# NAFEMS UK Conference 2026 – Preliminary Agenda (subject to change) – Produced: 12 May 2026

## Day 1 – Tuesday, 19 May 2026

**8:00 AM** Registration

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| OPENING | 9:30 AM | **Conference Opening**<br>Tim Morris – NAFEMS UK |
| KEYNOTE | 9:45 AM | **Digital Twins for Healthcare: The Long-winded Path to Clinical Translation**<br>Adelaide De Vecchi – Kings College London |
| KEYNOTE | 10:30 AM | **Establishing Simulation Credibility for Aerospace Structures via the VVUQ Framework**<br>Javad Fatemi – Airbus Netherlands B.V. |

**11:15 AM** Morning break

### Session 1 11:40 AM – 12:55 PM

| | 1A – Digital Twins<br>Room A | 1B – Fatigue<br>Room B | 1C – HPC<br>Room C | 1D – Simulation Governance<br>Room D |
|---|---|---|---|---|
| 11:40 AM | **Real-Time FSI Analysis of Open-Wheel Front Wings via AI-Based Reduced Order Models**<br>Chiara Viani · Esteco SPA | **Fatigue Crack Growth Analysis of Scaled Components Using Finite Similitude Theory**<br>Peter Akhigbe-Midu · Rolls-Royce Group PLC | **CCC-ParaSolS: A UK Collaborative Computational Community In Particulate Solids Simulations**<br>Kevin Hanley · Edinburgh University | **Building Capable Efficient Simulation - Lessons From Industry**<br>Andy Richardson · PHRONESIM LTD |
| 12:05 PM | **The Grimoire of the Fusion Machine**<br>Lee Margetts · School of Mechanical Aerospace and Civil Engineering, University of Manchester | **Simulation of Fatigue in Composites Materials and Structures**<br>Melle Gruppelaar · MSC Software Ltd. | **Escaping Data Gravity: Transforming Simulation Outputs into Strategic Engineering Knowledge**<br>Navin Bagga · Rescale UK/Europe Office | **Rolls-Royce SMR: Building Modelling & Analysis Capability to Transform the Delivery of New Nuclear Power**<br>Richard Northall · Rolls-Royce Group PLC |
| 12:30 PM | | **Damage-Tolerance Simulation of Bolted L-Flange Connections for Life Extension of Offshore Wind Structures**<br>Rajab Said · Zentech International Ltd | **Accelerating HPC Engineering Workflows: AI, Storage, and Auto-Scaling**<br>Steve Messenger · Amazon Web Services - London | |

**12:55 PM** Lunch

### Session 2 1:50 PM – 2:40 PM

| | 2A – Automotive<br>Room A | 2B – Computational Fluid Dynamics 1<br>Room B | 2C – Food & Beverage Industry Session<br>Room C | 2D – Simulation Data Management<br>Room D |
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| 1:50 PM | **Optimising Flow in an Air-cooled Battery Pack for Light Vehicles**<br>Matthew Wigmore · Hexagon Manufacturing Intelligence | **The Aerodynamic Outsiders: Life at the Edge of Flight**<br>Jinjiang Li · School of Mechanical Aerospace and Civil Engineering, University of Manchester | **HARPPP: an AI-driven simulator-in-the-loop for the optimisation of industrial process equipment**<br>Christopher Windows-Yule · Birmingham University | **License Granularity To Grid Positions: Software Usage Reporting In Formula One**<br>David Boyle · Open iT |
| 2:15 PM | **Impact of AI/ML on Automotive Simulation Strategy: a Case Study into Aerodynamic Simulation**<br>Michael Bottomley · Bentley Motors | **Evaluating Model Validity**<br>Sorosh Mirfasihi · Manchester Simulations Limited | **Closing the Loop: Accelerating Packaging Design with Simulation & Smart Prototyping**<br>Alexander McKee · Blow Moulding Technologies | **Digital Engineering Matters**<br>Mark Norris · openSPDM Ltd |

