

ECCMR 2026 Programme Timetable (v8)

Showing Presenting Authors | Subject to change

Last Updated
(BST):

4 September 2026 17:18:15

Legend:

Theme 1	Ageing
Theme 2	Artificial Intelligence for Material Modelling, Property Enhancement & Optimisation
Theme 3	Constitutive Models for Elastomer Behaviour
Theme 4	Experimental Methods and Characterisation
Theme 5	Fatigue & Fracture
Theme 6	Micro-Structure to Property Relationships
Theme 7	Novel Industrial Applications
Theme 8	Smart Elastomer Materials: Applications & Modelling

Start	End	Day 1: Wednesday 9 September	
08:30	09:30	Conference Registration Arrival Teas & Coffee Mathematical Institute, University of Oxford	
		L1	
09:30	09:40	Opening Session & Welcome Address Prof James Busfield, ECCMR 2026 Conference Chair	
09:40	10:10	Plenary Talk: Towards Material Digital Twins: Data-Driven Constitutive Modeling of Rubberlike Materials Prof Hüsnü Dal	
		Session Chair: Mokarram Hossain	
Session 1			
		Stream A L1 (360 capacity)	Stream B L2 (210 capacity)
Start	End	Theme 1: Ageing Session Chairs: Michael Johlitz	Theme 5: Fatigue & Fracture Session Chair: William Mars
		<u>* Impact of Thermal Ageing on the Dynamic Mechanical Properties of Carbon Black-Reinforced Natural Rubber</u> Resül Sahin, Universität der Bundeswehr München	<u>A Coupled Data-driven Damage and Phase-field Fracture Model for Filled Rubber</u> Kemal Açıkgoz, Middle East Technical University Computer Aided Design
10:30	10:50	<u>An Examination of the Effect of Short-Term High Heat Exposure on Rubber Compounds. Part II: Polychloroprene Rubber</u> Richard Pazur, Department of National Defense	<u>A Novel Experimental Approach for Fracture Mechanics-Based Characterisation of Electrospun Polymeric Scaffolds</u> Mikel Isasi, Leartiker
10:50	11:20	Networking Coffee Break	
Start	End	Session 2	
		Theme 1: Ageing Session Chairs: Michael Johlitz	Theme 5: Fatigue & Fracture Session Chair: William Mars
11:20	11:40	<u>* Towards reliable fatigue prediction of aged rubber parts in automotive NVH systems</u> Matéo Gobinaud, Vibracoustic	<u>Quasi-static and fatigue crack growth in filled elastomers</u> Davide De Focatiis, University of Nottingham
11:40	12:00	<u>* A Comparative Study of Formulations for Specific Degradation Times and Their Impact on Optimisation Performance in the Context of Thermal Ageing of Unfilled Natural Rubber</u> Ondrej Farkas, Universität der Bundeswehr München	<u>Deduction of characteristic damage mechanisms for axial air springsleeves using a holistic data model</u> Marcel Skoglund, Helmut-Schmidt-University; University of the Federal Armed Forces Hamburg
12:00	12:20	<u>Mechanical property gradient in aged rubber O-rings: Nanoindentation mapping and finite element modelling</u> Oscar Péta, ENSTA	<u>A stochastic extension on phase-field modeling of fracture in rubber-like materials</u> Bülent Efe Tanış, Middle East Technical University, Ankara

