

School of Electronic Engineering and Computer Science PhD Studentship in Geometric Modelling of 3D Point-Cloud Data

Applications are invited, for a funded PhD studentship, to undertake research into 3D point-cloud representations of objects and scenes. All nationalities are eligible to apply for this studentship, which will start in September/October 2014.

The project will be concerned with modelling data from outdoor laser-scanners and indoor depth-cameras, as well as from multiple-view reconstructions. The primary objective is to develop new geometric representations of 3D point-clouds, based on recent work in applied mathematics and statistics (e.g. Discrete Differential Geometry and Topological Data Analysis). The new representations will be designed to help answer scientific questions about the natural environment, ranging from the statistics of 3D scene-structure to the processes of landscape geophysics.

The project will be based in the new interdisciplinary **Centre for Intelligent Sensing** at QMUL (<http://cis.eecs.qmul.ac.uk/>). The student will be supervised by Dr Miles Hansard and Prof Andrea Cavallaro (EECS), and will collaborate with Prof James Brasington (Geography). The student will have access to a variety of 3D capture-systems, including a long-range outdoor laser-scanner, as well as a large amount of existing geographic data. There will be opportunities to participate in fieldwork, coordinated by the School of Geography. Two sources of funding are available:

- An EPSRC studentship is available to candidates with UK residency. This studentship is for 3.5 years and will cover student fees and a tax-free stipend starting at £15,720 per annum. Full details and eligibility conditions can be found at <http://www.epsrc.ac.uk/skills/students/help/Pages/eligibility.aspx>. Candidates should state if they are eligible for this studentship.
- An International studentship is available to candidates without UK residency and is for 3 years. This studentship covers student fees and a tax-free stipend of £15,720 per annum.

Candidates should have a first-class honours degree or equivalent, or a good MSc Degree, in Computer Science, Physics, Mathematics or Electronic Engineering. Candidates must be confident in **applied mathematics**, and should have some **programming** experience. Previous knowledge of Computer Vision and Geomatics is not required.

Informal **enquiries** can be made by email to Dr Miles Hansard (miles.hansard@qmul.ac.uk). Please see also: <http://www.eecs.qmul.ac.uk/~miles/> and <http://www.eecs.qmul.ac.uk/~andrea/>.

To apply, please follow the on-line process (www.qmul.ac.uk/postgraduate/apply) by selecting 'Computer Science' in the 'A-Z list of research opportunities' and following the instructions on the right-hand side of the web page.

Please note that instead of the 'Research Proposal' we request a 'Statement of Research Interests'. Your statement should answer two questions: (i) Why are you interested in the topic? (ii) What relevant experience do you have, including mathematical modelling and programming? Your statement should be brief: no more than 500 words or one side of A4 paper. **In addition** we would also like you to send a sample of your written work. This might be a chapter of your final year dissertation, or a published conference or journal paper. More details can be found at: www.eecs.qmul.ac.uk/phd/apply.php

The closing date for the applications is 31 January 2014. Interviews are expected to take place during February 2014.