Are you a maker with a love of experimentation and research? Are you interested in developing cutting-edge sensor instrumentation for medical and aerospace applications? If you are, then take a look at this post-graduate PhD research scholarship available in the School of Engineering and Information Technology at The University of New South Wales, Canberra.

Project Details:

When carbon nanotubes are added to a polymer, they can make the polymer conductive, and the resistance of the material can change when it experiences a bulk force. This property, known as piezoresistivity, is very useful for pressure sensing in many engineering applications.

This project will investigate the piezoresistive properties of carbon nanotubes doped into ultra-high molecular weight polyethylene and other polymer materials for applications in flexible polymer sensing. Two application areas — knee implant technologies and surface pressure measurements in hypersonic air vehicles — will be considered. Films will be prepared and used in embedded microcontroller systems, to make independent measurements while the systems are in use. Successful implementation of these projects will result in better and longer-lasting medical prostheses and a better understanding of hypersonic aerodynamics. Applicants should have a degree in electrical or aerospace engineering, with an interest in embedded microcontrollers and instrumentation, as well as an excellent academic record or equivalent experience in a related discipline area.

The successful applicant, subject to admission will be awarded a UNSW Canberra Research Training Scholarship with an annual tax-free stipend of $25,853 (2013 rate). This scholarship is for a period of 3 years, subject to satisfactory progress reviews. The successful applicant would be expected to be available to commence their studies no later than Session 1, 2014 and must be on campus and enrolled at UNSW Canberra in the relevant PhD program by 31 March 2014. Applications will be accepted until a suitable candidate is found.

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.

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