12:20	12:40	<u>Validation study of Endurica MP oxygen diffusion/reaction effects in rubber</u> William Mars, Endurica	* <u>Crack growth resistance curves of silica-filled SBR-based compounds: how to address crack deviation</u> Alice Bianucci, Politecnico di Milano
12:40	13:00	<u>Thermo-oxidative ageing effects on EPDM Sealing Performance:coupling experimental analysis with nonlinear FEM leakage prediction</u> Rémy Mateu Pastor, Cetim	<u>FEA based damage calculation and service life prognosis of air spring sleeves made of rubber composites</u> Rainer Klauke, Vibracoustic
13:00	14:00	Networking Lunch	
Start	End	Session 3	
		Theme 2: Artificial Intelligence for Material Modelling, Property Enhancement & Optimisation Session Chair: Iva Petrikova	Theme 5: Fatigue & Fracture Session Chair: Yann Marco
14:00	14:20	<u>Machine-learning-based construction of the temperature-dependent Haigh diagram</u> Eric Robin, Institut de Physique de Rennes, Univ. Rennes	<u>Experimental and Numerical Analysis of the Influence of Load Sequence on Fatigue Life of Natural rubber Under Rotating Shear loading.</u> Mohamed Abdelmoniem, University of Applied Sciences Ostfalia
14:20	14:40	<u>A physics-augmented neural network model for strain-crystallizing elastomers</u> Konrad Friedrichs, Dresden University of Technology (TUD)	* <u>Fluid Immersion Ageing of NBR and HNBR: Effects on Viscoelastic and Fatigue Crack Growth Properties</u> Orkid Ramekaj, Queen Mary University of London
14:40	15:00	<u>Integrating machine learning and molecular dynamics for predictive modeling of iPPs in TPVs</u> Héctor Lobato Basterra, Leartiker	<u>Damage Mechanisms from Rapid Hydrogen Gas Decompression and Their Impact on Fatigue Crack Growth in HNBR.</u> Housseine Chocker, Pprime
15:00	15:20	<u>A data-driven constitutive model for Mullins-type damage in rubberlike materials</u> Alp Kağan Açan, Middle East Technical University, Ankara	<u>Simultaneous characterization of full strain, calorimetric and strain-induced crystallinity fields at the crack tip of an unfilled natural rubber</u> Jean-Benoit Le Cam, Institut de Physique de Rennes
15:20	15:40	<u>Predicting Rubber Compounds Properties from 3D Microstructures Using Machine Learning</u> Dengpeng Huang, University of Twente	<u>Effects of carbon black and silica fillers on fatigue crack growth and fracture mechanisms in SBR</u> Junichiro Yamabe, Fukuoka University
15:40	16:10	Networking Coffee Break	
Start	End	Session 4	
		Theme 8: Smart Elastomer Materials: Applications & Modelling Session Chair: Leif Kari	Theme 7: Novel Industrial Applications Session Chair: Nere Gil-Negrete
16:10	16:30	* <u>Approaches for Inducing Twisting Actuation in Adaptive Fiber Reinforced Rubber Composites: An Experimental and Numerical Study</u> Tilak Rana, Dresden University of Technology (TUD)	<u>Modelling Soft Rubber by the Material Point Method</u> Julian Meyer, Dresden University of Technology (TUD)
16:30	16:50	<u>Influence of near field effect on magnetic hysteresis in magneto-active elastomers</u> Pawan Patel, Leibniz-Institut für Polymerforschung e.V	<u>Design and mechanics of extreme suction controlled adhesive structures</u> Chen Zhang, Queen Mary University of London
16:50	17:10	<u>Design of miniature magnetically actuated soft grippers based on hard-magnetic elastomers</u> Martin Hermann, Technical University of Liberec	<u>Quantifying Static and Cyclic Tensile Behaviour in Silicone Rubbers for Scalable Mechanical Batteries</u> Saul Utrera-Barrios, Technical University of Denmark (DTU)
17:10	17:30	* <u>The effect of cyclic loading on the energy harvesting performances of dielectric elastomer generators</u> Vinuri Gamlath, Swansea University	<u>Enhancing tire performance prediction through advanced constitutive modeling</u> Anuwat Suwannachit, Continental Reifen Deutschland GmbH

17:30	17:50	* Modeling the Coupled Magneto-viscoelastic Behavior of Anisotropic Magnetoactive Elastomers Julian Meyer, Dresden University of Technology (TUD)	Graphene Enhanced Sustainable Nanocomposites Reinforcement Mechanisms for Industrial and Artificial Intelligence Advancement Christian Nwosu, National Graphene Institute; Henry Royce Institute
17:50	18:05	Minute Poster Pitches Chair: James Busfield	
18:05	18:10	Closing Address James Busfield	
18:10	19:30	Drinks Reception & Poster Session	

