

Title of studentship:	Four-year EngD scholarship with the National Composites Centre: "Integrated Defect Detection for Automated Composites Manufacture"
Faculty/School/Department(s)	Faculty of Engineering (University of Bristol)
Location	National Composites Centre, Bristol (BS16 7FS)
Salary/stipend	£20,450 p.a.
Hours	Full time
Contract (temp/perm)	Contract/temporary
Closing date	31 st August 2019/Once vacancy is filled

Project Title:

Integrated Defect Detection for Automated Composites Manufacture

Project Outline:

The focus of this EngD project is to understand, improve, and integrate defect detection and classification of composites fabrics during manufacture. This is a critical area, for example, in Automated Fibre Placement (AFP) when defects may typically be found through manual intervention in an otherwise mechanised system. By integrating an automated defect detection and classification system, it is anticipated that data will be used more effectively, with the aim of reducing the need for costly re-work.

The project will bring together automated inspection and machine learning technologies for a key industrial application. In the first 12 months, the EngD will identify and validate defect detection methods for industry-relevant features using a demonstrator part. The EngD will also develop a methodology for machine learning in order to use the collected defect data to improve decision-making. The EngD will create a demonstrator system based around an AFP system located at the NCC, and work with industrial partners to determine a route to exploitation for their own environments.

Following on from this, it is envisaged that such a system could be enhanced to allow it to be used for production monitoring and indicate likely causes when defects are found. Furthermore, the EngD will investigate how design and process parameters could be optimised to improve the overall design-make system, working towards right-first-time production for composites.

PLEASE NOTE: Applications are considered as soon as they are received, and the position will be allocated as soon as a suitable candidate is found.

How to apply: If you are interested in applying for this EngD project please send your CV, covering letter and academic transcript to fdc-composites@bristol.ac.uk

About the IDC and the EngD programme:

For further information about the IDC and the EngD programme please visit:

<http://www.cimcomp.ac.uk/idc>

Candidate requirements:

PLEASE NOTE THAT THIS PROJECT IS NOT AVAILABLE TO INTERNATIONAL STUDENTS DUE TO TIER 4 VISA REQUIREMENTS.

Applicants with 'home student' status and holding or about to graduate with a first or 2.1 degree in structural or chemical engineering, materials science or physical sciences.

Funding:

Stipend: £20,450k p.a.

Standard EPSRC studentship eligibility criteria apply:

<http://www.epsrc.ac.uk/skills/students/help/Pages/eligibility.aspx>

Contacts:

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or contact idc-composites@bristol.ac.uk