

Session Topics:	Characterisation and testing of materials & products	Material Developments	Sustainability	Modelling	Smart Materials	Elastomer Product Innovations	Material Processing
	Chairs: Jorge Lacayo Pineda, Ulrich Giese, Toshio Tada, Erick Sharp	Chairs: Kannika Sahakaro, Anke Blume, Ramakrishnan S	Chairs: Martyn Bennett, Ulrich Giese	Chairs: Keizo Akutagawa, Toshio Tada	Chairs: Leif Kari, Khai Nguyen	Chairs: Abilash Nair, Isaak Watson	Chairs: Abilash Nair, Lewis Tunncliffe, Isaak Watson

9/5/2023						
9/5/2023	John McIntyre Conference Centre			South Hall Complex		
	Pentland	Prestonfield		St Trinneans	South Hall	Kirkland
09:00 - 17:00	Poster Board Setup				Shell Scheme Setup	
19:00 - 22:00	Welcome Reception & Poster Pitch Session					

10/5/2023						
	John McIntyre Conference Centre				South Hall Complex	
	Pentland East	Pentland West	Prestonfield	St Trinneans	South Hall	Kirkland
Capacity				50	300	
08:00 - 08:30	Registration				Morning Coffee	
08:30 - 08:45	Welcome Address & General Presentation: James Busfield					
08:45 - 09:15	Plenary Session 1: Liguun Zhang <i>Advanced Elastomer Nanocomposites Aiming At Carbon Peaking And Carbon Neutrality Goals (16)</i>					
09:15 - 10:00	Plenary Session 2: Pending					
10:00-10:45	Pentland Dividing into Pentland East & West					
10:45 - 11:10	Jorge Lacayo-Pineda <i>Evaluating rCB Capabilities for Rubber Reinforcement (6)</i>	Christoph Gögelein <i>Strain-Induced Crystallization Of HNBR (2)</i>	Mokarram Hossain <i>On the influence of time-dependent behaviour of elastomeric wave energy harvesting membranes (9)</i>	Chaoying Wan <i>VAT Photopolymerisation 3D printing of elastomer vitrimers (13)</i>		
11:10 - 11:35	Vishal Patil <i>UPM BioMotion™ Renewable Functional Fillers (RFF) for a Lighter and more Sustainable Future (8)</i>	William Mars <i>Virtual qualification of elastomeric engine mount with recorded multi-channel road load input (3)</i>	Laurent Guy <i>How Silane could react on the Silica surface and the water role ? - Computer modeling as an advanced tool to link with our experiments (15)</i>	Anke Blume <i>Comparison of the reactivity of mercaptosilane and sulfursilane in a model study (45)</i>		
11:35 - 12:00	Yusuf Guner <i>Developing EPDM Based Compound by Using Sustainable Carbonaceous Material (11)</i>	Judith Hirsch <i>Identification of test parameter to evaluate the wear of rubber in aged chassis bushes (42)</i>	Fanzhu Li <i>A comparative study of hyperelastic constitutive models and thermo-mechanical coupling analysis for an edge-cracked rubber specimen (19)</i>	Priyanka Sekar <i>Understanding the raspberry-like Filler Cluster Formation of Bis-(triethoxypropyl) tetrasulfide modified Hydrothermally treated lignin in an SSBR/BR rubber matrix (48)</i>		
12:00 - 12:25	Cristian Oprisoni <i>Sustainable Solutions for the Rubber Industry (12)</i>	Katsuhiko Tsunoda <i>New insight of the effect of micro/macro structure for SIC and related strength on polyisoprene rubber (46)</i>				
12:25 - 13:35					Lunch & Networking	
13:35 - 14:00			Fernando Martin-Salamanca <i>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)</i>	Marie Yrieix <i>Thermo-oxidation, ozonation and fatigue degradation of rubbers: how to replace 6PPD? (53)</i>		
14:00 - 14:25	Natalia Gajos <i>Solvay Precipitated Silica: Sustainable Solutions To Improve Tire Rubber Performances To Reduce Environmental Footprint And Increase Circularity (34)</i>	Seiichi Kawahara <i>Analyses of Crosslinking Junction, Strain-induced Crystallization and Mechanical Properties of Vulcanized Natural Rubber (51)</i>	Noah Mentges <i>Modelling the effects of process induced phase morphology on the mechanical response of thermoplastic vulcanisates under quasi-static loading using representative volume elements (29)</i>	Xiao Hu <i>Damping properties of Butyl rubber vitrimers (65)</i>		