**2:40 PM** Afternoon break

## Session 3 3:00 PM – 4:15 PM

| | 3A – CAE in the Design Process<br>Room A | 3B – Computational Fluid Dynamics 2<br>Room B | 3C – Multiphysics 1<br>Room C | 3D – How to Implement a Simulation Strategy<br>Room D |
|---|---|---|---|---|
| 3:00 PM | **Towards Performance-Driven Material Design Using Physics-Based Modelling and Optimisation**<br>Hamid Assadi · Brunel University London | **Wall Modelled Large Eddy Simulation for Industry**<br>Oliver Darbyshire · Zenotech Ltd. | **Room to improve - global structural analysis of subsea cables for offshore wind farms**<br>Andrew Lennon · Cura Analytical | **How to Implement a Simulation Strategy**<br>Andy Richardson · PHRONESIM LTD |
| 3:25 PM | **Engineering Simulation Empowering Non-expert Users To Free Up Expert Users**<br>Callum Scott-Russell · Huddersfield University | **Assessing the Limitation of RANS Turbulence Models in Predicting Interfacial Energy and Vorticity in Stratified Flows**<br>Nicolas Kukula · CEA | **Multi-Physics Simulation Solution For Fusion Applications - The Neutronics-Thermal-Structural Analysis Of A Breeding Blanket Module**<br>Eric Veron · Dassault Systemes France | |
| 3:50 PM | **From Tools to Agents: How Agentic Engineering Workflows Are Reshaping Simulation-Driven Product Developmen**<br>Alex Graham · SimScale GmbH | **CFD-Based Hydroacoustic Analysis of a Benchmark Marine Propeller**<br>Michael Clapp · Simerics UK | | |

**4:15 PM** Afternoon break

## Session 4 4:30 PM – 5:45 PM

| | 4A – Simulation for Manufacturing<br>Room A | 4B – Computational Fluid Dynamics 3<br>Room B | 4C – Verification and Validation<br>Room C | 4D – Systems Simulation<br>Room D |
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| 4:30 PM | **Simulation's Role in Design for Manufacture**<br>Matt Savage · STRIDE | **From Paper to Plane - Simulation Driven Design of a Novel Precooler**<br>Tom Elson · Element Digital Engineering | **Comparative Assessment of AI-assisted Predictive Simulation Tools**<br>David Russell · MTC Operations Ltd | **Advancing Systems Thinking in the Built Environment**<br>Mark Enzer · Mott MacDonald Limited |
| 4:55 PM | **Simulation of Composites Manufacturing Processes**<br>Andrew Main · MSC Software Ltd. | **From CFD to Certification: Quantifying Confidence in Thermal Oxidiser Compliance**<br>Sorosh Mirfasihi · Manchester Simulations Limited | **Regime Mapping and Machine-Learned Prediction of Flow-Blurring Atomisation Using Experiments and CFD**<br>Amir Kashmiri · School of Mechanical Aerospace and Civil Engineering, University of Manchester | **Beyond Single-Component FE: Operator Learning for Multi-Component and Gearbox Analysis**<br>Alex Donzelli · Fainite AG |
| 5:20 PM | **Structural Integrity Assessment of Components Repaired by WAAM: A Finite Element Framework Considering Material Anisotropy and Interface Zones**<br>Saleh Pouresmaeeli · NMIS | **Driving the Future of Vehicle and Transmission Design with Industry-Validated Simulation Approaches**<br>Robert Fridman · AVL Powertrain UK Ltd | **Using Simulation To Shape Testing: Lessons From An Induction Heating Case Study**<br>Heather Nute · MTC Operations Ltd | |

**6:15 PM** Optional Conference Dinner

**Optional Conference Dinner at Warwick Castle – pre-booking essential**

## Day 2 – Wednesday, 20 May 2026

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| KEYNOTE | 8:45 AM | **From Uncertainty to Capability: Shaping an Ecosystem that Learns Faster than the Technology Evolves**<br>Chris Waldon – STEP Fusion |
| KEYNOTE | 9:30 AM | **The Virtual Verification Factory: A Step Towards the Engineering Continuum**<br>Steven Pierson – Jaguar Land Rover |
| KEYNOTE | 10:15 AM | **Augmented Design Practices Keynote Speaker**<br>Willem Denmark – MTC Operations Ltd |

**10:45 AM** **Morning break**

### Session 5 11:10 AM – 12:00 PM

| | 5A – Simulation Supporting Certification<br>Room A | 5B – Uncertainty Quantification<br>Room B | 5C – Biomedical<br>Room C |
|---|---|---|---|
| 11:10 AM | **Designing for Safety with Simulation: Bridging Legacy and Modern Practice Using BS EN 1993-1-14:2025 for Mechanical Handling Equipment**<br>Wang Yeung · Cavendish Nuclear Limited | **Probabilistic Machine Learning to Enable Digital Twins for Fusion**<br>Cyd Cowley · digiLab Solutions | **Modelling Shear-Induced Cellular Damage Using a Coupled Particle-Continuum Framework**<br>Sarjeel Rashid · Loughborough University |
| 11:35 AM | **Vehicle Impact on H4a Parapets Bridging Reality, Simulation and Codes**<br>Adriano Banuelos · Mott MacDonald Limited | **A Robust Interval Prediction Framework for Tunnel Displacement Induced by Urban Excavation**<br>Juntao Hu · University of Strathclyde | **Accelerating Patient-Specific Cardiac Repair: A Multi-Cloud HPC and Machine Learning Workflow for the Living Heart Project**<br>Wolfgang Gentzsch · SimOps |

