3D measurement systems - performance evaluation and enhancement

**Funding:** EPRSC CASE PhD studentship with Nikon Metrology, duration 3.5 years

**Supervisors:** Dr Jafar Jamshidi, [Prof Mark Williams](mailto:mark.williams@warwick.ac.uk)

**Start Date:** October 2016

**Background to project**

This project provides an outstanding opportunity to be involved in high impact, cutting edge research while also giving you valuable exposure to a major area of industry through companies such as Jaguar Land Rover and Airbus UK. The project will allow you to develop expertise in the metrology that is an integral part of manufacturing industry, especially the high value sector.

A research partnership focused on metrology systems capability enhancement and optimum utilisation has been set up by Nikon Metrology and the Product Evaluation Technologies Group in WMG at the University of Warwick. The research partnership will make use of WMG’s world leading expertise in technology innovation, focusing on high impact research and collaborative metrology-related projects with the automotive industry.

Advanced metrology system providers make continuous investment in the development of the next generation 3D dimensional measurement systems. This should be in line with the requirements of the end users, especially in high value manufacturing sector. The problem is that the true requirements are often vague or fully unknown. Even the capabilities of most existing systems are not utilised well. The inevitable poor demand and low production rate for metrology system OEMs results in high cost for advanced measurement systems.

**PhD project**

This research will analyse the gap between the true requirements and the capabilities of the next generation metrology technologies. It will provide application strategies and solutions for best fitting technology with application. The specific research questions and objectives will be defined in collaboration with the PhD supervisor at the start of the project.

The successful candidate will be based in the [Product Evaluation Technologies group](mailto:) in WMG at the University of Warwick. The group aims to demonstrably apply new metrology system technologies in real industrial applications. The group is currently involved in several multidisciplinary research projects employing a number of advanced digitisation and measurement systems in its metrology labs. The current research areas of the group include, metrology system integration, measurement system analysis and uncertainty evaluation, reverse engineering, measurement assisted automation for manufacturing and assembly applications, measurement process planning, new product validation and verification.

**Funding Details:**

Stipend of circa £14,000 per year, for 3.5 years, plus top up funding of £3,000 per year From Nikon Metrology.

Available only for UK or EU citizens who meet EPSRC criteria for full funding.
Eligibility:

Candidates should hold a 1st or 2.1 degree or equivalent in a related science or engineering discipline.

A strong interest in working within the automotive or aerospace sector is desirable, as is the ability to engage and communicate with end users.

Application:

To apply, please complete our online form and upload your CV.