14:25 - 14:50	Zenen Zepeda Rodriguez <i>Structural Characterization Of Thermo-Mechanical Devulcanized Rubber From End-Of-Life Tires (39)</i>	Thomas Rauschmann <i>Steady shear viscosity measurements of filled rubber compounds using new enhanced RPA technology (68)</i>	Lena Tarrach <i>Model-Based Approach to Reinforcement by Filler and Rupture in Strain-Crystallizing Elastomer Networks (37)</i>	Ulrich Giese <i>Role and mechanisms of coagents in peroxide crosslinking optimizing the properties (80)</i>		
14:50 - 15:15	David Kiroski <i>Experimental Approach to Quantify the Energy Aspects of Mixing (54)</i>	Jens Meier <i>Pressure dependent viscosity of an EPDM/CB compound and relevance for injection molding (71)</i>	Nico Stortini <i>Predicting crack speed propagation in elastomeric membranes (38)</i>	Yulan Lyu <i>Fracture path modelling of hyperelastic porous structures inspired by mussel plaques (94)</i>		
15:15 - 16:00					Refreshments & Networking	
16:00 - 16:25	Kamyar Alavi <i>Sustainability In Rubber Compounds:Nynas Conventional And Biobased Rubber Plasticisers (59)</i>	Andrej Lang <i>Abrasion Characteristics of Elastomer Materials based on Tyre Tread Compounds (77)</i>	Aaron Duncan <i>Versatile New Model to Predict Ageing in Rubber Composites (61)</i>	Daigo Matsuoka <i>Introduction to Asahi Kasei's next-rubber SEBB (107)</i>		
16:25 - 16:50	Jukka Koskinen <i>Effect Of Lignin Dispersion To Abrasion Rate In Polybutadiene Rubber (78)</i>	Vasileios Koutsos <i>Rubber adhesion and friction: nanoscale mechanisms (83)</i>	Merve Pehlivan <i>Experimental Investigation And Modelling Of Adhesion Between Textile Cords And Rubber Compounds (87)</i>	Luca Giannini <i>Exploration of novel S-free Curatives for tyre compounds: Thermally Activable Bistetrazoles (113)</i>		
16:50 - 17:00	Close of Day 1 Sessions					
	Pentland East	Pentland West	Prestonfield	St Trinneans	South Hall	Kirkland

11/5/2023								
11/5/2023	John McIntyre Conference Centre				South Hall Complex			
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08:15 - 09:00					Morning Coffee			
09:00 - 09:25	Chair: Ulrich Giese	<b>Stefan Frosch</b> <i>Sulfur Migration In Recycled Ground Rubber Containing Compounds And Its Impact On Dynamic-Mechanical Properties (95)</i>	Chair: Keizo Akatagawa	<b>Akihiro Matsuda</b> <i>Voxel-Based Finite Element Analysis of Polymer Foam with Micro-CT data (106)</i>	Chair: Anke Blume	<b>Lewis Tunncliffe</b> <i>The Influence of Carbon Black on Electrical Properties of Rubber and Compound Development Approaches for High Resistivity Applications (116)</i>		
09:25 - 09:50		<b>Maurizio Galimberti</b> <i>A BiobasedJanus Molecule As Universal Coupling Agent In Rubber Compounds (111)</i>		<b>Ben Murphy</b> <i>Study of elastomer blend dynamics for improved tire performance (85)</i>		<b>Juan Itriago</b> <i>Coupled vulcanization and cellularization modeling for rubber foam injection molding (126)</i>	<b>Eric Euchler</b> <i>Mechanical characterization of imidazole-modified elastomers with self-healing capabilities (117)</i>	
09:50 - 10:15		<b>Subhadeep Mandal</b> <i>Transformation of epoxidized natural rubber into ionomer with imidazole as a sustainable material with self-healing functionality (114)</i>		<b>Evangelos Koliolios</b> <i>Chemical Characterisation of Smear Wear: A key to understanding tyre tread wear performance (89)</i>		<b>Jonathan Hodges</b> <i>Flexible Dielectric Elastomers For Wave Energy Generation - A Cross-Sector R&amp;D Opportunity (40)</i>	<b>Fabian Grunert</b> <i>Investigation of the post-hardening effect of silica filled NR compounds (127)</i>	
10:15 - 10:50					Refreshments & Networking			
10:50 - 11:15	Chair: Maryn Bennett	<b>Silvia Guerra</b> <i>Eco-Tyre With A Low Environmental Impact (124)</i>	Chair: Isaac Watson	<b>Andreas Kaiser</b> <i>Improving Elastomer Compounds for Hydrogen Applications (69)</i>	Chair: Anke Blume			
