

The 16th International Conference on Flow Processes in Composite Materials

Day 1: Tuesday, January 14, 2025

Morning Keynote: Prof. Suresh G Advani (University of Delaware, USA)

Session I "Flow Modeling & Simulations I"

Session I Chair: Pascal Hubert, Simon Bickerton

Time	Presentation & Author(s)
7:30	Registration (All / Mingle)
8:20-8:30	Welcome: Prof. Rehan Umer
8:30 - 9:20	Keynote: Prof. Suresh G Advani, Role of modeling and simulation in the development and application of digital twin for liquid composite molding processes (University of Delaware, USA)
9:20- 9:40	Multiscale impregnation modeling using deep learning (Baris Caglar, TU Delft, Netherlands)
9:40 - 10:00	Finite element-assisted analysis of through-thickness impregnation behavior of polymer composite reinforcement textiles (Miro Duhovic, Leibniz Institute, Germany)
10:00 - 10:30	Coffee Break
10:30 - 10:50	Improved finite volume multiphase flow simulation model for strongly inhomogeneous porous media (Christof Obertscheider, University of Applied Sciences Wiener Neustadt, Austria)
10:50 - 11:10	Stokes-darcy fluid flow simulations within 3D interlock fabrics with capillary effects – experimental input influence and comparison with experimental output (Pierre-Jacques Liotier, IMT Mines Ales, France)
11:10 - 11:30	Numerical simulation for compression moulding of carbon fibre sheet moulding compound (Connie Qian, University of Sheffield, UK)
11:30 - 11:50	Comparison of different dual scale methods for numerical permeability prediction (Tim Schmidt, Leibniz Institute, Germany)
11:50 - 12:10	An FE implementation of coupled resin flow and preform deformation linked to residual stress and cure-induced distortion analysis in Abaqus (Mohammad Rouhi, RISE Research Institutes of Sweden)
12:10 - 12:30	The application of a numerical tool for smart in-situ sensing of defect features in large scale infusions (Jack Davies, University of Bristol, UK)
12:30 - 13:30	Lunch

Day 1: Tuesday, January 14, 2025

Afternoon Keynote: Assoc. Prof. Yu Dong (Curtin University, Australia)

Session II "Processing using Additive and AFP"

Session II Chair: Kamran Khan, Miro Duhovic

Time	Presentation & Author(s)
13:30 - 14:20	Keynote: Assoc. Prof. Yu Dong, Mechanical Behaviour of Recyclable 3D Printed Polymer Composites Using Digital Light Processing (Curtin University, Australia)
14:20 - 14:40	Numerical simulation of large format additive manufacturing to enhance layer adhesion and reduce warpage in glass fiber reinforced ABS structures (Pablo Catello, Universitat Politècnica de València, Spain)
14:40 - 15:00	Simulation-driven quality assurance for laser assisting automated fiber placement processing of carbon fiber thermoplastic composites (Samuel Requile, Coriolis Composites, France)
15:00 - 15:30	Coffee Break
15:30 - 15:50	Fully biodegradable polymeric composites for FDM 3D printing – Effects of reinforcing particle size and volume on flow and properties (Chamil, University of Manchester, UK)
15:50 - 16:10	Considerations for layer-by-layer manufacturing with snap-cure thermoset prepregs (Axel Wowogno, University of Bristol, UK)
16:10 - 16:30	Original concepts of ply drop configurations for improved mechanical performance in tapered composites (Erfan Kazemi, Imperial College London, UK)
16:30 - 16:50	On-line pneumatic compaction system for consolidation on a powder polymer towpreg processing line (Hanisa Hasrin, Sheffield University, UK)
16:50 - 17:10	Investigating the energy absorption performance of additively manufactured bioinspired honeycomb structures (Muhammad Khizer Ali Khan, Khalifa University, UAE)
17:10 - 17:30	Reconstruction-based approach for enhancing filament winding inspection in hydrogen storage tank manufacturing (Samee Ullah Khan, Khalifa University, UAE)