**PhD Scholarship**

“Shock-wave loading of polycrystalline metals”

A PhD position is available at UNSW Canberra in the area of experimental shock-induced loading. The PhD project will examine how changes in ductility affect the spall morphology in polycrystalline metals. This project is mostly experimental and will involve equipment development.

A PhD stipend of A$24,928 per annum and tuition-fee remission scholarship worth approximately A$25,920 per annum is available to suitably qualified applicants.

A plate impact experiment involves launching a flyer-plate towards a target at several hundred metres per second. This type of loading results in a state of uniaxial strain that is conducive to the formation of compressive shock waves within the target material. The magnitude of these shock pressures will approach the pressures that are found in the centre of planetary cores. At the target's free surface, the compressive shock will be released and tensile stresses occur resulting in tensile (spall) failure of the target. Usually, laser-based free-surface particle velocity measurements or in-material gauge measurements can be used to assess the spall process. This PhD will examine how the ductility of the metal affects the spall characteristics and in particular, whether the nature of the spall reload structure as measured from the diagnostics can be directly linked to the metal's ductility.

The candidate will be expected to have a strong physics, metallurgy or mechanical engineering background, and the equivalent of a first-class honours degree from UNSW.

The Canberra campus of the University of New South Wales is located at the Australian Defence Force Academy (ADFA). ADFA is located in an Australian bushland setting less than five kilometres from the city centre and the Canberra airport.

The UNSW Canberra campus has a large and comprehensive library, state-of-the-art computing facilities, well-equipped and modern laboratories and a concessions area which includes a hair salon, a University Cooperative Bookshop, financial institutions, a 24-hr ATM and the ADFA Cafe. A modern gymnasium and sporting facilities are available to staff.

Canberra is a modern city just under 100 years old, chosen as Australia's national capital in 1908 as a diplomatic solution when both Melbourne and Sydney wanted the role. Its name comes from the local Aboriginal word "Kamberra" meaning "meeting place". As Australia's capital city, Canberra is the focal point for activities and events that affect and influence the nation. It is the home of Federal Government and the public service, a focus for business and industry, home to the international diplomatic community, a place of study or just a great place to live.

Information on how to apply for admission, fees, scholarships and living in Canberra can be found at: [http://www.unsw.adfa.edu.au/student/future/research.html](http://www.unsw.adfa.edu.au/student/future/research.html)

Candidates must be on campus and enrolled at UNSW Canberra in the relevant PhD program before 31 March 2013.

**For further information, please contact:**

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