Characterisation and testing of materials & products	Material Developments	Sustainability	Elastomer Product Innovations	Smart Materials	Modelling	Material Processing

Programme subject to change

9/5/2023

	John McIntyre Conference Centre			St Leonard's Hall	South Hall Complex	
	Pentland		Prestonfield	St Trinneans	South Hall	Kirkland
09:00 - 17:00	Organiser Setup				Shell Scheme Setup	
18:00 - 18:20	**Conference Registration & Welcome Reception**					
18:20 - 18:30	**Welcome Address: Martyn Bennett, Vice Chair of RubberCon 2023**					
18:30 - 19:00	**Poster Pitch Session**	**Welcome Reception Cont.**				
19:00 - 20:00						

10/5/2023

	John McIntyre Conference Centre			St Leonard's Hall	South Hall Complex	
	Pentland East	Pentland West	Prestonfield	St Trinneans	South Hall	Kirkland
Capacity	160	160	135	50	300	
08:30 - 08:50	**Registration & Coffee**					
08:50 - 09:00	**Welcome Address: James Busfield, Chair of RubberCon 2023**					
09:00 - 09:30	**Plenary Session 1: Liqun Zhang, Beijing University of Chemical Technology** *Advanced Elastomer Nanocomposites Aiming At Carbon Peaking And Carbon Neutrality Goals (16)*					
09:30 - 10:00	**Plenary Session 2: Jorge Lacayo-Pineda, Continental Tires** *Evaluating rCB Capabilities for Rubber Reinforcement (6)*					
10:00 - 10:20	Pentland Dividing into Pentland East & West		**Poster Session**		**Refreshments & Networking**	
10:20 - 10:45						
	Chair: Ulrich Giese	**Chair: Erick Sharp**	**Chair: Fabian Grunert**	**Chair: Keizo Akutagawa**		
10:45 - 11:10	**1) Vishal Patil, UPM Biochemicals GmbH** *UPM BioMotionTM Renewable Functional Fillers (RFF) for a Lighter and more Sustainable Future (8)*	**1) Christoph Gögelein, ARLANXEO Deutschland GmbH** *Strain-Induced Crystallization Of HNBR (2)*	**1) Anke Blume, University of Twente** *Comparison of the reactivity of mercaptosilane and sulfursilane in a model study (45)*	**1) Mokarram Hossain, Swansea University** *On the influence of time-dependent behaviour of elastomeric wave energy harvesting membranes (9)*		
11:10 - 11:35	**2) Yusuf Guner, Standard Profil A.S.** *Developing EPDM Based Compound by Using Sustainable Carbonaceous Material (11)*	**2) William Mars, Endurica LLC** *Virtual qualification of elastomeric engine mount with recorded multi-channel road load input (3)*	**2) Priyanka Sekar, University of Twente*** *Understanding the raspberry-like Filler Cluster Formation of Bis-(triethoxypropyl) tetrasulfide modified Hydrothermally treated lignin in an SSBR/BR rubber matrix (48)*	**2) Laurent Guy, Solvay** *How Silane could react on the Silica surface and the water role ? – Computer modeling as an advanced tool to link with our experiments (15)*		
11:35 - 12:00	**3) Cristian Oprisoni, LANXESS Germany GmbH** *Sustainable Solutions for the Rubber Industry (12)*	**3) Judith Hirsch, Hyundai Motor Europe Technical Center GmbH** *Identification of test parameter to evaluate the wear of rubber in aged chassis bushes (42)*	**3) Xiao Hu, University of Warwick*** *Damping properties of Butyl rubber vitrimers (65)*	**3) Fanzhu Li, Beijing University of Chemical Technology** *A comparative study of hyperelastic constitutive models and thermo-mechanical coupling analysis for an edge-cracked rubber specimen (19)*		
12:00 - 12:25	**4) Natalia Gajos, Solvay** *Solvay Precipitated Silica: Sustainable Solutions To Improve Tire Rubber Performances To Reduce Environmental Footprint And Increase Circularity (34)*	**4) Manar Ramram, Technetics Group France** *Silicone rubber gaskets for application under steam and high temperature environment: characterization of chemical structure and ageing study under critical conditions (88)*	**Poster Session**	**4) Jun Liu, Beijing University of Chemical Technology** *Molecular dynamics simulation of molecular design and property prediction of novel elastomer (18)*	**Lunch & Networking**	
12:25 - 13:35						
13:35 - 14:00	**Poster Session**		**Chair: Anke Blume** **4) Chaoying Wan, University of Warwick** *VAT Photopolymerisation 3D printing of elastomer vitrimers (13)*	**Chair: Toshio Tada** **5) Juan Itriago, MINES Paris - PSL Research University, CEMEF – Centre de Mise en Forme des Matériaux*** *Coupled vulcanization and cellularization modeling for rubber foam injection molding (126)*		
	Chair: Martyn Bennett	**Chair: Jorge Lacayo-Pineda**				
14:00 - 14:25	**5) Zenen Zepeda Rodríguez, Instituto de Ciencia y Tecnología de Polímeros** *Structural Characterization Of Thermo-Mechanical Devulcanized Rubber From End-Of-Life Tires (39)*	**5) Katsuhiko Tsunoda, Bridgestone Corporation** *New insight of the effect of micro/macro structure for SIC and related strength on poly isoprene rubber (46)*	**5) Marie Yrieix, Hutchinson** *Thermo-oxidation, ozonation and fatigue degradation of rubbers: how to replace 6PPD? (53)*	**6) Lena Tarrach, University of Wuppertal*** *Model-Based Approach to Reinforcement by Filler and Rupture in Strain-Crystallizing Elastomer Networks (37)*		
14:25 - 14:50	**6) David Kiroski, HF Mixing Group Farrel Ltd** *Experimental Approach to Quantify the Energy Aspects of Mixing (54)*	**6) Seiichi Kawahara, Nagaoka University of Technology** *Analyses of Crosslinking Junction, Strain-induced Crystallization and Mechanical Properties of Vulcanized Natural Rubber (51)*	**6) Ulrich Giese, Deutsches Institut für Kautschuktechnologie e.V.** *Role and mechanisms of coagents in peroxide crosslinking optimizing the properties (80)*	**7) Nico Stortini, Sapienza University of Rome*** *Predicting crack speed propagation in elastomeric membranes (38)*		