**12:00 PM** **Lunch**

### Session 6 1:00 PM – 2:40 PM

| | 6A – Augmented Design Practices 1<br>Room A | 6B – Dynamics 1<br>Room B | 6C – Materials<br>Room C |
|---|---|---|---|
| 1:00 PM | **What's Under the Hood? A Transparent, V&V Led Framework for AI Surrogates in Engineering Simulation**<br>Jana Stella · Neu Wave Technologies | **An Alternative to Fourier Analysis for Dynamic Systems**<br>Hugh Goyder · Cranfield University | **Instant Material Property Prediction for Simulation Using Machine Learning Trained on Large-Scale Materials Data**<br>Neil Baumann · Total Materia Ag |
| 1:25 PM | **Advancing Multiphysics Systems Simulation Capability for Fusion Engineering Concept Design**<br>Michelle Baxter · UK Atomic Energy Authority | **Normality Testing for Power Spectral Density (PSD)-based Fatigue Analysis**<br>Andrew Halfpenny · HBK UK Ltd. | **Harnessing Materials and Chemistry Foundation Models and Advanced AI to Accelerate Sustainable Supply Chains**<br>Dave Braines · IBM |
| 1:50 PM | **From CAD to Simulation: Bridging Workflows with Agentic-AI Architectures**<br>Theodosios Stergiou · Autodesk Ltd. | **Damping Control in Non-Linear Finite Element Analysis**<br>Daxue Sun · Sellafield Ltd | **Trusted Materials Data: What do Simulation Engineers Need?**<br>Louise Wright · National Physical Laboratory |
| 2:15 PM | **Beyond Optimisation: Using Machine Learning to Support Constraint Design**<br>Qi Qi · Secondmind | **From Virtual Models to Proven Devices: Gas Sensing and Energy Harvesting for Nuclear Safety**<br>Stephanos Theodossiades · Loughborough University | **Beyond the Ramberg-Osgood relationship for modelling materials**<br>John Sawyer · AtkinsRéalis |

**2:40 PM** **Afternoon break**

## Session 7 3:00 PM – 4:40 PM

| | 7A – Augmented Design Practices 2<br>Room A | 7B – Automated Workflows<br>Room B | 7C – Dynamics 2<br>Room C |
|---|---|---|---|
| 3:00 PM | **Augmented Design Practices 2**<br>Willem Denmark · MTC Operations Ltd | **Optimised Multi-Year Calibration for Improved Confidence in Wastewater Storm Overflow Modelling**<br>Ben Simms · STRIDE | **The Influence of Vessel Aspect Ratio on Internal Dynamics and Mixing Efficiency in Resonant Acoustic Mixing**<br>Hazal Hazal · University of Birmingham |
| 3:25 PM | | **Medial Axis Guided Morphing Of CAD To Match Medical 3D Scans For Mesh Generation And Simulation**<br>Chris Brampton · ITI, a Wipro Company | **Bridging the Gap Between Tolerance-Driven Nonlinear Dynamic Characteristics and Resource-Efficient Linear Simulations**<br>Pin Yang Ang · Saietta |
| 3:50 PM | | **Functional-Structure-Based Automatic Batch Meshing as an Industry Standard for Marine and Offshore Structural Simulation**<br>Risikesan Mahendran · Dassault Systèmes UK Ltd | **8C – Multiphysics 2**<br>**Analysis Driven Innovation Of A Fusion Power Plant Plasma Facing Component**<br>Tom Deighan · UK Atomic Energy Authority |
| 4:15 PM | | **Automated Optimization of Fluid Flow Distribution in Hydrogen Fuel Cells Using Surrogate-Based Methods**<br>Victor Cantu · pSeven SAS | **Simulation and Physical Testing: Effective Collaborative Working, Welding and Welded Structures**<br>Gajarajan Sivayogan · MTC Operations Ltd |

**4:40 PM** **Conference Close**