Start	End	Day 2: Thursday 10 September	
		L1	
09:00	09:30	Plenary Talk: Pulsed Mechanical Analysis – Revisiting Rebound Resilience according to Schob Prof Jorge Lacayo-Pineda & Prof Claus Wrana Session Chair: James Busfield	
		Session 5	
		Stream A L1 (360 capacity)	Stream B L2 (210 capacity)
		Theme 8: Smart Elastomer Materials: Applications & Modelling Session Chair: Paul Buckley	Theme 6: Micro-Structure to Property Relationships Session Chair: Jean-Benoit Le Cam
09:30	09:50	* Magnetically Tunable Periodic and Random Architectures in Magnetorheological Elastomers Anna Bandoni, University of Twente	<u>Application of Interplay between Individual Properties of Rubber Parts</u> Irene Yurovska, YIGlobal
09:50	10:10	<u>Understanding and Modelling Squeaking in Soft-Rigid Friction</u> Gabriele Albertini, University of Nottingham	<u>Latex Serum Derived Supramolecular Networks Dramatically Enhances Mechanical Strength of Natural Rubber</u> Katsuhiko Tsunoda, Bridgestone
10:10	10:30	<u>Biobased self-healing elastomers: structure-property relationships and applications</u> Charlie Bateman, University of Liverpool	<u>A spectral method for the efficient solution of the mesoscale problem in the context of a multiscale model for cellular rubber</u> Patrick Schneider, Deutsches Institut für Kautschuktechnologie e.V. (DIK)
10:30	10:50	<u>Strain induced crystallization and elastocaloric effect in natural rubber reinforced by bio-based and recycled fillers</u> Nicolas Candau, Universitat Politècnica de Catalunya	* <u>Crystal Strain Measurements by X-ray Scattering : Insights to Strain Stiffening in Natural Rubber</u> Fabio Nadin-Ambrosio, Ingenierie des Matériaux Polymères (IMP)
10:50	11:15	Networking Coffee Break	
		Theme 4: Experimental Methods and Characterisation Session Chair: Claudia Marano	Theme 6: Micro-Structure to Property Relationships Session Chair: Jean-Benoit Le Cam
11:15	11:35	<u>Unveiling ageing-dependent deformation mechanisms in rubberlike materials via in situ microtomography during confined compression</u> Cristian Ovalle, Mines Paris, PSL University	* <u>Simulating hydrogen-induced effects via a micro-mechanical parametric model</u> Athina Maria Theochari Athanasaki, Norwegian University of Science and Technology (NTNU)
11:35	11:55	* <u>Development of novel experimental setups to investigate the induced anisotropic Mullins effect under successive deformation modes</u> Florian Krebs, University of the Bundeswehr München	* <u>3D microstructural simulations of filler reinforcement in rubber</u> Sarah Pedroni, Queen Mary University of London

