



## PhD Scholarship (Composites Manufacturing)

Centre for Future Materials, University of Southern Queensland

### About us

The University of Southern Queensland (USQ) is a dynamic regional University committed to developing research solutions that deliver a global impact. With a vision to be a leading discovery partner in priority research areas, USQ aligns its research with regional and global agendas in agriculture and natural resource management, regional development, regional health and wellbeing, engineering, education and digital literacy.

The Centre for Future Materials (CFM) delivers world class research in the design and development of innovative materials for diverse engineering applications. With a strong focus on polymer and concrete composites, CFM drives the development of low cost, sustainable, automated production technologies, servicing the aerospace, space, defence, marine, wind energy and civil sectors. The Centre has a significant portfolio of research activity and funds from the ARC, CRC and Industry and hosts researchers who have contributed to USQ's recent Excellence in Research for Australia 2018 rating of well above world class for Materials Engineering.

### PhD Scholarship

USQ has recently been awarded a US Air Force grant to develop self-learning process modelling in composites manufacturing. Production cost is one of the key barriers to increasing composite structural applications in the military aircraft programs. Automation drives down the production cost in composites manufacturing. Self-learning process modelling works in two stages: (1) real-time prediction of defect formation, and (2) real-time optimisation of process correction parameters. Self-learning process modelling is the enabling technology towards real-time process self-correction. We are looking for one PHD student on this research topic.

### Candidate Selection Criteria

Your energy and initiative, combined with your interest regarding thermoset composites manufacturing will be vital to your success in this role. In addition, you will have:

1. a Bachelor's degree with First Class Honours or Second Class Honours (Division A) at an Australian University or equivalent in materials engineering, mechanical engineering, mechatronic engineering, computer engineering or



2. a Master's degree at an Australian University or equivalent (containing a significant research component) with a GPA of at least 5 on a 7-point scale

### **The location**

As a PhD student of USQ, you will experience rewarding campus life and community. You will also join a diverse, highly motivated and collaborative team of researchers - all while enjoying the relaxed lifestyle and family-friendly atmosphere afforded by living in Toowoomba.

USQ Toowoomba is located on the beautiful Darling Downs in Queensland. Situated on the edge of the picturesque Great Dividing Range, just one and a half hours west of Brisbane and only two hours from both the Gold and Sunshine Coasts, Toowoomba offers all the benefits of urban living without any of the big-city pressures. With a population of approximately 160,000 residents, Toowoomba has an enviable reputation for quality of lifestyle and world-class education. Escape the pressures of big city life while still pursuing your career goals and enjoy all that this thriving regional community has to offer.

**Remuneration:** 3-year scholarship, with university tuition fee waiver and annual stipend AU\$30,000 tax-free.

**If you want to pursue a PhD study in these research areas, we invite you to submit your resume/CV. You can send your resume/CV to Dr Xuesen Zeng (email: [Xuesen.zeng@usq.edu.au](mailto:Xuesen.zeng@usq.edu.au)).**