09:30 OPENING CEREMONY (TIM MORRIS)

09:45

PLENARIES

Carmen Torres-Sánchez | Loughborough University - A Journey from Physics-based Simulations to Data-driven Approaches to Help Bones Heal Faster

Michael Bottomley | Bentley Motors - The Importance of Modelling and Simulation in Engineering the Next Generation of Bentley Vehicles

11:00 REFRESHMENT BREAK

11:40

SYSTEM SIMULATION 1	DYNAMICS 1	GEOMETRY	BEST PRACTICES IN ENGINEERING SIMULATION 1
*Jean-Pierre Roux	DessIA Technologies* AI Based Automatic Generation of Optimal Thermal System Architectures	*Doğukan Elibol	Ford Otosan* Advancing Shock Durability Assessment: Accelerated Testing Strategies for Enhanced Performance and Resilience.	*Matthew Savage	EnginSoft UK Ltd* A Holistic Approach to Engineering Training: Applying Tolerance Analysis, GD&T, and Dimensional Management	*Andrew Pettifer	Collins Aerospace - Actuation Systems* Taking the analyst out of the box: removing the boundaries to achieve success
*Michelle Tindall	UKAEA* Systems Simulation for Concept Down Selection of Novel Fusion Engineering Blanket Designs	*Jack Reijmers	Nevesbu* Damping coefficients by experiment and the application in transient FE analyses	*Michael Scott	Coreform LLC* Industrial Applications of Isogeometric Analysis	*Andy Richardson	PHRONESIM LTD* Achieving Effective and Efficient Modelling & Simulation - Insights into the current position across industry sectors.
*Jürgen Schneider	AVL List GmbH* Battery Development Using Physics-based Modelling	*Luca Vacca	Robert Bird & Partners Limited* Human-Structure Interaction on Grandstands subjected to Dynamic Crowd Loads: a bespoke analytical method applied to real case studies	*Xinmin Fan	GE Vernover* Wind Turbine Direct Drive Pmg Machines And Airgap Prediction	*Tom Elson	Element Digital Engineering* The Elements of Simulation

12:55 LUNCH BREAK

13:50

PLENARIES

Jon Holt | Cranfield University - It's only a Model (shhh!)

Edward Throp | Mondelez - Simulation Deployment : The Mondelez Journey

15:20 REFRESHMENT BREAK

15:40

STUCTURAL ANALYSIS 1	DYNAMICS 2	PROBABILISTIC ANALYSIS 1	CONSUMER PRODUCTS, FOOD AND DRINK 1
*Florent Mathieu	EikoSim* Building simulation models credibility: what gain can we expect from test-simulation data fusion in solid mechanics?	*Avijit Chauhan	Dassault Systèmes UK Ltd.* Analysing Ride comfort in Realtime by integrating Flexible Body in White	*Jack Reijmers	NAFEMS Stochastic Working Group* The epistemic benchmark challenges	*Cameron Taylor	Reckitt* Numerical Design and Optimisation of Packaging for Sustainability
*Shakeel Seebooa	ITI, a Wipro Company* An Approach for Automated Hex Meshing of Complex Engineering Components	*Charles Barrell	Element Digital Engineering* Coupled vibro-acoustic finite element analysis for the assessment acoustic induced vibration in process equipment	*Andrew Halfpenny	HBK Hottinger Bruel & Kjaer UK Ltd.* Statistical qualification of complex systems based on zero-failure evidence	*Thrasyvoulos Konstantinos Elezoglou	Imperial College London* Macro and Micro - mechanical investigation of the mechanical behaviour of chocolate using Finite Element simulations
*Bob Johnson	Realistic Engineering Analysis Limited* Using Non-Linear FEA to bust the myth (or otherwise) of the long screwdriver	*Andrew Lennon	Cura Analytical* Analysing subsea cables for offshore wind	*Ross Allen	digiLab* Probabilistic machine learning and uncertainty quantification in complex and safety-critical engineering systems to guide engineering programmes	*Ali Sadeghioon	Innogence Ltd.* Bridging the gap between simulation and reality with embedded sensor systems for process optimisation
*Eric Veron	Dassault Systemes France* Efficient workflows to perform Physical Test and Simulation correlations	*Marco Ricardo Souza	Loughborough University* Neural Network aided design for NVH performance of electric powertrains	*Zidane Tahir	Gestamp UK Ltd.* Chassis durability - close virtual validation loop	*Padmeya Prashant Indurkar	Dassault Systèmes UK Ltd.* From PET Bottle Manufacturing to Pallet Transportation: Virtual Testing for Sustainability

17:20 SHORT BREAK

17:35

CFD 1	BEST PRACTICES IN ENGINEERING SIMULATION 2	PROBABILISTIC ANALYSIS 2	CONSUMER PRODUCTS, FOOD AND DRINK 2
*Nikolas Mitroglou	BETA CAE Systems UK Ltd.* Towards more accurate CFD simulations of High-Lift Aircraft Configurations	*Risikesan Mahendran	Dassault Systèmes UK Ltd.* The current challenges and benefits of Continuous Data Management	*Sebastian Rosini	UK Atomic Energy Authority* Probabilistic Design Approach in Fusion Reactor Development: A Case Study of High Heat Flux Component Design	*Panel discussion session led by the Food & Drink Industry Community*
*George Klavaris	Ansys UK Ltd.* Advancements in Computational Fluid Dynamics: An Early Exploration of GPU Solver Capabilities in Gas Turbine Combustion and Turbomachinery applications	*Max Starr	Amazon Web Services* Running Engineering Simulations on HPC in the Cloud	*James Lee	Stochastics Ltd.* Structural Reliability Analysis: Random Sampling or Machine Learning: it is only a matter of time (and accuracy).	
*Alan Rose	Corrdesa LLC* CFD Software Tools and Workflows for Corrosion Prevention Planning in Design and Sustainment	*Romain Klein	Rescale UK/Europe Office* Convergence of HPC and Machine Learning	*Doğukan Elibol	Ford Otosan* An Innovative Inquiry into Weld Durability Challenges in Heavy Commercial Vehicles: A Paradigm Shift Towards Robust Design through Strategic Material Optimization.	

