



Engineering and
Physical Sciences
Research Council



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11 Full Presentations, 3 Short Presentations with Poster,
& 1 Special Workshop

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ICCM Speakers



Dr. Aewis K.W. Hii, University of Bristol

A Multi-Scale Modelling Framework for Shell Elements: Applications to the Nonlinear Analysis of Composite Structures

Tuesday, August 1, 11:50 - 12:10, Meeting Room 1A



Dr. Jean Bénézech, University of Bath

Efficient Nonlinear Multiscale Spectral GFEM Applied to Composite Aerospace Structures

Tuesday, August 1, 12:10 – 12:30, Meeting Room 1A



Ms. Fen Huang, University of Bristol

Multi-scale Modelling the Effect of Voids on Short Beam Shear Strength of Composites

Tuesday, August 1, 17:50 - 17:55, Meeting Room 1A



Ms. Athira Anil Kumar, University of Bristol

Second-Order Homogenisation of 3D Woven Composites Using Shell Elements

Thursday, August 3, 13:05 - 13:10, Meeting Room 2B



Dr. Vincent Karel Maes, University of Bristol

Applicability of Historical Laminate Strength Data for Predicting Knockdowns for Wrinkles in Complex Parts

Wednesday, August 2, 10:00 - 10:20, Hall 1A



Dr. Qiuji Yi, University of Bristol

Evaluation of Asymmetric Wrinkles Using High Frequency Eddy Current and Ultrasonic Non-Destructive Testing Techniques

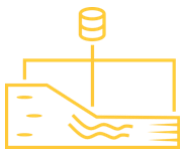
Thursday, August 3, 15:00 - 15:20, Bar 2



Mr. Jiraphant Srisuriyachot, University of Bath

Use of Micro-CT to Study the Effect of Voiding and Fibre Misalignment on Kink-Band Formation

Friday, August 4, 10:20 - 10:40, Meeting Room 2B



ICCM Speakers



Ms. Hiu Ling Leung, University of Bristol

Detecting Debonded Regions Through the Face Sheets of Sandwich Structures Using Mirror Assisted Imaging Techniques

Tuesday, August 1, 12:10 - 12:30, Main Auditorium



Dr. Tobias Laux, University of Bristol

Testing of Wind Turbine Blade Spar Cap to Web Joint Subcomponent Subjected to Multiaxial Loading

Tuesday, August 1, 16:30 - 16:50, Lagan



Mr. Rafael Ruiz Iglesias, University of Bristol

Identification of Subsurface Damage in Multidirectional Composite Laminates Using Full Field Imaging

Wednesday, August 2, 12:10 - 12:30, Main Auditorium



Dr. Geir Olafsson, University of Bristol

Evaluation of Subsurface Damage on Structural Scale with Integrated Full Field Approaches

Thursday, August 3, 10:20 - 10:40, Main Auditorium



Prof. Janice Barton, University Of Bristol

Identifying Damage in Multidirectional GFRP Composite Laminates Using Thermoelastic Stress Analysis

Thursday, August 3, 12:50 - 13:10, Hall 1A



Mr. Thomas Maierhofer, University of Bath

Radically Improving the Fracture Toughness of Bonded Thermoset Joints

Tuesday, August 1, 17:10 - 17:15, Lagan



Dr. Carl Scarth, University of Bath

Bayesian Calibration of a Finite Element C-Spar Model Using Digital Image Correlation

Wednesday, August 2, 10:40 - 11:00, Hall 1A



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ICCM Special Workshop



Modernising Routes to Compliance with Composite Regulations: A Journey towards Virtual Testing and Digital Twinning

organised by:

Prof. Ole Thybo Thomsen, *University of Bristol*
Prof. Janice Dulieu-Barton, *University of Bristol*
Prof. Stephen Hallett, *University of Bristol*
Dr Enrique Garcia, *National Composites Centre*
Prof. Richard Butler, *University of Bath*
Dr Andrew Rhead, *University of Bath*

Tuesday 1 August 2023, 15:00-18:40, Room: Arc

Programme

- 15:00-15:05: 'Welcome & background and aims of workshop / introduction to speakers': *Janice Barton, Bristol Composites Institute, University of Bristol, UK*
- 15:05-15:15: 'CerTest: scientific foundations for a novel framework for performance validation of composite aerostructures relying less on physical testing and adopting digital twinning', *Ole Thomsen, Bristol Composites Institute, University of Bristol, UK*
- 15:15-15:45: "'CerTest: enhanced performance and productivity through integration of multi-scale modelling, high-fidelity experimentation and Bayesian learning', *Richard Butler & Andy Rhead, University of Bath, UK*
- 15:45-16:00: 'Developing composite (and other advanced manufactured) product certification – a regulator perspective', *Simon Waite, EASA, DE*
- 16:00-16:20: Break
- 16:30-16:50: 'Session 1 Questions & Panel discussion' / chaired by *Janice Barton, Bristol Composites Institute, University of Bristol, UK*
- 16:50-17:05: 'Overview of current processes and future developments in composites certification – a wind turbine industry perspective", *Chris Harrison, DNV Denmark, DK*
- 17:05-17:20: 'VVUQ framework to assess credibility of simulation of composite structures', *Ludovic Barriere, IRT Saint Exupéry, F*
- 17:20-17:35: 'Regulatory barriers across to efficient validation and certification of composites across sectors and applications', *Enrique Garcia, National Composites Centre, UK*
- 17:35-17:50: 'An Airbus perspective on challenges in certification for future airframes', *Linden Harris, Airbus, UK*
- 17:50-18:05: 'Offshore wind turbine blade certification – challenges and opportunities', *Stephen Randall Vestas Wind Systems, UK*
- 18:05-18:20: 'Barriers and opportunities in certification of composites for infrastructure applications', *Lee Canning, Jacobs, UK*
- 18:20-18:40: 'Session 2 Questions & Panel discussion' / chaired by *Janice Barton, Bristol Composites Institute, University of Bristol, UK*

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