

# MONDAY / MARCH 30

	1-1:30 PM	1:30-2 PM	2-2:30 PM	3:30-4 PM	4-4:30 PM	4:30-5 PM
EPSPDIV/APPLIED RHEOLOGY - HONORARY SYMPOSIUM FOR MONTGOMERY SHAW'S 77TH BIRTHDAY (I)	<b>Tough Supramolecular Hydrogels</b> / Robert Weiss	<b>Thermal and Rheological Characterization of Hairy Polystyrene Nanoparticles</b> / Sindee L. Simon	<b>Liquid Crystal Thermosets - A New Class of High-Performance Materials</b> / Ed Samulski	<b>The Role of Rheology in Industry 4.0 Plastic Processing</b> / Shih-Po Sun	<b>An All Silicone Thermoplastic Elastomer Curable through the Hard Block Phase</b> / Steven Swier	<b>From Fundamental Rheology to the Generation of Novel Composite Materials with Enhanced Properties</b> / Don Baird
EXTRUSION	<b>Screw Design for Ultra-High-Speed, Quad-Screw Extrusion</b> / Carol Barry	<b>Planetary Roller Extruder as Heat Exchanger Independent Control of Thermal &amp; Mechanical Energy Input</b> / Michael Batton	<b>Extrusion Technologies for Low Temperature Compounding</b> / Travis Menapace	<b>Application of Hybrid Modeling in Polymer Processing</b> / Christian Marschik	<b>Modeling the Non-Isothermal Conveying Characteristics in Single-Screw Extrusion by Application of Network Analysis</b> / Wolfgang Roland	<b>Viscosity Characterization and Transient Flow Simulation and Visualization of PTFE Paste Extrusion</b> / George Schmidt
MOLD TECHNOLOGIES	<b>Pushing the Limits to the Next Level: A New Mould Steel for Demanding Plastics and Biocomposites Dies</b> / Magnus Brannbacka	<b>Dimensional Control Strategy with GF filled SMI-Crystalline Material Mold Tool</b> / Taehwan Kim	<b>Simulation of Deformation of Hot Runner Manifold</b> / Sun Kyoung Kim	<b>Inline Surface Activation in the Multi Injection Molding Process</b> / Frederik Mühlhoff	<b>Submicron Texturing of Injection Molds Using Femtosecond Laser</b> / Leonardo Piccolo	<b>Reduction of Demoulding Force Through Innovative Surface Modification</b> / Dr. Ruben Schlutter
THERMOPLASTIC ELASTOMERS	<b>Designing TPU/Carbon Nanofiller Nanocomposites with Targeted Properties: A Roadmap for Filler Selection</b> / Ica Manas-Zloczower	<b>Overmolding of Thermoplastic Elastomers onto Hard Substrate Materials</b> / Ernest Kumeh	<b>Thermoplastic Elastomer Blend Exhibiting Combined Shape Memory and Self-Healing Functionality</b> / Christopher Lewis	<b>Ageing Effects on Two-Component Injection Molded Thermoplastic Elastomers on Polyamide-12</b> / Anna-Maria Persson	<b>Blooming in Thermoplastic Elastomers</b> / Su Siew Soh	<b>Extension of the Rivlin Polynomial for the Simulation of the Non-linear Material Behaviour of TPE</b> / Christoph Zimmermann
BIOPLASTICS AND RENEWABLE TECHNOLOGIES	<b>Properties of Nanofibrillated PLA/PTFE Fibrillated Composite</b> / Chul Park		<b>Mechanical Properties of Electrospun Fibers from Ozone-treated Lignin</b> / Jiawei Chen	<b>A Green Polyurethane from Lignin: Moving Beyond Diisocyanates with 100% Non-toxic Reagents</b> / James Sternberg	<b>Degradation Behavior of Aliphatic and Aromatic Biomass-Based Copolyesters for Agriculture</b> / Margaret Sobkowicz	<b>The Use of Novel Biomaterials for Affordable Packaging</b> / Karnik Tarverdi
