Title: Nuclear Structural Integrity

Type of award  PhD Research Studentship

Department  Mechanical Engineering

Scholarship Details  Scholarship covers full UK/EU (EU applicants who have been resident in the UK for 3 years prior to 1st September 2018) PhD tuition fees and a generous tax-free annual stipend at the current RCUK rate (£14,777 in 2018/19) plus an industrial top-up, subject to contracts.

Duration  3 years

Eligibility  Home/EU

Starting Date  From November 2018 onwards

PhD Topic Background/Description
The Solid Mechanics Research Group (SMRG), based in the Department of Mechanical Engineering at University of Bristol (UoB), has PhD positions available in the field of structural integrity for nuclear industry applications. These studentships provide an excellent opportunity to carry out research in close collaboration with industry supporting the low carbon energy sector in the UK.

The SMRG has a long-term research partnership with EDF Energy, who are responsible for operating the UK’s Advanced Gas-cooled Reactor (AGR) nuclear power plants. This focuses on the behaviour of nuclear plant operating at high temperatures and has recently been extended for another 5 years, resulting in these new studentships becoming available. A related stream of research with UK Atomic Energy Authority (UKAEA) at Culham Centre for Fusion Energy has broadened SMRG’s structural integrity activities to include nuclear fusion.

The studentship topics include: Multi-axial creep; Creep damage; Plasticity; Weldments; Probabilistic Modelling; Fracture of thin-walled components. There is sufficient flexibility in the research programme so that candidates can shape research projects in line with their own interests in consultation with their supervisors.

You will join a highly dynamic and well-resourced research group; you will receive excellent support for technical training and personal development and, should you want them, there are many opportunities for STEM outreach and public engagement. SMRG currently has nine academic staff and approximately twenty researchers (postdoctoral staff and research students). The group has substantial laboratory capabilities at Bristol, including the support of two full-time technicians. SMRG is also a regular user of international and UK central multi-user facilities such as Diamond Light Source and ISIS Neutron and Muon Source.

URL for further information:  http://www.bristol.ac.uk/engineering/research/solids/
Further Particulars

Candidate Requirements
We are looking for an enthusiastic student with a 1st or 2:1 degree (and/or Masters) in Engineering, Physical Sciences, Materials Science, Mathematical Sciences.

Understanding of the principles of nuclear and/or thermal power generation would be desirable.

Informal enquiries
For informal enquiries please contact Professor David Knowles (Head of SMRG) 
David.knowles@bristol.ac.uk or Dr Mahmoud Mostafavi (Reader in Structural Integrity)
m.mostafavi@bristol.ac.uk

For general enquiries, please email came-pgr-admissions@bristol.ac.uk

Application Details
To apply for this studentship submit a PhD application using our online application system [www.bristol.ac.uk/pg-howtoapply]

Please ensure that in the Funding section you tick “I would like to be considered for a funding award from the Mechanical Engineering Department” and specify the title of the scholarship in the “other” box below with the name of the supervisor.

Apply now

Closing date for applications: 31 March 2019