PhD Scholarship

“Shock-wave loading of microbial organisms”

A PhD position is available at UNSW Canberra in the area of experimental shock-induced loading. The PhD project will examine why in certain cases, microorganisms and small organic structures have been seen to survive intense shock-wave loading. This project is mostly computational and may involve collaborating with experimentalists from Universities overseas.

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

Microorganisms have been shown to be hardy structures that appear to survive shock-wave loading resulting in very high pressures. Further, recent results have shown that organic structures, such as plant seeds, can sustain relatively high shock pressures before they are destroyed. This raises the question as to whether life can survive at close proximity to asteroid collisions where very high shock pressures would be expected. This PhD project will examine the mechanisms of shock-induced organic structure failure (or survival) through computational analysis using a code such as ANSYS AUTODYN.

The candidate will be expected to have a strong physics, biophysics or mechanical engineering background. A computational modelling background would be helpful but not essential. The applicant will be expected to have 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

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

For further information, please contact:
Prof. Paul Hazell
Email: p.hazell@adfa.edu.au; Phone: +612 6268 8266
School of Engineering & Information Technology
UNSW@ADFA Canberra ACT 2600 Australia