



16th Fall Rubber Colloquium

October 13-15, 2026



Deutsches Institut für Kautschuktechnologie e. V., Hannover, Germany



Tuesday, October 13, 2026

Opening Ceremony

10:00

Ulrich Giese

Deutsches Institut für Kautschuktechnologie e. V.

10:10

Matthias Wunderling-Weilbier

Lower Saxony Ministry of Economic, Transport and
Building

10:30

Gerard Nijman

KraussMaffei Extrusion GmbH

*50 years of rubber extrusion: Status and outlook
from a process engineering point of view*

11:10

Liqun Zhang

Xi'an Jiaotong University

*Significant Trends in Rubber Research Driven by
Environment, Resource, and Sustainability*

11:50

Maurizio Galimberti

Politecnico Milano

*Multifunctional molecular bridges for sp² carbon
allotropes: in rubber compounds and beyond*

12:30

Lunch



Tuesday, October 13, 2026

Session 1

Sustainability

Chairperson: **Kevin Krause**

13:45

Nils Hojdis

FH Aachen

Functionalization of HTC-Lignin for improved reinforcement in natural rubber

14:20

Sebastian Finger

UPM Biochemicals

UPM BioMotion™ Renewable Functional Fillers (RFF), a renewable solution to create sustainable elastomers

14:55

Mauricio De Greiff Palacio

Universidad Pontificia Bolivariana

New Generation of Wet Method Masterbatch (WMB): Modified Natural Rubber, Silica and Functionalized Biocomponents.

Session 2

New Composites

Chairperson: **Ulrich Giese**

Seiichi Kawahara

Nagaoka University of Technology

Preparation of Natural Rubber with Island-nanomatrix Structural Network

Yoshimasa Yamamoto

National Institute of Technology, Tokyo College

Rubbery Soft Polymer Electrolyte Membrane with Nanomatrix Channel Prepared from Natural Rubber

Hiromu Hosoya

Sumitomo Rubber Industries, Ltd.

Introduction of reversible network into epoxidized natural rubber via pyridine functionalization

Session 3

Simulation

Chairperson: **Patrick Schneider**

William Mars

Endurica Europe S.à r.l.

Transient Thermomechanical Fatigue Analysis of a Bushing Under Road Loading

Vadiraj Patil

Loughborough University

An analytical model to study the interaction between adhesion and hysteresis in rubber friction

Valentina Vidal Tagle

RWTH Aachen University

Insights into Natural Rubber Degradation by Priestia megaterium VVT

15:25

Coffee Break



Tuesday, October 13, 2026

Session 1

Sustainability

Chairperson: **Thomas Fröh**

15:55

Maialen Narvaez

Institute of Polymer Science and Technology

New Insights into the Structural Evolution of End-of-Life Tire Rubber under Thermomechanical Devulcanization

16:30

Jonas Petzke

Paderborn University

Time-Resolved Rheological Characterization of Thermochemical Devulcanization Using a Rubber Process Analyzer

17:05

Christos Georgantopoulos

Omya International AG

Innovative Solutions from Omya Minerals: Partial Reduction of Carbon Black in Technical Rubber Goods

18:00

Session 2

Aging

Chairperson: **Ulrich Giese**

Bagdagul Karaagac

Kocaeli University

A Natural Stabiliser Alternative to 6PPD

Dominik Neufeld

Fraunhofer LBF

Phosphorous containing stabilizers for elastomers

Flavie Blanchard

Elanova

Kinetic modelling of the ageing of VMQ silicones using model materials

Poster Session

Session 3

Reinforcement

Chairperson: **Maurizio Galimberti**

Vincenzina Barbera

Politecnico di Milano

Sulfur-reactive pyrrole compounds as molecular bridges in elastomer composites

Max Dixey

Queen Mary University of London

Assessing the Effectiveness and Reinforcing Mechanisms of Carbon Black Activators for Tyre Tread Compounds

Murat Yazici

Bursa Uludag University, Engineering Fac.,
Automotive Eng. Dep, Amamrg Lab.

Comparative Study on APTES-Modified Ground Jute and Hemp Fibers Reinforced Sulfur-Cured EPDM Composites



Wednesday, October 14, 2026

Session 1

Sustainability

Chairperson: **Ulrich Giese**

08:30

Christian Karl

SINTEF AS

Recycled plastics from fisheries for new applications

09:05

Karsten Fischer

Harburg-Freudenberger Maschinenbau GmbH

HF turns Black into Green – A holistic Sustainability Approach

09:40

Christian Butterhof

Valeo Powertrain GmbH

Use of Sustainable Plasticizers for Sealing Applications in the Automotive Industry

