

# PhD Scholarship

The Australian Research Council (ARC) Training Centre for Automated Manufacture of Advanced Composites (AMAC) <http://advanced-composites.unsw.edu.au> was established in 2017 under the Industrial Transformation Research Program (ITRP). With UNSW as the administrating node, AMAC is a collaboration between UNSW, ANU, Technical University of Munich (TUM) and nine industry partners. It combines world-class composites manufacturing capabilities with a high-value, industry focused research training experience to nurture and develop future innovators. Composites research in Australia has been identified as an area of national research strength and a key component of Federal Government's Advanced Manufacturing innovation agenda. The research organisations (UNSW Sydney, ANU & TU Munich) provide the knowledge and cutting-edge capability that, through the Centre programs, will transform advanced composites manufacturing for Australian Industries.

The Centre is seeking an exceptional applicant for a PhD project on **Composite Marine Propeller Durability**, as detailed below, to be based at UNSW Sydney. This is a collaborative project between Australia's Defence Science and Technology Group (DST Group), AMAC industry partner and AMAC.

**Due to the nature of the project, only applicants with an Australian citizenship or Permanent Residency will be considered for this position.**

## PhD Scholarship

A stipend of AUD\$ 41,209 is available to successful candidates for 3 years, with a possible 6-month extension. The successful applicant will be entitled to a support package of up to AUD\$ 10,000 per annum for career development activities.

## Project Description

This PhD project is part of a DST Group research program to understand durability of composite materials under operational conditions including the effects of water absorption and foreign body impact behaviour. The program will develop numerical tools that can model the effect of water absorption on material behaviour and predict damage progression and the final damaged state after foreign body impact. The numerical methods developed will open up new ways of tailoring the mechanical response of marine propellers to give greater resistance to foreign body impact events and ultimately improve the reliability of composite marine propellers in service.

## Selection Criteria

Bachelor (Honours) or Masters degree in Mechanical, Civil, Materials or Manufacturing Engineering; at 1st class or upper second class level, or equivalent. The candidate must meet the UNSW admission requirements for the Higher Degree Research <https://selfassessment.research.unsw.edu.au/>

- Demonstrated research capability (e.g. through thesis work) in the area of fibre composite materials
- Evidence of industry experience relevant to the proposed field of study
- Evidence of design, analysis, experimental and modelling skills for composite materials
- Excellent interpersonal, communication and management skills

## Application Process

Applications should be submitted to Professor Gangadhara Prusty. The application should consist of a CV, a statement addressing the selection criteria, transcripts, graduation certificates and testamurs of previous tertiary study. Three referees must also be nominated. All applicants are encouraged to use the HDR Self-Assessment Tool <https://selfassessment.research.unsw.edu.au/> to help give an indication of your eligibility and competitiveness for a scholarship (please attach a screenshot of the outcome in your application).

## Enquiries

Please contact Professor Gangadhara Prusty, E: [g.prusty@unsw.edu.au](mailto:g.prusty@unsw.edu.au)