Information on Vice-Chancellor's PhD Scholarship - Ref: VCS-ENG-04-12

School/Institute:	**School of Engineering**

Lead Supervisor:	**Dr Kamran Arshad**

Project Title:	**Spectrum Aggregation for Dynamic Spectrum Access based Cognitive Networks**

Project Description (175 words max):

Future networks success is highly dependent on the provisioning of enhanced, always available and reliable services that poses requirements for higher data rates and spectrum. For downlink peak data rates of 1Gbps users will be demanding bandwidths up to 100MHz and above. It is hard to believe that a continuous portion of such a wide spectrum is available in many countries including UK. Spectrum aggregation recently received increasing attention but still possess several technical challenges. This project will propose solutions of spectrum scarcity problem by employing spectrum aggregation in dynamic spectrum access using cognitive radio. In particular, successful candidate will develop mechanisms for spectrum opportunity identification and virtual spectrum aggregation in cognitive radio network to effectively aggregate disjoint portions of spectrum into a virtual channel based on user Quality of Service (QoS) demand and location requirements. The main objective of the project is to propose novel spectrum aggregation algorithms by considering spectrum availability dynamics with the aim to provide required QoS to the users.

The successful applicant will be based at the University's Medway campus.

Duration:	**3 years**

Bursary available (subject to satisfactory performance):
Year 1: £ 13590(Sterling)   Year 2: Subject to review   Year 3: Subject to review

Person Specification:

Criteria (all requirements are Essential):

Education and Training:

1st Class or Upper 2nd class Honours Bachelors Degree or Masters degree (UK or UK equivalent) in a relevant discipline

For those whose first language is not English or if from a country where English is not the first language , a language proficiency score of at least IELTS 6.5 (in all elements of the test) or TOEFL 100 ibt (600 pbt) unless the degree above was taught in English **and** obtained in a majority English speaking country, e.g. UK, USA, Australia, New Zealand, etc.

Experience and skills:

Previous experience of undertaking research (e.g. undergraduate or taught Master's dissertation)

Personal Attributes:

Understands the fundamental differences between a taught degree and a research degree in terms of approach and personal discipline/motivation
Able to, under guidance, complete independent work successfully

Other requirements:

This studentship may require Foreign and Commonwealth Office Academic Technology Approval Scheme (ATAS) approval for the successful candidate if from outside of the EU/EEA (depends on topic and methodologies used)

Closing date for applications:

17:00hrs UTC on Friday 13th July 2012.

For further information contact:

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Making an application:

An application form is available at: http://www2.gre.ac.uk/research/study/apply/application_process.
This should be completed and returned to postgraduateresearch@gre.ac.uk. Before doing so you are advised to liaise with the designated university contact above.