Session 2

New Composites

Chairperson: **Herbert Baaser**

Jianming Zhang

Qingdao University of Science & Technology

Thermally Processable Adhesive Aerogel Capsules

Dirk Balkenende

ERIKS Sealing & Polymer Technology

PFAS-free polymer development of low outgassing rubber for the semicon industry

Session 3

Physics

Chairperson: **Manfred Wilhelm**

Ken Nakajima

Institute of Science Tokyo

Heterogeneous Deformation at Multiple Scales of Filled and Unfilled Rubbers

Kenta Wakabayashi

Institute of Science Tokyo

Correlation Between Nanoscale and Macroscale Mechanical Properties in Polymer Alloys via AFM Nanomechanics

Josef Ludwig

Ludwig Nano Präzision GmbH

Spatially Resolved, Depth-Dependent Cutting Analysis of Elastomers by Microindentation

10:10

Coffee Break



Wednesday, October 14, 2026

Session 1

Vulcanization

Chairperson: **Ulrich Giese**

Session 2

New Composites

Chairperson: **Thomas Früh**

Session 3

Simulation

Chairperson: **Patrick Schneider**

10:40

Nikolaus Rennar

University of Applied Sciences Würzburg

*Improved Elastomer Properties by Crosslink
Bridges with Enhanced Stability*

Baochun Guo

Institute of Emergent Elastomers

*Novel Strategies and Mechanisms for Interfacial
Coupling in Rubber/Carbon Black Composites*

Herbert Baaser

UAS Bingen

*Hyperelastic Stability - Discussions and
Visualizations for Incompressibility*

11:15

Arpita Kundu

Leibniz Institut für Polymerforschung Dresden e. V.

*Development of dynamic reversible network in
modified natural rubber with high mechanical
performance*

Siwu Wu

Institute of Emergent Elastomers

*In-situ interfacial engineering towards high-
performance rubber composites enabled by
functionalized oligomers*

Dan Pornhagen

Deutsches Institut für Kautschuktechnologie e. V.

*Large strain viscoelastic behavior of carbon-black-
filled rubber: experiments and model assessment*

11:50

Jessica Niers

Deutsches Institut für Kautschuktechnologie e. V.

*Methodological Comparison of HS-GC-MS and
IMS in Elastomer Vulcanization Analysis*

Antti Laukkanen

Black Donuts / Nemus Materials

*Replacing carbon black with microfibrillated
cellulose - a novel premix material for tire industry*

Andrei Shvarts

Mesh-Oriented-Solutions

*Design Optimization of Elastomer Components
Under Large Deformation and Contact*

12:20

Lunch



Wednesday, October 14, 2026

Session 1

Filler

Chairperson: **Ulrich Giese**

Session 2

Analysis

Chairperson: **Seiichi Kawahara**

Session 3

Processing

Chairperson: **Heike Wittek**

13:20

Anke Blume

University of Twente

Improved Rubber Performance Through Phenolic Resin-Modified Silica

Manfred Wilhelm

Karlsruhe Institute for Technology

The potential of low field benchtop NMR spectroscopy for polymer characterization

Anke Bardehle

Institut für Kunststoffverarbeitung (IKV)

Optimisation of plasticiser addition during the rubber mixing process in the internal mixer

13:55

Abel Cardoso Gonzaga Neto

University of Twente

Structure Interaction Relationships in Phenolic Resin Mediated Silica Rubber Coupling

Philippe Rotgänger

TH Köln

Comparative Study of Crosslink Density in RTV and LSR Silicone Elastomers Using Multiple Characterization Methods

Xinyi Jiang

Institut für Kunststoffverarbeitung (IKV)

Prediction of Extrudability of Highly Filled Compounds Based on Rheological Behaviour

14:30

Winton Kuprewitz

Deutsches Institut für Kautschuktechnologie e. V.

Novel in-situ silica-polymer composites

Juan Lopez Valentin

Institute of Polymer Science and Technology

Investigating filler-rubber interactions and amplification effect in reinforced elastomers

Ole Bodem

Deutsches Institut für Kautschuktechnologie e. V.

Smart rubber extrusion

15:05

Coffee Break



Wednesday, October 14, 2026

Session 1

Sustainability

Chairperson: **Anke Blume**

16:05

Marina Montero Escrivá

Institute of Polymer Science and Technology

Novel insights into the effects of incorporating end-of-life tyre rubber in the re-vulcanization process

16:40

Frances van Elburg

University of Twente

A More Sustainable Tire Tread Formulation: Ensuring Scorch Safety and Material Performance

17:15

Nicole Holzmayer

HOFFMANN MINERAL GmbH

Transforming rubber compounds with sustainable filler solutions

Session 2

Tires

Chairperson: **Juan Lopez Valentin**

Radek Stoček

Centre of Polymer Systems

Thomas Diagram Parameters as a Basis for Defining Euro 7 Tire Wear Requirements

Ivan Buslov

Tire Industry Project, WBCSD

TIP's role in advancing the science-based understanding of tire wear emissions

James Knowles

Loughborough University

An Introduction to the Tyre Particulate Emissions (TyPE) Network

Session 3

Simulation

Chairperson: **Andrej Lang**

Claus Wrana & Jorge Lacayo

3rd18 & Continental Tires

Beyond Classical Rebound Tests - Measuring Viscoelastic Rubber Response under Pulse-Like Deformation

