

DAY 1 MORNING SESSION

Tuesday June 7th
09:30 - 12:40



08:00 **Conference Registration Opens**

09:30 **Welcome & Introduction** Tim Morris | NAFEMS UK

09:40 **PLENRY SESSION 1**

Electromagnetics and Connected Modern Luxury Vehicles Emma Kowalczyk | Jaguar Land Rover

Understand Airborne Infection Risks - What can we Learn from Airflow and Risk Models? Catherine Noakes | University of Leeds

11:00 **REFRESHMENT BREAK**

A1 CIVIL

FE Analyses and Automated Design Workflow of a Large-scale Infrastructure Project
Luca Vacca | Robert Bird Partners Limited

Challenges and Opportunities for the Application of High-Fidelity FE Models to the Safety Evaluation of Masonry Structures in Major Infrastructure Projects
Francisco Xavier | Robert Bird Partners Limited

Survey Data Assimilation in Construction Sequence Simulation of a Large-scale Commercial Building
John Ward | Robert Bird Partners Limited

B1 OPTIMISATION

T Line. This is Brompton. Reinvented. FE Analysis and Optimisation to Support Lightweighting of Titanium Folding Bicycle Frame
Matthew Beresford | Brompton Bicycle Ltd

Multidisciplinary Optimisation of Steered-fibre Composite Wings
Olivia Stodieck | Dapta Ltd

An AI-Assisted Method for Simulation-based Design Analysis and Optimisation in Turbomachinery
Diego Lopez | Cranfield University

C1 SHORT COURSE

Simulation of Lubricated Contacts
Mahdi Mohammadpour
Loughborough University

12:40 **LUNCH**

Get Involved

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DAY 1 AFTERNOON SESSION

Tuesday June 7th
13:30 - 17:35



13:30

PLENARY SESSION 2

Reimagining Motion - From Simulation to Testing Roland Wanker | AVL List GmbH

Unlocking the Potential of Modelling and Simulation in your Organisation Andy Richardson | PHRONESIM Ltd.

14:35

REFRESHMENT BREAK

A2 CFD

A Practitioner's Perspective on Urban Microclimate Design in the City of London
Giulio Vita | Wirth Research Limited

Automating Turbo-Machinery Design and Validating Performance using CFD
Sean Horgan | 8020 Engineering Ltd

Development of New Methods to Map 3D Discrete Fields onto Shell Geometries for Increased Finite Element Model Efficiency
Marcello Visco | Crux Product Design

B2 DYNAMICS

Tribodynamic Modelling of High-speed Rolling Element Bearings in a Flexible Multi-body Dynamic Environment
Harry Questa | Loughborough University

Guidelines for the Verification of Frequency Domain Fatigue Analysis by its Corresponding Representation in the Time Domain
Giovanni De Morais | Dassault Systemes UK

Evaluate the Effects of Long Shaft Axial Expansion on Shaft System Vibration
Avijit Chauhan | Dassault Systèmes UK Ltd.

C2 MANUFACTURING PROCESS SIMULATION

Machining Induced Distortion Modelling of 316L Stainless Steel using FEM
Arman Zonuzi | Nuclear AMRC

Virtual Manufacturing, The Art of Industrial Gaming
Tim Williams-Wood | Rolls-Royce Group PLC

Integration of Materials Modelling into Processing Simulation of Additive Manufacturing
Zhanli Guo | Sente Software

16:05

REFRESHMENT BREAK

A3 V&V

A Simple Framework for the Checking and Reviewing of Engineering Analysis
Andrew Lennon | Cura Analytical

Everything You Wanted to Know About Verification of Solvers (But Were Afraid to Ask your Vendor)
Christopher Hickey | Arup

StAnd: A Dataset of Linear Static Analysis Problems
Luca Grementieri | Zuru Tech Italy

B3 DISCUSSION SESSION

Modelling Structural Failure: A Guided Discussion
Louise Wright | National Physical Laboratory