18:25 SHORT BREAK

19:00 CONFERENCE DINNER

08:45 | **PLENARIES**

Michael T. Menzel | NASA - The Science and Engineering of the James Webb Space Telescope

Aiolas - AI for the NAFEMS Resource Center (Ian Symington, NAFEMS)

Day 2 - Wednesday - 12th of June, 2024

10:15 | **REFRESHMENT BREAK**

10:45

OPTIMISATION	MULTIPHYSICS 1	MANUFACTURING PROCESS SIMULATION	CODE VERIFICATION FOR CFD- STEVE HOWELL
*Olivia Stodieck	Dapta Ltd* Outcomes of the NAFEMS Optimization Survey: Low Hanging Fruit for Optimizing Optimization Adoption	*Michael Clapp	Simerics UK* Improving Electric Vehicle Transmission System Lubrication using 3D Transient Multiphase CFD Simulations	*Joanna Tumelty	CFMS Services Ltd* High-fidelity digital twin for Laser Metal Deposition by Wire	
*Yu Xia	Ansys UK Ltd.* Adjoint Solver-Based Shape Optimization for a Venturi Mixer	*Nikolas Mitroglou	BETA CAE Systems UK Ltd.* An Interdisciplinary FEA process of a Wind Turbine model	*Greg Nelson	Frazer-Nash Consultancy Ltd* Bayesian Optimisation for Manufacturing and Engineering Design	
*DongWook Yang	Hyundai Mobis* An Integrated Approach for Design Optimization in AI-Driven CAE	*Eric Veron	Dassault Systemes France* Enhanced Implicit-Iterative coupling algorithms for strongly-coupled multi-physics	*Leo Nolan	CFMS* Enabling high-rate manufacture of carbon fibre wings through simulation driven process optimisation	
*Gary Brotman	Secondmind AI Solutions* Machine Learning Meets Set-Based Design: A Practical Approach to Overcoming Complexity in Vehicle Design and Simulation	*Greg Nelson	Frazer-Nash Consultancy Ltd* Novel Analysis & Design Approach for Mitigation and Exploitation of Magnetohydrodynamic Effects in a Liquid Lithium Divertor Target	*Ruoyu Huang	Strathclyde University* Optimizing complex lightweight structures through Simulation, Automation and Design Optimization	

12:10 | **LUNCH BREAK**

13:10

EXPLICIT METHODS	MULTIPHYSICS 2	SYSTEM SIMULATION 2	MACHINE LEARNING FOR CFD - STEVE HOWELL
*Aljo Jose	AWE* Investigation Into The Effects Of Blockage And Frangible Tunnel Sections On Blast Pressure Profiles	*Maged Adel	TWI* Technical note on Fluid structure interaction of a hydrodynamically driven fracture	*Panagiotis Andreou	Loughborough University* Analytical Multi-physics of Electric Motor Vibroacoustics	
*Adam Thompson	Element Materials Technology* Bird Strike Analysis for Certification of Future Aircraft Propeller Blades: A combined modelling-testing approach	*Krishna Neaupane,	AECOM* Solving Ground Challenges: Applications of Soil-Structure Interaction Modeling in Foundations and Tunnels	*Richard Chippendale	Element Digital Engineering* Exploring the Future of Electromagnetic Certification in Consumer Electronics Through Simulation	
*Riccardo Lombardi	Noesis Solutions Italia S.r.l.* Enhancing Aircraft Safety Through Data-Driven Reduced Order Modelling for Birdstrike Analysis	*Stylianos Kanellopoulos	BETA CAE Systems SA* Smoothed Particle Hydrodynamics (SPH) Engineering Simulation for Micro-Scale Applications	*Ben Simms	EnginSoft UK Ltd* An Advanced Data Science & Optimisation Based Approach for Wastewater Network Planning	

14:25 | **SHORT BREAK**

14:40

FATIGUE	MACHINE LEARNING	BIOMEDICAL
*Andrew Halfpenny	HBK Hottinger Bruel & Kjaer UK Ltd.* Integration of Physical and Virtual tests for achieving high confidence in fatigue reliability of automotive battery systems	*Fabiola Cavaliere	SEAT* Enhanched CAE-ML techniques to improve the automotive design process	*Mudassar Khalil	Loughborough University* Simulation and physical validation of triply periodic minimal surfaces-based scaffolds for biomedical applications
*Shahryar Manzoor	Coventry Universit* Modelling of Corrosion Pit to Crack Transition	*Liam McManus	Siemens Industry Software NV* Leveraging GPU hardware for rapid training data generation and ML validation	*Laurence Marks	Laurence Marks Consultant* Parametric Models of the Human Knee for efficient workflows
Manuel Frank *Magna Powertrain Engineering Center Steyr GmbH & Co KG* Enhanced Low Cycle Fatigue Analysis utilising Neuber's Method		*Nico Haag	Physics* AI-enabled engineering
*Xinmin Fan	GE Vernover* Ice Breaker Shaft Line Fatigue Analysis		

15:55 | **SHORT BREAK**

16:10 | **PLENARY SESSION - CLOSING REMARKS**

END OF THE CONFERENCE