

Fully Funded EPSRC PhD Case studentship.

Project Title: Development of New generation Surface Metrology Software

Applications are invited from suitably qualified graduates for a **fully funded PhD studentship** (3 years) for Renishaw/Royal Academy Research Program within the **EPSRC Future Manufacturing HUB for Advanced Metrology**. The EPSRC HUB sets out to create ground breaking embedded metrology and universal metrology informatics systems to be applied throughout the manufacturing value chain as an essential tool to achieve significant growth and productivity gains in UK manufacturing.

The PhD Project

Surface metrology is facing significant challenges from new generation manufactured products including high added value products with freeform/ structured surface, additively generated components that are generally represented using point cloud or triangle mesh data. This PhD project is to develop next generation geometry/surface metrology software for the characterisation of new types of freeform and structured surfaces. It will include:

- Create and build a reconfigurable framework for advanced metrology software;
- Generate user-friendly toolboxes to represent and manipulate the surface topography data (including point cloud and mesh data);
- Integrate advanced in-house algorithms (decomposition, association, texture mapping/parameterisation and characterisation) into the metrology software.

This exciting research project is highly industrially relevant and of great scientific interest and therefore will offer the candidate the possibility to establish successful industrial and academic collaborations.

Eligibility: The student must have a high-grade qualification, at least the equivalent of a UK 1st or 2:1 class degree or MSc with distinction in computing science, mathematics or related disciplines. The student must be proficient in both written and spoken English, and possess excellent presentation and communication skills. The applicants are also expected to have excellent software programming ability: (1) Solid fundamentals of C/C++/C# program development; (2) Familiar with COM techniques; (3) OpenGL and GDI/GDI+ development;

Salary: £15,285 (2020/21 EPSRC Standard)

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