14:50 - 15:15	**7) Kamyar Alavi, Naphthenics** *Sustainability In Rubber Compounds:Nynas Conventional And Biobased Rubber Plasticisers (59)*	**7) Thomas Rauschmann, Bareiss Prüfgerätebau GmbH** *Steady shear viscosity measurements of filled rubber compounds using new enhanced RPA technology (68)*	**7) Daigo Matsuoka, Asahi Kasei Europe GmbH** *Introduction to Asahi Kasei's next-rubber SEBB (107)*	**8) Aaron Duncan, Queen Mary University of London*** *Versatile New Model to Predict Ageing in Rubber Composites (61)*		
15:15 - 16:00					**Refreshments & Networking**	
	Chair: Martyn Bennett	**Chair: Jorge Lacayo-Pineda**	**Chair: Fabian Grunert**	**Chair: Toshio Tada**		
16:00 - 16:25	**8) Jukka Koskinen, Tampere University*** *Effect Of Lignin Dispersion To Abrasion Rate In Polybutadiene Rubber (78)*	**8) Jens Meier, Deutsches Institut für Kautschuktechnologie e.V.** *Pressure dependent viscosity of an EPDM/CB compound and relevance for injection molding (71)*	**8) Silvia Guerra, Pirelli Tyre SpA** *Exploration of novel S-free Curatives for tyre compounds: Thermally Activable Bistetrazoles (113)*	**9) Noah Mentges, Institute for Plastics Processing (IKV)** *Modelling the effects of process induced phase morphology on the mechanical response of thermoplastic vulcanisates under quasi-static loading using representative volume elements (29)*		
16:25 - 16:50	**9) Stefan Frosch, THWS*** *Sulfur Migration In Recycled Ground Rubber Containing Compounds And Its Impact On Dynamic-Mechanical Properties (95)*	**9) Andrej Lang, Deutsches Institut für Kautschuktechnologie e.V.** *Abrasion Characteristics of Elastomer Materials based on Tyre Tread Compounds (77)*	**9) Lewis Tunnicliffe, Birla Carbon** *The Influence of Carbon Black on Electrical Properties of Rubber and Compound Development Approaches for High Resistivity Applications (116)*	**10)Fernando Martin-Salamanca, Instituto de Ciencia y Tecnología de Polímeros** *Low field, time domain NMR and mechanical properties as a combination of experimental techniques to achieve a unified physical framework to characterize rubber compounds (20)*		
16:50 - 17:00	**Close of Day 1 Sessions**					
	Pentland East	**Pentland West**	**Prestonfield**	**St Trinneans**	**South Hall**	**Kirkland**
19:30 - 01:00	**Conference Dinner at The Caves, Edinburgh (8-10 Niddry St S, Edinburgh EH1 1NS)**					

