Title of studentship:	Four-year EngD scholarship with the National Composites Centre: "Development of liner-less lightweight composite pressure vessels"
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	31st August 2019/Once vacancy is filled

Project Title:
Development of liner-less lightweight composite pressure vessels

Project Outline:
As industry moves towards a zero-carbon economy, there is rapidly increasing demand for lightweight pressure vessels to contain gaseous and liquid hydrogen in transportation (aerospace, automotive, rail and marine), as well as for energy storage (e.g. for wind farms). This project aims at developing liner-less, lightweight composite pressure vessels through the use of the state-of-the-art automated deposition technologies owned by the NCC. The overall objective is to design and manufacture a minimum-mass pressure vessel suitable for the transport and energy markets. The research work will cover the entire design, manufacturing and validation process, from material selection to mechanical and functional testing of the manufactured demonstrator.
In the first 12 months, the research work is likely to include the following activities:

- Identification of the State of the Art in terms of materials suitability and filament winding manufacturing capabilities
- Identification of pressure vessel requirements across the transport and energy sectors
- Material suitability study for liner-less composite pressure vessels (e.g. through permeability coupon tests)
- Proposition of collaborative work with external partners (e.g. potential collaboration with Horizon 2020 funded EnableH2 hydrogen aircraft, or NCC Lighthouse project) to identify funding streams for manufacture of full-scale demonstrator pressure vessels.

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 idc-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:
For further information about the IDC and the EngD programme please visit:
http://www.cimcomp.ac.uk/idc
or contact idc-composites@bristol.ac.uk