Sunghyun Lee

Hyundai Motor Company

Field Aging and Durability Life Cycle Prediction Study of Anti-vibration Rubber for Automotive Suspension System

Niel Wagensommer

DatenBerg GmbH

Recipe adaptation: Data-driven support during material changes

19:00

Social Event



Thursday, October 15, 2026

Session 1

Vulcanization

Chairperson: **William Mars**

08:30

Chaoying Wan

University of Warwick

Continuous and scalable mechanochemical devulcanization of end-of-Life tires for high-value-added nano carbon recovery

09:05

Uwe Nillius

Institut für Kunststoffverarbeitung

Energy-efficient continuous vulcanisation through process-oriented modelling of the heating process

09:40

Yunchen Lian

University of Warwick

Bone-Inspired EVA Vitrimer Foams with Processing-Tunable Nanocluster-Associated Constraints

Session 2

New Composites

Chairperson: **Baochun Guo**

Zhenghai Tang

Institute of Emergent Elastomers

Functionalized polysulfides as novel interfacial modifiers in rubber composites for achieving low hysteresis

Ming Tian

Beijing University of Chemical Technology

Nanoscale Interfaces and 3D Dispersion in Elastomer Nanocomposites: Connecting Microstructure to Viscoelastic Behavior

Xiaohui Wu

Beijing University of Chemical Technology

Effects of epoxidation degree on strain-induced crystallization and mechanical properties of epoxidized natural rubber

Session 3

Modelling

Chairperson: **Claus Wrana**

Yangyang Gao

Beijing University of Chemical Technology

Multiscale simulation on the fracture properties of polymer nanocomposite

Mengtao Wang

University of Warwick

Simulation of static crack growth using pure shear specimens

Fernando Martín Salamanca

Institute of Polymer Science and Technology

Molecular origins of failure in crosslinked polymer networks: insights from Monte Carlo simulations

10:10

Coffee Break



Thursday, October 15, 2026

Session 1

Raw Materials

Chairperson: **Ulrich Giese**

10:40

Runguo Wang

Beijing University of Chemical Technology

Novel Bio-based Itaconate Elastomers: Synthesis and Applications

11:15

Minghan Xu

Qingdao University of Science & Technology

Rapid and Green Fabrication of High-Performance Aramid Nanofiber/Elastomer Composites

11:50

Daigo Matsuoka

Asahi Kasei

Development of Carbon Black-Affinitive LiBR for Anti-Vibration Rubber and Tire Applications

Session 2

Rheology

Chairperson: **Andrej Lang**

Anne-Caroline Genix

Laboratoire Charles Coulomb

Aggregate Structure and Rheology in Rubber Nanocomposites

Mauro Belloni

Gibitre Instruments Srl

Steady state shear viscosity multispeed test performed by Gibitre MV: Correlation with capillary rheometry and RPA

Jens Meier

Deutsches Institut für Kautschuktechnologie e. V.

Relevance of Viscoelasticity in Compound Rheology

Session 3

Processing

Chairperson: **Heike Wittek**

Shubham Kirve

Deutsches Institut für Kautschuktechnologie e. V.

Extrusion-Based Additive Manufacturing of Technical Rubber Components

Matthias Henzler

Deutsches Institut für Kautschuktechnologie e. V.

Direct-Ink-Writing of Rubber – Towards In-Process Control of Crosslink Density for Functionally Graded Elastomers

Julia Uth

UTH GmbH

Overcoming Process Limitations: Continuous Milling as an Alternative in specialized Rubber Processing Applications

12:20

Lunch



Thursday, October 15, 2026

Session 1

Raw Materials

Chairperson: **Kevin Krause**

13:20

Kai Stumpf

Zeon Europe GmbH

*ECO and HNBR for Next Generation Air
Conditioning Applications*

13:55

Rowan Appelman

Nouryon

*Novelty in Payne Effect reduction: using Organic
Peroxides for reactive compounding in NR/Carbon
Black compounds*

14:30

Session 2

New Composites

Chairperson: **Andreas Bischoff**

Raffaele Bernardo

ARLANXEO Netherlands B.V.

*Investigating the EPDM black scorch mechanism
via compound rheology: frequency and strain
sweep measurements.*

Yusuf Güner

Standard Profil Ege Oto. A.S.

*Using Highly Reactive ZnO for Advancing Green
Vulcanization of EPDM Sponge Compounds*

Session 3

Tires

Chairperson: **Thomas Früh**

Andreas Schröder

LANXESS Deutschland GmbH

*Aflux® SD - A Sustainable Processing Promoter
for High Silica Winter Tread Compounds*

Pilar Bernal Ortega

University of Twente

*Effect of Resin Softening Point on In-Rubber
Performance of Tire Tread Compounds*

15:05

Closing Remarks