11/5/2023

11/5/2023	John McIntyre Conference Centre			St Leonard's Hall	South Hall Complex	
	Pentland East	**Pentland West**	**Prestonfield**	**St Trinneans**	**South Hall**	**Kirkland**
	Chair: Ulrich Giese	**Chair: Erick Sharp**	**Chair: Anke Blume**	**Chair: Keizo Akutagawa**		
09:00 - 09:25	**10) Subhradeep Mandal, Leibniz-Institut für Polymerforschung Dresden e. V.*** *Transformation of epoxidized natural rubber into ionomer with imidazole as a sustainable material with self-healing functionality (114)*	**10) Vasileios Koutsos, The University of Edinburgh** *Rubber adhesion and friction: nanoscale mechanisms (83)*	**10) Eric Euchler, Leibniz-Institut für Polymerforschung Dresden e.V.** *Current challenges in the experimental qualification of double-network-hydrogels (DNH)*	**11) Merve Pehlivan, Yildiz Technical University** *Experimental Investigation And Modelling Of Adhesion Between Textile Cords And Rubber Compounds (87)*		
09:25 - 09:50	**11) Maurizio Galimberti, Politecnico di Milano** *A Biobasedjanus Molecule As Universal Coupling Agent In Rubber Compounds (111)*	**11) Ben Murphy, Heriot-Watt University*** *Study of elastomer blend dynamics for improved tire performance (85)*	**11) Fabian Grunert, University of Twente** *Investigation of the post-hardening effect of silica filled NR compounds (127)*	**12) Akihiro Matsuda, University of Tsukuba** *Voxel-Based Finite Element Analysis of Polymer Foam with Micro-CT data (106)*		
09:50 - 10:15	**12) Silvia Guerra, Pirelli Tyre SpA** *Eco-Tyre With A Low Environmental Impact (124)*	**12) Evangelos Koliolios, Queen Mary University of London*** *Chemical Characterisation of Smear Wear: A key to understanding tyre tread wear performance (89)*	**12) Michael Warskulat, Orion Engineered Carbons** *Beyond N330: Alternative Rubber Carbon Blacks to Comply with Regulations, to Enhance Performance or to Move towards Sustainability (132)*	**Chair: Keizo Akutagawa** **1) Jonathan Hodges, Wave Energy Scotland** *Flexible Dielectric Elastomers For Wave Energy Generation - A Cross-Sector R&D Opportunity (40)*		
10:15 - 10:50					**Refreshments & Networking**	
	Chair: Martyn Bennett	**Chair: Erick Sharp**	**Chair: Leif Kari**	**Chair: Abilash Nair**		
10:50 - 11:15	**13) Vincenzina Barbera, Politecnico di Milano** *Biobased Janus Molecules For The Universal Functionalization of sp2 Carbon Allotropes, Silica And Boron Nitride, Fillers of Elastomeric Composites (136)*	**13) Eathan Plaschka, Queen Mary University of London*** *The Influence of Friction and Wear Behaviour of Tyre Tread Compounds (98)*	**1) Prashant Saxena, University of Glasgow** *Modelling extreme deformation and resulting instabilities in thin electro-active and magneto-active elastomer membranes and shells (36)*	**2) Andreas Kaiser, Arlanxeo Deutschland GmbH** *Improving Elastomer Compounds for Hydrogen Applications (69)*		
11:15 - 11:40	**14) Larissa Gschwind, University of Applied Sciences** *Investigation of Aging Behavior of Recycled EPDM Rubber Waste (140)*	**14) William Amoako Kyei Manu, Queen Mary University of London*** *The Effect Of Carbon Black Morphology On The Fatigue Crack Growth Behavior Of Rubber Compounds (125)*	**2) Wei Tan, Queen Mary University of London** *Inverse design of shape-morphing structures based on functionally graded elastomer composites (57)*	**3) Ondrej Farkas, Universität der Bundeswehr München** *Frequency Domain Viscoelasticity - On The Experimental And Numerical Investigation Of Elastomeric Vibration Isolators Under Dynamic Loading (75)*		
11:40 - 12:05	**15) James Innes, University of Bradford** *The Devulcanization and Revulcanization Of Waste Tyre Rubber (144)*	**15) Anmol Aggarwal, University of Twente*** *Investigation Of Different Interactions In Silica-Filled SSBR Compounds Contributing To The Cure Torque (99)*	**3) Sara Naderizadeh, Queen Mary University of London** *Piezoresistive Elastomer Composites Used for Pressure Sensing (81)*	**4) Hikaru Hashimoto, NOK Corporation** *Characterization On The Crosslink Reaction Of Fkm Rubber By Using Nmr And Tga (123)*		

