

Bristol Composites Institute Doctoral Research Symposium

12 April 2022

Programme

9:00 Posters and Tea / coffee with complimentary breakfast rolls

10:00 Presentations

- **Introduction and update on CDT activities**
Professor Steve Eichhorn, Director of the CoSEM CDT
- **Technical presentations on current PhD research**
Third and Fourth Year CDT Students – chaired by Prof Ian Hamerton

Materials Theme:

- PLA-Hydrogel Fractal Acoustic Composite Metamaterial for Sound Insulation (Gianni Comandini)
- The Influence of the Humidity on the Mechanical Properties of 3D Printed Continuous Flax Fibre Reinforced Poly (lactic acid) Composites (Charles De Kergariou)
- Life Cycle Framework and Sustainable Design (Will Proud)
- A Computational Chemistry Approach to Modelling High Strain Rate Viscoelastic Materials (Matt Bone)
- Microporous Carbon/Sulfur Composites for Hydrogen Storage (Charlie Brewster)
- Advanced High-Fidelity Modelling of Woven Composites (Ruggero Filippone)
- Architecture Optimization of 3D-Printable Lattice Structures with an Evolutionary-Based Approach (Athina Kontopoulou)
- 4DBioMArc: Project Overview (Joe Surmon)

11:00 Tea / Coffee Break

11:15 Structures Theme:

- GATOR Morphing Aircraft Skins (Rafael Heeb)
- WrapToR Truss Stiffened Skin Panels for Aerospace Applications (Chris Grace)
- Embedded Stiffening Grids in Laminated Plates and Shells (Calum McInnes)
- Design of 3D Printed Wind Turbine Blades Using Topology Optimisation (Alex Moss)

Manufacturing & Design Theme:

- Prosthetic Socket Design: Development of Functional Requirements (Kevin Alarcon)
- The most influential uncertainties in thermoset curing (Adam Fisher)

- **One minute oral overview of posters**

Second Year CDT Students

Research represents all three themes of the CDT with wide scope. For example, development of new functional materials (*green concrete, porous hydrogen storage, nanocomposites for superconductivity*), innovative design strategies (*folding wingtips, digital engineering of space composites*), and new manufacturing techniques (*intelligent composite forming, inductive heating, elongation behaviour of recycled tapes*).

- **Alumni**

Dr Michael Dicker CDT alumnus CTO Actuation Lab
Introduced by Prof Paul Weaver ACCIS CDT Director

12:30-14:00 Lunch and posters

A selection of 4 main dishes with salad, a buffet bar and dessert.

Please be advised that photographs will be taken at this event, and that these photographs may be used on the University website, and in University publications, including matters relating to the University's marketing and editorial functions.