PhD Studentship in modelling compressive failure of composite pipes

Applications are invited for a research studentship in the field of computational modelling in composite failure, leading to the award of a PhD degree. The post is supported by a full bursary and fees (at the UK/EU student rate) provided by EPSRC and Shell (EPSRC industrial Cooperative Award in Science and Technology – iCASE). The position is open to UK and EU (ordinarily resident in the UK throughout the three years period preceding the start of the studentship) students who fulfil the eligibility criteria for the award. Please check your suitability at the following web site: http://www.epsrc.ac.uk/skills/students/help/Pages/eligibility.aspx

The project’s aim is to understand the mechanism of compressive failure in composite pipes, a key technology for deep water applications. This will require the development of advanced models to study the effects of the fibre/matrix interface (interphase region), fibre debonding and matrix slippage on the composite longitudinal compressive and fatigue strength of flexible composite pipes in extreme environments, with the aim of providing a better understanding of the relevant failure mechanisms of thermoplastic composite materials under deepwater working conditions. The research carried out will be strongly complemented by the experimental techniques developed by the Shell AIMS Centre at Imperial college to study fibre/matrix interfacial strength, DIC methods to measure critical strains and stresses and provide evidence of failure modes in different conditions.

You will be an enthusiastic and self-motivated person who meets the academic requirements for enrolment for the PhD degree at Imperial College London. You will have a first class honours degree in Mechanical/Chemical Engineering, Physics, Material Science, Chemistry, Computing or related subjects, and an enquiring and rigorous approach to research together with a strong intellect and disciplined work habits. An interest in theory and simulation of materials and application of computational methods to engineering problems is essential. Good team-working, observational and communication skills are also essential.

To find out more about research at Imperial College London in this area, go to:
http://www3.imperial.ac.uk/mechanicalengineering
http://www.imperial.ac.uk/tribology
http://www.imperial.ac.uk/theory-and-simulation-of-materials

For information on how to apply, go to:
http://www.imperial.ac.uk/mechanical-engineering/study/phd/how-to-apply/

For further details of the post contact Prof. Daniele Dini d.dini@imperial.ac.uk +44 (0)20 7594 7242 or Dr Finn Giuliani f.giuliani@imperial.ac.uk. Interested applicants should send an up-to-date curriculum vitae to Prof. Dini. Suitable candidates will be required to complete an electronic application form at Imperial College London in order for their qualifications to be addressed by College Registry.

Closing date: until post filled

Imperial Managers lead by example.

Committed to equality and valuing diversity. We are also an Athena SWAN Silver Award winner, a Stonewall Diversity Champion, a Two Ticks Employer, and are working in partnership with GIRES to promote respect for trans people