Newcastle University PhD Studentship Award

Title
PhD Studentship in Formal Verification and Synthesis of Cyber-Physical Systems

Value of award
Full UK/EU fees (eligibility criteria applies to EU students) and annual living allowance of £14,777 (at the 2018/19 UKRI rate)

Number of awards
1

Start date and duration
To start before September 2019 for 3.5 years

Application closing date
15th February 2019

Overview
Cyber-physical systems (CPS) are systems of collaborating computational elements controlling physical entities. Composition of continuous and discrete models is essential for capturing the behaviour of such systems. Verification and synthesis of CPS are algorithmically studied using abstraction techniques and model checking tools. The goal of this studentship is to focus on formal verification and controller synthesis of CPS models by addressing robustness and scalability of the algorithms, while taking uncertainty into account, utilising available data from the system and synthesising optimal controllers. Application areas of the research include smart grids, energy networks, systems biology, and transportation networks.

This studentship provides a unique opportunity to perform interdisciplinary, high-impact research within a group of interdisciplinary researchers. The successful candidate will work closely with Dr Soudjani and will join the AMBER group, which gives possibility of close collaboration and interaction with scientists in CESI centre on energy applications and in ICOS group on Biosystems.

The School of Computing, including the AMBER group, has recently moved in a new, state-of-the-art, £58 million building which is highly sensorised and can be used a unique research facility.

Sponsor
Engineering and Physical Sciences Research Council

Name of supervisor(s)
Dr Sadegh Soudjani

Eligibility Criteria
UK/EU citizens with a first-class or 2.1 degree, or equivalent qualifications and/or experience. Ideally, students should have a BSc or MSc degree in Engineering, Mathematics, Computing, or a related discipline.

How to apply

You must apply through the University's online postgraduate application system. To do this please 'Create a new account'. All relevant fields marked with a red asterisk must to be completed.

The following information will help us to process your application. You will need to:
• Insert the programme code **8050F** in the programme of study section
• Select **'PhD Computer Science - (Computing Science)** as the programme of study
• Insert the studentship code **COMP013** in the studentship/partnership reference field
• Attach a covering letter and CV. The covering letter must state the title of the studentship, quote reference code **COMP013** and state how your interests and experience relate to the project
• Attach degree transcripts and certificates and, if English is not your first language, a copy of your English language qualifications

Please also send a copy of your CV and covering letter to computing.phd@ncl.ac.uk and Sadegh.Soudjani@ncl.ac.uk.

Contact

Sadegh.Soudjani@ncl.ac.uk