11:15 - 11:40		<b>Vincenzina Barbera</b> <i>Biobased Janus Molecules For The Universal Functionalization of sp2 Carbon Allotropes, Silica And Boron Nitride, Fillers of Elastomeric Composites (136)</i>		<b>Ondrej Farkas</b> <i>Frequency Domain Viscoelasticity - On The Experimental And Numerical Investigation Of Elastomeric Vibration Isolators Under Dynamic Loading (75)</i>			<b>Ján Krúželák</b> <i>Physical-mechanical properties and EMI absorption shielding performance of rubber composites (28)</i>	
11:40 - 12:05		<b>Larissa Gschwind</b> <i>Investigation of Aging Behavior of Recycled EPDM Rubber Waste (140)</i>		<b>Debabrata Ganguly</b> <i>Cement-Carbon Black Dual Filler Based Hnbr Composite For Low Cost, Light Weight, Flexible, And Efficient Radiation Shielding Materials (105)</i>			<b>Prashant Saxena</b> <i>Modelling extreme deformation and resulting instabilities in thin electro-active and magneto-active elastomer membranes and shells (36)</i>	
12:05 - 12:30				Chair: Leif Kari	<b>Wei Tan</b> <i>Inverse design of shape-morphing structures based on functionally graded elastomer composites (57)</i>	Lunch & Networking		
12:30 - 13:35								
13:35 - 14:00	Chair: James Busfield	<b>James Innes</b> <i>The Devulcanization and Revulcanization Of Waste Tyre Rubber (144)</i>	Chair: Toshio Tada	<b>Fathan Plaschka</b> <i>The Influence of Temperature on Friction and Wear Behaviour of Tyre Tread Compounds (98)</i>	Chair: Lewis Tunncliffe		Chair: Khai Nguyen	
14:00 - 14:25		<b>Chris Norris</b> <i>Demonstrating the Performance Potential of rCB in Rubber Formulations (146)</i>		<b>Anmol Aggarwal</b> <i>Investigation Of Different Interactions In Silica-Filled SSBR Compounds Contributing To The Cure Torque (99)</i>		<b>Leo Nijhof</b> <i>Crosslinking Peroxides for Silicone Rubbers (21)</i>		<b>Sara Naderizadeh</b> <i>Piezoresistive Elastomer Composites Used for Pressure Sensing (81)</i>
14:25 - 14:50		<b>Poster Session</b>		<b>Takahiro Anzai</b> <i>Visualization Of Nanoscale Mechanical Properties Of Fatigue Rubber By AFM (112)</i>		<b>Patrick Frenzel</b> <i>Experimental Analysis Of The Residence Time Distribution In A Single Screw Rubber Extruder Using A Digital Image Processing Method (35)</i>		<b>Santanu Chattopadhyay</b> <i>Smart specialty elastomer composites using ceramic waste with triple percolation characteristics (104)</i>
14:50 - 15:15				<b>Richard Moon</b> <i>Investigation into the Impact Carbon Black Grades have on the Permeation Resistance of Butyl Rubbers (115)</i>		<b>Ameya Karmarkar</b> <i>Investigation Into The Application Of Additive Manufacturing Technology For Chassis And Powertrain Tuning Bushes (43)</i>		<b>Jishnu Nirmala Suresh</b> <i>Developing liquid rubber's electromechanical actuation capabilities for soft robotic applications. (118)</i>
15:15 - 16:00						Refreshments & Networking		
16:00 - 16:25	Chair: James Busfield	<b>Sustainability Panel Discussion</b>	Chair: Toshio Tada	<b>William Amoako Kyei Manu</b> <i>The Effect Of Carbon Black Morphology On The Fatigue Crack Growth Behavior Of Rubber Compounds (125)</i>	Chair: Khai Nguyen	<b>Eva Peláez-Álvarez</b> <i>A Novel 3D Printing Technology For Elastomeric Products From Rubber Latex (55)</i>	<b>Carmela Mangone</b> <i>Enabling interfacial adhesion between conductive rubber and piezoelectric polymer for energy harvesting applications (130)</i>	
16:25 - 16:50				<b>Natalia Cano Murillo</b> <i>Effect Of High-Pressure Ahydrogen Environment On The Physical And Mechanical Properties Of Different Kinds Of Carbon Black Filled Elastomers (142)</i>		<b>Kento Watanabe</b> <i>The Effect Of Zinc Oxide On The Structure And Mechanical Properties Of Carbon Black Filled Rubber (60)</i>		
16:50 - 17:15	Close of Conference							
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