Applications are invited for a research studentship in the field of non-destructive evaluation (NDE) leading to the award of an Engineering Doctorate (EngD) degree. The post is supported by a bursary and fees (at the UK/EU student rate) provided by EPSRC, together with a generous top up by the sponsor company, Rolls-Royce. EPSRC candidates should fulfil the eligibility criteria for the award. Please check your suitability at https://www.epsrc.ac.uk/skills/students/help/eligibility/

The studentship is offered through the EPSRC Doctoral Training in Quantitative NDE which is a partnership between a select group of universities and companies offering a 4-year industrial doctorate designed to launch outstanding graduates into an engineering career. With close links to the related UK Research Centre in NDE, students are part of a vibrant community of more than 200 researchers and have access to a range of technical training courses delivered by world leading experts.

The UK nuclear submarine fleet plays a vital role in ensuring the safety and security of this country. Rolls-Royce is responsible for the design, manufacture and maintenance of the nuclear power plants at the heart of all of these submarines. To assist in the continued safe operation, each reactor is inspected both during manufacture and periodically in-service, using a range of non-destructive evaluation (NDE) techniques. These can identify any defects or damage that could affect safe operation and may require repair. These inspections represent a significant investment both financially and in time.

Rolls-Royce has an opportunity for an outstanding student to become involved in the development of new and exciting inspection technologies. This project will focus on structural health monitoring, which offers an alternative approach to conventional inspection. This would involve the permanent installation of sensors within the reactor compartment. These sensors are able to provide continuous information on the condition of safety critical components. This could assist in reducing the amount of in-service inspections, increasing the availability and improving the overall safety of plant. This project aims to take structural health monitoring techniques and ideas currently applied in other areas of industry and develop them such that they can be applied within the reactor compartment. The project will involve a mix of experimental and numerical (finite element) work and will cover a variety of technologies.

The student will study at Imperial College London but spend at least 50% of their time at the premises of Rolls-Royce in Derby.

You will be an enthusiastic and self-motivated person who meets the academic requirements for enrolment for a doctorate at Imperial College London. You will have a 1st class honours degree in mechanical engineering, physics or a related subject, and an enquiring and rigorous approach.
to research together with a strong intellect and disciplined work habits. Good team-working, observational and communication skills are essential.

To find out more about research at Imperial College London in this area, go to: http://www.imperial.ac.uk/nde/ and for information about other projects available through the Doctoral Training centre go to: https://www.rcnde.ac.uk/how-to-apply/

For further details of the post contact Prof Keith Newton at k.newton@imperial.ac.uk. Interested applicants should send an up-to-date curriculum vitae to Nina Hancock n.hancock@imperial.ac.uk +44 (0)20 7594 7068. 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: (31 July 2018)

*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*