

Engineering Doctorates in Composite Material, Mechanics, Design and Manufacture

Type of award **Engineering Doctorate**

Department **Aerospace, research group BCI**

Scholarship Details **An enhanced stipend of £22,124 for 2022/23, a fee waiver and generous expenses for the successful candidates.**

Duration **4 years**

Eligibility **Home/EU (UK settled status) with permanent UK residency**

Start Date **Flexible from September 2022**

Opportunities for doctoral studies at Bristol Composites Institute and National Composites Centre.

The NCC has supported the Industrial Doctorate Centre (IDC) in Composites Manufacture for many years. We are now seeking 5 high calibre candidates to join our IDC and take up these new studentships. You will be based at NCC and will work on pre-commercial, yet industrially focused, cutting-edge research, whilst following a taught programme at University of Bristol. The projects will be concentrated on some of NCC strategic areas including Sustainability, Digital Engineering, and the move to an intensified Hydrogen Economy. We are seeking highly motivated engineers with an eye on the future, who are interested in conducting stimulating and essential industrial research in areas such as:

- **Hydrogen technologies** for both short- and long-term needs developing future storage solutions, focusing on predicting performance and residual life involve detailed simulation and testing.
- **End-of-life recycling supply chain and market demand** for recyclate, principally focusing on the market demand involving a technical, economical and environmental (LCA) approach to adapting and developing design guidelines, evaluating processing issues and demonstrating application concepts.
- **Sustainable polymers and composites** focusing on materials chemistry bridging the academic research and the increased demand from industry for materials data spanning performance, processing and environmental credibility.
- **Connecting material and component design in the circular economy** with a focus on the Energy sector to reduce environmental impact.
- **Large-scale automated manufacturing techniques** for structures such as wind turbine blades to reduce the variation induced by manual processes and to use lower-cost raw materials by creating new approaches to towards the goal of zero-waste.
- **Construction and Infrastructure** by increasing adoption of composite materials in areas yet to embrace their advantages.
- **Computer modelling of composites manufacturing processes** to avoid defects in production and understand the mechanisms that generate defects in automated manufacturing processes.

Candidate Requirements

Applicants must hold/achieve a minimum a 2:1 MEng or merit at Masters level or equivalent in engineering, physics or chemistry. Applicants without a master's qualification may be considered on an exceptional basis, provided they hold a first-class undergraduate degree. Please note, acceptance will also depend on evidence of readiness to pursue a research degree.

If English is not your first language, you need to meet this profile level:

Profile E

Further information about [English language requirements and profile levels](#).

Basic skills and knowledge required:

Essential: Excellent analytical skills and experimental acumen, commensurate with a good degree in engineering or equivalent. Ability to communicate complex ideas to a non-technical audience

Desirable: A background understanding in one or more of the following:

- Some industrial experience or internship
- Interest in engineering design
- Awareness of environmental impact of engineering
- Interest in outreach and developing community

Scholarship Details

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For eligibility and residence requirements please check the [UKRI UK Research and Innovation](#) website

Funding is open to EU applicants who have no restrictions on how long they can stay in the UK and have been ordinarily resident in the UK for at least 3 years prior to the 1st day of the month in which the student starts the programme (with some further constraint regarding residence for education).

Informal enquiries

Please email Professor Janice Barton (janice.barton@bristol.ac.uk)

Application Process

If you are interested in making an application, please complete and submit the [online form](#) and send your CV and transcript of results to Helen.Howard@bristol.ac.uk.

Selected candidates will be invited to attend an informal interview with NCC prior to candidates being invited to formally apply to the University in August 2022 following approval.

The initial closing date for applications is **15 August 2022**. The positions will however remain available until all scholarships are awarded.

For questions about eligibility and the application process please contact the Industrial Doctorate Centre fdc-composites@bristol.ac.uk