REAL-TIME EMULATION OF COMMUNICATIONS FOR SMART GRID PROTECTION AND CONTROL

A PhD STUDENTSHP WITH INTERNATIONAL COOPERATION

UNIVERSITY OF STRATHCLYDE (UK) with RTDS (Canada) and the ENERGY TECHNOLOGY PARTNERSHIP

The University of Strathclyde (UK) and RTDS (Canada) now seek an excellent PhD candidate to undertake research in the area of real-time emulation of communications networks for supporting the validation of smart grid control and protection functions. The successful candidate will benefit from a state of the art research environment (www.strath.ac.uk/research/technologyandinnovationcentre/), an internationally recognised and recently enhanced microgrid and protection laboratory, and a dynamic research team within the University of Strathclyde’s Institute for Energy and Environment (www.strath.ac.uk/eee/research/iee). Though normally based at the Institute in Glasgow, the PhD student will also spend time with the RTDS team (www.rtds.com) in Canada. This exciting research opportunity builds on the University of Strathclyde’s strong track record in applying real-time simulation techniques for validating advanced power system protection and control functions.

The research work focuses on the accurate and high fidelity characterisation of smart grid communications networks, integrated within a real time hardware in the loop environment, and utilised to provide rigorous appraisal of innovative protection and control functions. Increasing attention is being given globally to distributed control and wide area measurements, and as a result the need for systems testing is becoming apparent to many in the smart grid community – with international cooperation undertaken within the SIRFN annex of the International Smart Grid Action Network ISGAN (www.iea-isgan.org/). This funded PhD provides an excellent candidate with the opportunity to make a leading and high profile contribution in this domain.

Candidates with strong programming skills, knowledge of power/communications systems modelling and simulation, and relevant laboratory experience will be particularly welcome to apply. A strong commitment to smart grids research is required, as is a desire to work closely with international partners. You can expect that this studentship will build excellent practical skills in the development and experimental testing of smart grid functions and communications, and will be supported by joint supervision from Strathclyde academics and RTDS real-time simulation specialists.

Student eligibility

Applicants should have a degree in electronic and electrical engineering, or computer science and have communications networks and laboratory experience. Applicants must be UK or EU nationals and possess or be about to obtain a 1st class Honours degree or MSc with Distinction (or equivalent) in a relevant discipline. The annual stipend will be approximately £13,860 (tax free) subject to annual inflation, for three and a half years, with all PhD supervision fees paid.

How to apply

This PhD is available for entry from April 2015 onwards. Potential applicants are invited to send their CV and a covering letter highlighting their interests and suitability for the project to Professor Graeme Burt (Director, Institute for Energy and Environment) at graeme.burt@strath.ac.uk, referencing “USTRATH-RTDS PHD”. 