, cost-effective, large coverage and fully 3-dimensional remote sensing technology capable of frequently monitoring ground displacement.

Applicants of electrical engineering and telecommunications, computer science and engineering, civil and environmental engineering as well as geospatial engineering background are particularly encouraged to apply.

Availability and Payment Information
These scholarships are offered once only. Applications will be open from April 2, 2013 until March 2, 2014. The value of these scholarships are AU$28,000–$33,000 per annum (to students of outstanding research potential), AU$25,000–$30,000 per annum (to the top ranked applicants in the Faculty of Engineering), or AU$24,653 per annum (to the qualified candidates). These awards are to be used for accommodation, research, living expenses and travel. These scholarships are paid fortnightly for the period of 3 years.

Application Details
Citizens of any country can apply. The ARC-Discovery project will be providing scholarships for some students. All prospective students should, however, apply for:
• Australian Postgraduate Award (APA; for Australian and New Zealand citizens and Australian permanent residents) OR
• International Postgraduate Research Scholarship (IPRS; International students).

Suitability for the ARC-Discovery funded 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

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Global shortage of remote sensing skills
Satellite remote sensing has found wide applications in many sectors and is playing a vital role in our daily life. Our accurate, daily weather forecasting is just one example of how we use satellites to provide us with essential data. This industry is experiencing the dual pressures of an ageing workforce and an explosive demand for new remote sensing skills across a broad base of the Australian workforce. In fact, there is a severe global shortage of remote sensing skills.

In response to the strong demand in remote sensing skills, multiple postgraduate and postdoctoral research opportunities in satellite remote sensing have been created in the School of Civil and Environmental Engineering at the University of New South Wales, Sydney, Australia. These studies encompasses optical and radar remote sensing from both space-borne and airborne platforms to address a wide range of land applications (such as monitoring flood, bushfire, mine subsidence, earthquake and slope stability), ocean applications (such as ship detection and maritime surveillance) and atmospheric applications (such as the location and prediction of tropical cyclones). The postgraduate and postdoctoral researchers will be supervised by a panel of leading remote sensing scientists from UNSW, Stanford University, NASA Jet Propulsion Laboratory (JPL), the German Aerospace Centre (DLR) and the Japan Aerospace eXploration Agency (JAXA).

The Geoscience and Earth Observing Systems Group (GEOS)
The researchers are expected to become an integral part of the Geoscience and Earth Observing Systems Group (GEOS). Since its establishment in 2001, GEOS has successfully attracted about AU$13m of research funding from schemes such as the ARC-Discovery, ARC-Linkage, ARC-Linkage Infrastructure, Equipment and Facilities, ARC-Super Science Fellow, the Australian Coal Association Research Program and Cooperative Research Centre. Furthermore, GEOS has graduated 16 PhD students and 5 Masters by Research students on topics such as satellite remote sensing of ground surface deformation, bushfire scars, and flood extent.

The School of Civil & Environmental Engineering (CVEN)
GEOS is part of the School of Civil & Environmental Engineering (CVEN). This School is the largest and most successful of its kind in Australasia and is a dynamic and integral part of the UNSW Faculty of Engineering, which is itself consistently ranked as the best in Australia. With over two thousand students, we play a leading role in the delivery of undergraduate and postgraduate degree programs in civil and environmental engineering. Research activity - which includes both fundamental and applied research - is carried out by our internationally renowned academic and research staff and by postgraduate research students.

The University of New South Wales (UNSW)
The University of New South Wales (UNSW) is one of Australia’s leading research and teaching universities. Established in 1949, it is ranked among the top 60 universities in the world, renowned for the quality of its graduates and its world class research. UNSW is a founding member of the Group of Eight, a coalition of Australia's leading research-intensive universities, and of the prestigious international network Universitas 21. With more than 50,000 students from over 120 countries, it is one of Australia’s most cosmopolitan universities.

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