12:05 - 12:30	**Poster Session**		**4) Aparna Guchait, Rubber Technology Centre, IIT Kharagpur** *Development of functional elastomer by modifying epoxidized natural rubber with polyetheramine and its role in humidity adhesive sensor (108)*	**Poster Session**	**Lunch & Networking**	
12:30 - 13:35						
	Chair: Ulrich Giese	**Chair: Toshio Tada**	**Poster Session**			
13:35 - 14:00	**16) Chris Norris, Murfitts Industries** *Demonstrating the Performance Potential of rCB in Rubber Formulations (146)*	**16) Dennis Ludwig, Ludwig Nano Präzision GmbH** *Spatially resolved, temperature-dependent determination of elastomer material properties using micro-indentation (91)*				
14:00 - 14:25	**17) Muhammad Haris, Waters GmbH** *A study of the mechanical properties of eco-friendly tyres versus conventional rubber tyres, using Dynamic Mechanical Analysis (14)*	**17) Takahiro Anzai, NOK Corporation** *Visualization Of Nanoscale Mechanical Properties Of Fatigue Rubber By AFM (112)*	**Chair: Khai Nguyen**	**Chair: Lewis Tunnicliffe**		
			5) Jishnu Nirmala Suresh, Leibniz-Institut für Polymerforschung Dresden e.V.* *Developing liquid rubber's electromechanical actuation capabilities for soft robotic applications. (118)*	**1) Leo Nijhof, Nouryon** *Crosslinking Peroxides for Silicone Rubbers (21)*		
14:25 - 14:50	**Sustainability Panel Discussion:** **Fabian Grunert, University of Twente** **David Kiroski, HF Mixing Group, Farrel Ltd** **Maurizio Galimberti, Politecnico Milano** **Natalia Gajos, Solvay** **Patrick Raleigh, European Rubber Journal**	**18) Richard Moon, Artis** *Investigation into the Impact Carbon Black Grades have on the Permeation Resistance of Butyl Rubbers (115)*	**6) Carmela Mangone, University of Twente*** *Enabling interfacial adhesion between conductive rubber and piezoelectric polymer for energy harvesting applications (130)*	**2) Patrick Frenzel, Technical University of Vienna** *Experimental Analysis Of The Residence Time Distribution In A Single Screw Rubber Extruder Using A Digital Image Processing Method (35)*		
14:50 - 15:15		**19) Aaron Graham, University of Oxford** *On the use of the Virtual Fields Method for material characterisation (97)*		**3) Ameya Karmarkar, Hyundai Motor Europe Technical Center GmbH** *Investigation Into The Application Of Additive Manufacturing Technology For Chassis And Powertrain Tuning Bushes (43)*		
15:15 - 16:00	**Poster Board Breakdown**				**Refreshments & Networking**	
		Chair: Toshio Tada		**Chair: Abilash Nair**		
16:00 - 16:25		**20) Natalia Cano Murillo, Bundesanstalt für Materialforschung und -prüfung (BAM)** *Effect Of High-Pressure A Hydrogen Environment On The Physical And Mechanical Properties Of Different Kinds Of Carbon Black Filled Elastomers (142)*		**4) Eva Peláez-Álvarez, Cranfield University** *A Novel 3D Printing Technology For Elastomeric Products From Rubber Latex (55)*	Shell Scheme Breakdown	
16:25 - 16:50				**5) Kento Watanabe, Chemicals Evaluation and Research Institute, Japan** *The Effect Of Zinc Oxide On The Structure And Mechanical Properties Of Carbon Black Filled Rubber (60)*		
16:50 - 17:15	**Close of Conference Address & Awards Announced**					
	Pentland East	**Pentland West**	**Prestonfield**	**St Trinneans**	**South Hall**	**Kirkland**

Characterisation and testing of materials & products	**Material Developments**	**Sustainability**	**Elastomer Product Innovations**	**Smart Materials**	**Modelling**	**Material Processing**