The University Of Sheffield.

Automatic Control & Systems Engineering.

Dorothy Hodgkin Postgraduate Award (DHPA) for a PhD in Learning in Multiobjective Optimisation

This 3-year award covers the stipend and overseas fees for a PhD research programme in the Rolls-Royce University Technology Centre in Control and Systems Engineering.

Research Area:

The research will be undertaken in the University Technology Centre (UTC) in Control and Systems Engineering supported by Rolls-Royce. The Centre is devoted to research in the areas of control and monitoring of gas turbine engines. *Control System Architecture Design* is currently an important research area currently under investigation. Within a multiobjective optimisation framework, this research uses a range of models and design experience to evaluate functionality, assess reliability and safety, and measure costs, weight, etc. Many trade-off solutions are generated by the multiobjective optimiser during the design process. This PhD research programme will focus on what learning might arise through mining of these solutions. Many objectives are posed in the design problem, leading to issues relating to cognitive interpretation of trade-off information, for example. A major thrust of the research will be the extraction of learning and rules from the solutions arising out of the optimisation, by inspection of objective and decision variable space information. In turn, this learning will be used to improve the optimisation and design process.

Financial Arrangements:

The Award covers overseas fees **and** maintenance for 3 years. In the academic year 2010/2011 the stipend is £ £13,590. (See http://www.rcuk.ac.uk/ResearchCareers/dhpa/Pages/FAQsstudents.aspx.)

How to apply **-** See http://www.shef.ac.uk/acse/news/releases/dhpa2011.html

Deadline for applications: Friday, 22nd April 2011