

Title: Heterogeneous Mobile Edge Computing

Type of award PhD Research Studentship

Department Electrical and Electronic Engineering

Details Scholarship covers full UK/EU (EU applicants who have been resident in the UK for 3 years prior to application) PhD tuition fees and a tax-free stipend at the current RCUK rate (£14,296 p.a. in 2016/17), enhanced by an additional industrial 'top-up' making a total of £17,000 p.a. when all contracts are in place.

Duration 4 years

Eligibility Home/EU applicants only

Start Date From September / October 2016

Deadline Open until filled

PhD Topic Background/Description

This is an exciting opportunity to conduct PhD research in the area of Heterogeneous Mobile Edge Computing (MEC) or Fog Computing. The studentship is co-funded by the Engineering and Physical Sciences Research Council and by Toshiba Research Europe Ltd, as part of an Industrial Cooperative Award in Science & Technology (Industrial CASE). In addition to the funding provided by the scholarship, Toshiba will provide industrial supervision and will facilitate a 3-month research internship.

MEC is expected to attract tremendous attention across academia and industry and has also been recognized by the European 5G PPP as one of the key emerging technologies for 5G networks. MEC aims to enable the billions of connected mobile devices to execute the real-time compute-intensive applications directly at the network edge. The distinguishing features of MEC are its closeness to end-users, mobility support, and dense geographical deployment of MEC servers.

At the moment, research on MEC is at a very early stage, with many key issues still open. As a PhD project, possible research topics may include, but not limited to:

- Distributed data storage, caching processing, and management at the MEC platform
- Application-aware performance optimization
- Radio Network-aware content optimization
- Real-time load prediction models to optimize user satisfaction
- Smart and efficient MEC scheduling to optimise resource allocation and to enhance reliability and scalability

The project will require a mix of theoretical and practical skills.

You will join Communication Systems and Networks, a large research group with long-standing track record on wireless communications, the Internet of Things and a variety of other areas. This will provide you with access to CSN's state-of-the-art testing and measurement equipment, world-leading laboratory facilities and unique software capabilities.

You will be expected to support the activities of the CSN Group, including contributing to the supervision of MSc Research Students, attending and presenting your research at international conferences, and writing research papers on the outcomes of your research.

Further Particulars

Doing research at the University of Bristol

The quality of research at the University of Bristol places it within the top five Universities in the UK based on the Research Excellence Framework and Times higher Education rankings 2014-15. The PhD candidate will be a part of a friendly and diverse community, with the Bristol Doctoral College (BDC) as the focal central coordinating facility. Alongside the specialist training the candidate will receive in PhD-specific topics, the BDC offers approximately 200 courses, interactive workshops and seminars as a part of the University's Personal and Professional Development Programme for PGR students. The BDC organises University-wide events and provides a hub of information, guidance and resources to help researchers to get the most of their time at Bristol.

Candidate Requirements

Students with a 2.1 or first class degree in relevant engineering, computer science, mathematics, physics or similar numerate discipline will be considered for a studentship. The project requires knowledge and skills in computer networks, mobile communications, and/or cloud computing. Some experience in software development is desirable but not strictly required.

Scholarship Details

Research Council £14,296 p.a. in 2016/17 plus an additional 'top-up' by the industrial partner making a total of £17,000 p.a. when all contracts are in place.

Informal enquiries

For informal enquiries please email Dr George Oikonomou, g.oikonomou@bristol.ac.uk

For general enquiries, please email ggen-pgrs@bristol.ac.uk

Application Details

To apply for this studentship submit a PhD application using our [online application system](#) [www.bristol.ac.uk/pg-howtoapply]

Please ensure that in the Funding section you tick "I would like to be considered for a funding award from the Electrical and Electronic Engineering Department" and specify the title of the scholarship in the "other" box below with the name of the supervisor.

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