11:55	12:15	<u>Fatigue, Tear, and Tensile Properties of Carbon Black Reinforced Hydrogenated Nitrile-Butadiene Rubbers</u> Christoph Gögelein, ARLANXEO Deutschland GmbH	A new calorimetric approach to measure mechanically induced crystallization in filled natural rubber based on the comparison to a non-crystallizing twin Yann Marco, ENSTA
12:15	12:35	<u>Microstructural and mechanical characterisation of thermoplastic matrices reinforced with void cells</u> David Kerihuel, University of Rennes	How curing conditions improve the mechanical properties of silica-free silicone elastomers Xavier Morelle, Laboratoire d'Ingénierie des Matériaux Polymères
12:35	12:55	<u>Hydrostatic response of polyurethane filled with hollow thermoplastic microspheres: from microspheres' journey to volumetric behaviour</u> Hugo Madeira, Nantes Université	* Structure-property relationships in polyurethane elastomers: microstructure influence on large strain and fracture response Louise Bouffard, Université Claude Bernard Lyon 1
12:55	13:55	Networking Lunch	
		Theme 4: Experimental Methods and Characterisation Session Chair: Keizo Akutagawa	Theme 3: Constitutive Models for Elastomer Behaviour Session Chair: Michael Kaliske
13:55	14:15	<u>Probabilistic parameter identification using Bayesian inference</u> Lars Beex, University of Luxembourg	<u>Mechanical Stability in isotropic, incompressible Hyperelasticity</u> Herbert Baaser, University of Applied Sciences, Bingen
14:15	14:35	<u>Highlighting dissipative phenomena in elastomers through instrumented indentation</u> Julie Pepin, Laboratoire de mécanique Gabriel Lamé	<u>Cyclic Steady State Simulation of Non-axisymmetric Tires</u> Thomas Berger, Dresden University of Technology (TUD)
14:35	14:55	<u>* Energy-based framework of rubber wear characterization using multiple tribometers</u> Ole Brockmeyer, Deutsches Institut für Kautschuktechnologie e.V.	<u>Wear Analysis Framework for Rubber-like Materials</u> Felix Hartung, Dresden University of Technology (TUD)
14:55	15:20	Networking Coffee Break	
		Theme 4: Experimental Methods and Characterisation Session Chair: Keizo Akutagawa	Theme 3: Constitutive Models for Elastomer Behaviour Session Chair: Michael Kaliske
15:20	15:40	<u>Intrinsic Strength, T_0, as a Physical Parameter Describing Rubber Abrasion Resistance</u> Radek Stoček, Tomas Bata University in Zlín, Czechia Coesfeld GmbH & Co. KG, Dortmund, Germany	<u>On modeling viscoelasticity at finite strains</u> Konstantin Volokh, Israel Institute of Technology, Haifa
15:40	16:00	<u>*Modelling the transition from smear wear to abrasive wear during frictional sliding of rubber</u> Huong Thao Pham, Queen Mary University of London	<u>Numerical simulation for Mullins effect under a concept of the Subloading surface theory</u> Satoshi Ishikawa, IDAJ Co.
16:00	16:20	<u>* Predicting Elastomeric Seal Performance in Nuclear Transport Using a Coupled Experimental and Numerical Approach</u> Théo Dobrossy, CEA Cadarache; Université de Tours; Université d'Orléans; Cetim	<u>Coupling of a Non-Linear Material Model with Multi-Body Simulation of Highly Dynamic Systems</u> Mascha Niemeyer, Otto von Guericke University
16:20	16:40	<u>A validation method for crimping simulations of air spring sleeves under changing temperature conditions</u> Philipp Schmidt, Helmut Schmidt University	<u>Constitutive modelling of a thermoplastic polyurethane for seismic isolation applications</u> Sergio Reyes, Tongji University
16:40	17:00		<u>Torsion of hyperelastic compressible cylinders: application to the Poynting effect in elastomer matrix composites filled with hollow thermoplastic microspheres</u> Erwan Verron, Nantes Université

17:00	17:20		Natural rubber: a critical benchmark for constitutive modeling Vu Ngoc Khiêm, Swansea University
		L1	
17:20	17:30	Day 2 Closing Address	
19:30	20:00	Conference Dinner Reception, St Anne's College	
20:00	22:00	Conference Dinner, St Anne's College	

