



A Graphene Sensor for Defect Detection
and Predictive Maintenance in Composite Materials

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Graphosite Partner:



Brunel Composites Centre

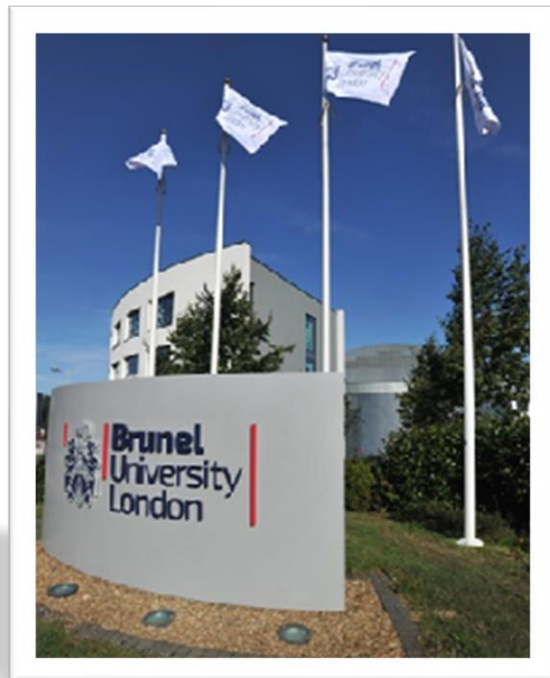
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Who we are

Brunel University London has been highly successful in creating an industrial innovation research resource, named Brunel Composites Centre (BCC), which sits between the knowledge base and industry, supporting partners in industry to transfer academic research into industrial application. BCC is a shared research and technology capability specialising in novel composites processing and joining technologies, applied to industrial environments. It undertakes joint research programmes and aims to develop the next generation of technologies and engineers.

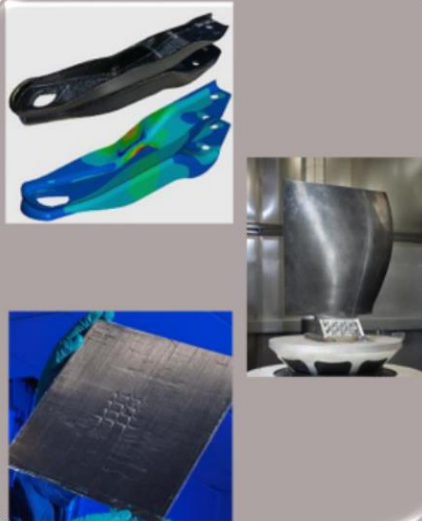
Objectives:

- o Create solutions for better processing and joining of composites
- o De-risk innovation in composites for quick industrial adoption
- o Establish a world leading reputation in composites and joining



Our Product and Services

- Multiscale FEA capabilities
- NDE & SHM for composite material
- Development of structural health monitoring systems for composite structures.
- Composites digital solutions
 - Digital tools and GUI development for FEA and non-FEA based applications
 - AI and ML implementation for composite manufacturing design, SHM and NDE including defects classification and detection
- Composites joining without mechanical fastening
- Developing advanced out-of-autoclave tooling
- Microwave heating in composite production
- Novel processing of composites
- Composites-metal joints
- Coatings for composites
- Adhesive bonding
- LCCA



Our Team

Dr Nithin Jayasree is a Team Leader at the Brunel Composites Centre. He has participated in various industrial research projects primarily in the automotive and aerospace sectors. He is currently working for BCC for various research projects including GRAPHOSITE, which involves development of a Graphene Sensor for defect detection and predictive maintenance in composite structures.

Dimitrios Fakis is a Chartered Electrical Engineer, Specialized in Electrical Power Engineering, with a Diploma in Electrical and Computer Engineering from Aristotle University of Thessaloniki, Greece. Currently he is a PhD Candidate of Mechanical Engineering in Brunel University London, United Kingdom



Akram Zitoun is a Research Fellow at the Brunel Composites Centre. He has a broad knowledge in transducer designing and data acquisition and optimization. His work includes electromagnetism, guided wave generation and post processing. He also specialises in NDT and SHM applied to the Aerospace field.

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Innovate UK

GRAPHOSITE is an **Innovate UK** Project,
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