C3 MULTIPHYSICS & MULTISCALE

An Investigation on the Discrete and Finite Element Method Coupling
Jonatan Marín Pérez | University of Strathclyde

Multi-scale Lubricated Sliding Wear Modelling
Jack Walker | Loughborough University

Multi-Physics Dynamic Modelling of an Electric Vehicle from Road to Battery
Barry James | Romax Technology Ltd

17:35

DRINKS RECEPTION & BBQ

DAY 2 MORNING SESSION

Wednesday June 8th
08:45 - 13:25



08:45

PLENARY SESSION 3

A Measure Theoretic Construction of the Finite Element Method Mark Girolami | The Alan Turing Institute

Manufacturing 2050 - The Evolution to Autonomous Manufacturing Sam Turner | High Value Manufacturing Catapult

10:10

REFRESHMENT BREAK

A4 ELECTRIC VEHICLES

The Behaviour of Bearings in High-speed Electric Machines

Barry James | Romax Technology Ltd

A Weak Coupling Approach to Calculating the Effects of Electromechanical Interactions in an EV Drivetrain

Bartosz Lukasik | Romax Technology Ltd

Thermal Simulation of an Oil-Cooled E-Motor

David Percival | EnginSoft UK Ltd

B4 CAE IN THE DESIGN PROCESS

A Standardised Approach to Finite Element Analysis in the Design of Submarine Pressure Hulls

Richard Craven | QinetiQ

Adapted Dynamic Road Hazard Collision Model for Finite Element Analysis of Vehicle Chassis

Killian Shaw | University College Dublin

Modelling and Simulation: An Alternative Approach to Integrating Digital Tools in Design and Engineering

Raman Singh | Dassault Systèmes UK Ltd.

C4 SHORT COURSE

Understanding Solid Mechanics: A Pick-n-Mix of Basic Courses

Gino Duffett
NAFEMS

11:50

REFRESHMENT BREAK

A5 ENGINEERING DATA SCIENCE

Deep-Learning for Engineering Application: Technical Capabilities and Transformation of Industrial Processes

Andy Fine | Neural Concept Ltd.

Using Machine Learning and Simulation for the Optimization of Industrial Bulk Handling Processes – A Case Study on Bin Blending

Stefan Pantaleev | Altair Engineering

B5 COMPOSITES

Taking Fibre Steering of an Open Hole Panel from Concept to Test with a Continuous Digital Thread

Andrew Main | MSC Software Ltd.

Elastic Properties Prediction in Yarn-level Hybrid Composite Lamina

Giuseppe Romano | NAFEMS Italia

Multiscale Progressive Damage Modelling of 3D Fibre Reinforced Composites

Rizwan Choudhry | University of Derby

C5 SHORT COURSE

Process Integration & Design Optimisation: A Practical Guide

Gino Duffett
NAFEMS

13:25

LUNCH

DAY 2 AFTERNOON SESSION

Wednesday June 8th
14:30 - 16:35

14:30

PLENARY SESSION 4

CFD at Wirth Research - 18 Years of Continuous Correlation Rob Rowsell | Wirth Research Limited

(Model Based) Engineering for Ejection Seats: Tackling Increasing System Complexity and Interdependency Timothy Clark | Martin Baker Aircraft Company Ltd

15:20

REFRESHMENT BREAK

A6 VALIDATION

The Challenges of Simulation Validation on the Ariane 6 Galileo Dispenser

Pierre Baudoin | EikoSim

SafeZone: Method of Validating Airspace CFD Models for Drone Operation with Flight Test Data

David Standingford | Zenotech Ltd.

B6 SURROGATE MODELS

A Physics-informed Bidirectional Machine Learning Model for Wire Arc Additive Manufacturing

Yongle Sun | Cranfield University

Reliable Forecast of Gas Properties in Underground Storage

Martin Pauthenet | DATADVANCE France SAS



16:35

END OF CONFERENCE