Start	End	Day 3: Friday 11 September	
		Session 4	
		Stream A L1 (360 capacity)	Stream B L2 (210 capacity)
		Theme 4: Experimental Methods and Characterisation Session Chair: Alan Muhr	Theme 3: Constitutive Models for Elastomer Behaviour Session Chair: Erwan Verron
09:30	09:50	<u>Numerical evaluation of permeability tests on membrane and O-ring HNBR under Helium</u> Quy Minh Vuong, Institut Pprime, CNRS, ISAE-ENSMA, Université de Poitiers	<u>A Viscoplastic Constitutive Model for Tire Polymeric Cords in Flat Spot Simulation</u> Bo Gyu Choi, Hankook Tire & Technology Co
09:50	10:10	<u>* New Method for Exploiting Indentation Curves to Characterise Elastomers</u> Riadh Benbeka, Institut Pprime, CNRS, ISAE-ENSMA, Université de Poitiers	<u>Constitutive Modeling of Payne Effect in Filled Rubber Using a Two-Component Maxwell Model</u> Naruto Maeda, The Yokohama Rubber Co.
10:10	10:30	<u>Shear behaviour of polyurethane filled with hollow thermoplastic microspheres: from characterisation to assessment of its volume</u> Ivanna Pivdiablyk, Nantes Université	<u>* Cyclic mechanical behavior of thermoplastic vulcanizates</u> Alexis Walle, Vibracoustic
10:30	10:50	<u>Evolution of Stress Concentration near a Circular Defect in Natural Rubber: Role of Strain-Induced Crystallization</u> Kenji Urayama, Kyoto University	<u>* A unified viscoelastic constitutive model incorporating the Mullins and Payne effects</u> Emilien Duparchy, Université du Luxembourg
10:50	11:20	Networking Coffee Break	
		Theme 4: Experimental Methods and Characterisation Session Chair: Alan Muhr	Theme 3: Constitutive Models for Elastomer Behaviour Session Chair: Erwan Verron
11:20	11:40	<u>From Materials to Architected Lattices: Rate-Dependent Energy Dissipation Behaviour of Thermoplastic Polyurethanes</u> Peihao Song, University of Oxford	<u>An Open-Source Finite-Element Implementation of the Deep Rheological Element for Large-Strain Nonlinear Viscoelastic Behavior of Elastomers</u> Federico Califano, Sapienza University of Rome
11:40	12:00	<u>Changes in molecular chain structure and strain-induced crystallization behaviors of a segmented polyurethane elastomer under uniaxial and equi-biaxial deformation processes</u> Kakeru Obayashi, Kyoto University	<u>Development of new constitutive law for rubber bearing isolators.</u> Takahiro Mori, Bridgestone Corporation
12:00	12:20	<u>Integrated Experimental and Simulation Study of Elastomer Fatigue on an Enhanced Rotational Flexometer</u> Bülent Yagimli, University of Applied Sciences Ostfalia	<u>Finite elasticity and viscoelasticity using stretch tensor invariants</u> Alexander Lion, Universität der Bundeswehr München
12:20	12:40	<u>On crack tip position measurement accuracy in fatigue crack growth testing</u> William Mars, Endurica	<u>Constitutive Equation for Crosslinked Elastomers Based on A Novel Strain Energy Function for Orientation and Average Chain Stretch</u> Saeid Kheirandish, ARLANXEO Deutschland GmbH

12:40	13:40	Networking Lunch	
		Theme 4: Experimental Methods and Characterisation Session Chair: Paul Buckley	Theme 3: Constitutive Models for Elastomer Behaviour Session Chair: Kepa Zulueta Uriondo
13:40	14:00	<u>Beyond Uniaxial Tension: Biaxial Deformation-Induced Crystallization in Natural Rubber</u> Eric Euchler, Leibniz-Institut für Polymerforschung Dresden	<u>Viscoelastic modelling of SBR compounds with the Rolie-Poly model and its perspective for mould filling simulations</u> Jens Meier, Deutsches Institut für Kautschuktechnologie e.V. (DIK)
14:00	14:20	<u>Investigations of Crack Tip Strain Fields in Natural Rubber</u> Lutz Zybell, Leibniz-Institut für Polymerforschung Dresden	
14:20	14:40	<u>Towards biaxial fatigue experiments of elastomers using square and cruciform geometries in planar tension conditions</u> Mokarram Hossain, Swansea University	
		L1	
14:40	15:10	Conference Closing Address & Student Presentation Awards James Busfield	
15:10		Close	