Welcome to the Bristol Composites Institute Postgraduate Research and Training Showcase 2021

Tuesday 13th April 2021

bristol.ac.uk/composites
Welcome and Introduction

CDT Director: Professor Steve Eichhorn

bristol.ac.uk/composites
CDT vision and evolution

To develop highly talented science and engineering graduates by giving them the technical toolsets and the multidisciplinary research and professional skills required to become the next generation of technology leaders in the science, engineering, and manufacture of advanced composite materials.

- Established in 2019 with £6.3m award from the EPSRC
- Training outstanding graduates until 2028
- Embedded within the Bristol Composites Institute (ACCIS)
- Funded by EPSRC, University and industrial partners
- Significant industrial support
- National and international academic collaborations
- Evolved from two previous composites CDTs spanning 2009-2022
What we offer

- 4-Year PhD in Advanced Composites
- At least 10 funded places per year
- Cohort-driven training approach
- Transferable skills training
- International and industrial placements
- Public engagement
- Integrated taught component:
  - Small group teaching
  - Hands-on laboratory work, including flagship group design, build and test (DBT) project
  - Individual 3-month exploratory research project
- Wide choice of cutting-edge PhD projects – blue skies and applied
Our cohorts

• First two intakes in 2019 and 2020
• 21 core students, plus 2 aligned students
• Diverse backgrounds in engineering (chemical, computer systems, aerospace, mechanical) and science (chemistry, physics materials)
• UK, EU and international
Taught component

- 12 months / 180 credit points
- Tailored to academic background
- Additional support for non-engineers
- Wide range of topics comprising:
  - Core composites units
    - e.g. Mechanics of Composite Materials, Advanced Composite Materials
  - Broadening units
    - e.g. Sustainable Composite Material, Smart Materials, Nature’s Materials
  - Deepening units
    - e.g. Advanced Composites Analysis, Composite Product Development
- 3-month Research Project from June-September (60 cps)
- Adapted for online delivery from March 2020 due to the Covid-19 pandemic
Research component

3-Month Research Project June-September of Year 1
• Projects sought from wide-ranging research interests of BCI and our external industrial / academic collaborators
• Can develop into a PhD project

PhD Project Years 2-4
• Projects chosen towards the end of Year 1
• £7k personal PhD project budget (conference travel etc)
• International Placement Scheme

Read project summaries on the website at: bristol.ac.uk/composites/cdt/research-projects/
Collaborators

- Airbus
- CHOMARAT
- Centre for Process Innovation
- ELG Carbon Fibre
- FiberLean Technologies
- GKN
- Heraeus Holdings GmbH
- Hexcel
- INSA
- National Composites Centre
- ORE Catapult
- Oxford Space Systems
- QinetiQ
- Rolls-Royce
- Solvay
- Vestas
- Victrex

- Deakin University
- Harvard University
- Hong Kong University of Science and Tech
- Lulea University of Technology
- Massachusetts Institute of Technology
- Nantes University
- RMIT University
- Technical University of Dresden
- Texas A and M University
- University of British Columbia
- University of Delaware
- University of Leuven
- University of Michigan
- University of Nottingham
- Zhejiang University

- Placements
- Site visits
- Short courses
- Student-run industrial seminar series
  - iCOMAT, Solvay, NCC, ATI
- Industry sponsored prizes
  - Best taught mark (ORE Catapult)
    - 2020 joint winners: Chantal Lewis & Chris Grace
  - Best 3-month project (Hexcel)
    - 2020 winner: Calum McInnes
- PhD project sponsorship
  - Rolls Royce, Solvay, ORE Catapult, ELG-Carbon Fibre
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