EPSRC Engineering Doctorate in Sustainability for Engineering and Energy Systems

Optimising sustainability, performance and public health protection in the design and operational life cycle of sports and leisure pool complexes

The University of Surrey hosts a prestigious EPSRC-funded Engineering Doctorate (EngD) in Sustainability for Engineering and Energy Systems (see www.surrey.ac.uk/engd/sees). The EngD is awarded for doctoral research carried out within a framework of relevant industrial experience and professional development courses. The four-year programme provides the intellectual challenge of a PhD combined with industrial problem solving. EngD Research Engineers (REs) will normally spend approximately three-quarters of their time based with their industrial sponsor.

A studentship is available with the Surrey Sports Park, a world-class sporting facility based at the University of Surrey in Guildford, due to open in 2010. Swimming is an extremely popular form of physical exercise and increased participation is being actively promoted as part of national public health policy. There is an increasing requirement to implement soundly-based mitigation strategies for risks inherent in various aspects of pool design and use, particularly microbiological and chemical hazards linked to pool water and air quality. There is also an increasing need to optimize swimming pool design to reduce operational costs and develop energy efficient systems that reduce the carbon footprint of these types of facilities.

This multidisciplinary research project will tackle these design and operational challenges from an integrated building services, chemical and pathogen-control perspective. The aim is to develop robust methodologies, utilising interactive computational-based models, including fluid dynamics, to evaluate and optimise swimming pool design and operation strategies from different perspectives: energy use, infection risk, user comfort, athlete performance and cost. The research project will develop these design tools and establish specific evidence-based solutions that address critical issues in existing pools. This project will generate the knowledge base required to establish the most effective designs for both refurbished and new pools, informing future policy on statutory standards and regulation. The aim is to safeguard pool-users and the aquatic leisure industry workforce, while also meeting environmental and economic objectives for pool performance.

Funding details
The Research Engineer recruited will be based with the Surrey Sports Park with support from the University of Surrey's Faculty of Engineering and Physical Sciences and Robens Centre for Public and Environmental Health, along with the leisure and water industries.

We are looking for a suitably qualified and well-rounded graduate who can conduct research and meet demanding deadlines whilst working in a busy organisation. The ideal candidate will be a broad, innovative thinker with a willingness to work in a small cross-disciplinary team of highly qualified, dedicated scientists and engineers, while also being self-motivated and able to work independently. Good written/oral communication skills and an outgoing personality are essential.

Academic qualifications, experience and attributes required:

- A good honours degree (first or upper second class) and/or MSc in engineering or other relevant discipline with a strong basis in mathematics and modelling;
- A keen interest in sport;
- Prior experience in microbiology and chemical analysis is not essential though demonstrating a keen interest and willingness to learn is essential;
- A willingness to perform routine monitoring and interpretation/application of scientific data.

The current stipends for EngD studentships are £19,500 per annum or above. To be eligible for funding, applicants must demonstrate a relevant connection with the UK (see www.epsrc.ac.uk/PostgraduateTraining/StudentEligibility.htm).

Closing date: 16th February 2010. Interviews will be held on 22nd February at the Surrey Sports Park, Guildford. Please note that the project will commence on the 1st March 2010.

For further information and project details, please contact:
Miss Nicki Ledger, tel: 01483 682350, email: engd@surrey.ac.uk