TPO® GLOBAL AUTOMOTIVE CONFERENCE

Powered by SPE Detroit Section

2023 Technical Program Sessions and Scopes

Technical Program Chairs:

- Dr. Norm Kakarala, SPE Fellow
- David Helmer, General Motors Company
- Mike Balow, Auxin Consulting

Materials Development Session

Session Chairs

- Catherine Wilson, Ford Motor Company
- Bin Sun, SABIC
- Quentin Boll, LyondellBasell

Session Scope

- New developments in polyolefin resin, talc, mineral, and other filler/reinforcement materials.
- Innovations and new applications for high rigidity polyolefin compounds or composites with either fibrous or non-fibrous reinforcement.
- New developments and innovations in impact modification.
- Advancements in both traditional and novel additives and stabilizers to improve product performance.

Innovations in Interiors Session

Session Chairs

- Dr. Pravin Sitaram, Haartz Corporation
- Austin Wagenhals, Ford Motor Company
- Hoa Pham, Sonoco

Session Scope

- Interiors for the Future – Evolution of applications & materials in automotive interiors
- Polyolefin Foams for interior applications – Evolution of processes for auto trim parts, including laser engraving.
- Acoustic Opportunities for TPO and TPE.
- Smart Materials & Surfaces in automotive interiors (Conductive, Energy Harvesting, Anti-Microbial).
- Next Generation Coatings for TPO substrates.
- Laminating Adhesives for automotive interiors.

Process Enabling Technologies

Session Chairs

- Dr. Suresh Shah, SPE Fellow
- Matt Sprouse, Washington Penn Plastic Company

Session Scope

- Process Optimization approaches to stay competitive.
- Part Molding Techniques for optimizing efficiency.
- Tooling approaches for optimal surface appearance.
- Developments in Additive Manufacturing
- Part Forming Innovations by injection and blow molding, extrusion, compounding and thermoforming.
- Performance Simulation for Stiffness and Strength, Durability and Fatigue, Crash Safety, and Joints.
- Predictive Modeling and Process Simulation tools such as mold filling/CAE/FEA.
- Material Modeling, Performance Simulation, Testing, and Characterization of TPO.

Sustainable Materials and Parts

Session Chairs

- Mark Allen, Dow
- Murali Reddy, CPK IP
- Petya Yaneva, SABIC

Session Scope

- Materials from Bio-Based, Advanced Recycling and Mechanical Recycling.
- Design for Recycling with Focus on Disassembly, Separation and Rejuvenation.
- Infrastructure Developments.
- Successful Material Development / Application Case Studies.
- Perspectives from Recyclers.
- Balance of Circularity and Carbon.

Polyolefin Elastomers and Vulcanizates

Session Chairs

- Dr. Bhavesh Shah, Lion Elastomers
- Dr. Dave Patel, GuruTech Systems, Inc.
- Dr. Nadeem Bokhari, Sumitomo Polymers

Session Scope

- Automotive Seals and Gaskets.
- Soft Touch and Over Molding materials and applications.
- Thermoforming of TPE and TPV.
- Advances in the areas of compression set, high temperature resistance, oil resistance, and NVH.
- Coolant hoses and materials.
- Sustainable (PCR /PIR) and Biobased TPEs and TPVs.

Performance Additives and Colorants

Session Chairs

- Dr. John Mara, Amfine
- Heejung Kwon, Songwon
- Jungdu Kim, Songwon

Session Scope

- Under-the-Hood: Thermal stabilization, Fire prevention, Physical property enhancements and Durability.
- Exterior: Weatherability, scratch resistance, physical properties/durability.
- Electrical Shielding: Dissipative and conductivity enhancing additives.
- Interior: Surface modification, antimicrobials, durability improvers such as thermal and light stabilizers, and nucleating agents.
- New Developments & Innovation in Color Concentrates and Pigmentation.
- Processing Additives – Durability Improvers – Property Enhancement.

Exterior Trim and Structural Applications

Session Chairs

- Charlie Yang, LyondellBasell
- Mark Pilette, Magna Exteriors
- Kevin Degrood, Borealis

Session Scope

- Design Trends impacting the Car of the Future.
- Design Influences on material selection for Exteriors.
- PP and PP Compounds for Electric (EV) and Autonomous Vehicles (AV) applications.
- Next Generation Materials.

Sheet and Thermoforming Applications

Session Chairs

- Paula Balhorn, Highland Plastics
- James Hansil, Spartan Polymers

Session Scope

- PP and PP Compound Applications in transportation, including metals and polymer inter-materials replacement.
- Polyolefin foam bead and parts production technology.
- Sheet production and forming for automotive flooring.
- Thermoforming and thermoformed parts for the large/heavy truck and commercial vehicle manufacturing.