

**The Department of Electronics, University of York
(in collaboration with School of Computing, University of Kent)**

Industrially Focused PhD Research Studentship

Pervasive Service Provision using Adaptive, Dynamic Systems

There is an increasing need for personalising in a timely, relevant and flexible way the delivery of services to individuals. Systems providing such services should be able to adapt, over time, to a changing user profile in response to a diverse set of data sources. Information filtering is the process of filtering incoming data streams based on a description, or a constructed profile of a user, or in some cases a group of users. User profiles will adapt to a variety of changes ranging from frequent variations in a user's short-term needs, to occasional larger alterations in behaviour such as the purchasing of new goods. Profiles are required to dynamically adapt to the varying activities of the user to effect useful recommendations that may well affect user behaviour.

Pervasive Adaptation (PerAda) covers a broad research strand that has been developing in pervasive computing and communication systems research for a number of years now. This research revolves around making pervasive systems more adaptive and more human-oriented. Pervasive systems are subject to a number of influences that set them apart from classical (non-pervasive) systems: they are woven into the fabric of every-day life, they appear in a massively distributed fashion and consist of relatively small-scale devices. On the other hand, an overall pervasive system can be of massive scale. PerAda denotes a wide range of concepts for fitting such a pervasive system to its task, to the human user and to its environment.

As part of the continuing collaboration, since 2002, between York, Kent and an international IT company on the development of novel intelligent algorithms, we are able to offer a 3 year funded PhD studentship based in the Department of Electronics, University of York. The work will focus on the development of adaptive intelligent algorithms, architectures and techniques that are capable of creating a dynamic system, possibly deployed on hand-held devices, that enables a user centric service provision. This provision allows customers to not only purchase goods and services that they regularly use, but also allows for the alteration the purchasing behaviour of the user. The candidate will be expected to interact on a regular basis with the industrial collaborator, spending extended periods of time throughout the PhD working closely with them. This will provide the student with an excellent opportunity to understand research from an industrial perspective and apply research in a real-world setting.

You will be expected to have completed a degree in Computer Science, Electronics or a related subject, and have an interest in embedded systems, machine learning and bio-inspired computation. The studentship will be supervised Professor Jon Timmis (York), Dr Rogério de Lemos (Kent) and representatives of the industrial partner. The funding includes fees for home (EU) students, and approximately GBP 13,200 pa (tax free) as a stipend. Overseas students are welcome to apply but will be required to pay the differences in fees between EU and overseas.

Informal enquiries about the post can be made to Prof Jon Timmis (email jt517@ohm.york.ac.uk).

The post is for 3 years starting as soon as possible in 2010.

Closing date for applications: 12th February 2010

Applicants should apply via the normal University of York procedures which can be found at <http://www.york.ac.uk/graduatestudy/>, and in addition send an email to Prof Jon Timmis attaching a CV and a 500 word statement outlining why you are applying for this studentship, both in PDF format.