FAILURE ANALYSIS AND PREVENTION	<b>Finite Element Modeling on Barrel Mar Behavior of Amorphous Polymers</b> / Shuoran Du	<b>Failure Analysis of an Outdoor Instrument Housing</b> / Jeff Jansen	<b>Failure Analysis of Polymer Coating Systems</b> / Gaurav Nagalia	<b>Validation of the Virtual Lifetime Prediction Method for Elastomer Components</b> / Simon Rocker	<b>Plastic Failure Analysis and Forensics with SEM-EDX and Confocal Laser Microscopy</b> / Francis Rodrigues	<b>Transition Metal-Catalyzed Degradation of Polymers: Review and Future Perspectives</b> / Andrew Worthen
ADDITIVE MANUFACTURING	<b>3D Printed Hybrid Composite Structures - Design and Optimization of a Bike Saddle</b> / Alec Redmann	<b>Enabling AM Business Models Through Part, and Build Design</b> / Brent Ewald	<b>The Influence of Laser Power Variation on SLS-printed PA6 Parts and their Long-term Properties</b> / Tobias Heckner	<b>Understanding the Limitations of 3D Printed Polymers Through a Staged Screening Protocol</b> / Jessica Hemond	<b>Compressibility in Fused Filament Fabrication</b> / David Kazmer	<b>Hybrid Technique using Additive Manufacturing and Compression Molding for High Performance Composite</b> / Seokpum Kim
COMPOSITES I - EFFECT OF NANOSCALE INCLUSIONS AND ADDITIVES	<b>Polyethylene/Graphene/Carbon Fiber Waste Hybrid Nanocomposites</b> / Fahed Albreiki	<b>Improving Thermal Conductivity of CoContinuous Ternary Composites using Double Percolation Structure</b> / Molin Guo	<b>Thermoplastic Composite System Using Polymer Blend and Fillers</b> / Mohammed Alghamdi	<b>Bio-renewable Polyester/Graphene Nanocomposites</b> / Muhammad Iqbal	<b>Preparation of Cellulose Nanocrystal-Polypropylene Masterbatches by Water-Assisted Thermokinetic Mix</b> / Craig Clemons	<b>Structural Characterization of Hybrid Composites with Graphene to Increase the Use of Light Weight</b> / Nathaniel Blackman
EPSPDIV - FUNDAMENTAL PROPERTY-STRUCTURE RELATIONSHIPS	<b>Engineering Polymeric Systems for Next-Generation Manufacturing Methods</b> / Alan Lesser	<b>Multifunctional Polymer Nanocomposites</b> / Hung-Jue Sue	<b>The Effect of Boundary Conditions on Curing and Adhesion in Frontal Polymerization</b> / Daniel Camarda	<b>Small-angle X-Ray and Neutron Scattering for Commercial Polymers</b> / Greg Beaucauge	<b>From Self-Assembly Structure to Mesoporous Materials</b> / Shiao-Wei Kuo	<b>A Review of Impact Modification Technologies for Different Thermoplastics Using Ethylene Copolymers</b> / Jeff Munro
APPLIED RHEOLOGY I	<b>Counter Pressure Measurements with a Capillary Rheometer</b> / Tim Haake	<b>Rheology with Application to Polyolefins: Shear Flows</b> / Teresa Karjala	<b>Rheology with Application to Polyolefins: Oscillatory Shear and Elongational Rheology</b> / Teresa Karjala	<b>Effects of Viscoelastic Properties of Polymer Melts on the Entrance Vortex Flow</b> / Azadeh Farahanchi	<b>Viscoelastic Measurement and Injection Molding Simulation of Amorphous Polymer: From Liquid to Solid</b> / Chen-Chieh Wang	<b>Modern Rheological Techniques for Polymer Analysis: Capillary Rheometer, Screw Rheometer, and Melt Strength Tester</b> / Myung-Ho Kim
DECORATION AND ASSEMBLY - ADVANCES IN DECORATION AND ASSEMBLY	TBD / Biao Lu	<b>Anticorrosion Coatings Based on Polyimide/Zirconium Phosphate Nanocomposites</b> / Guan-Hui Lai	<b>New Development in Adhesion Promotion Using Flame Plasma Surface Treatment - Tutorial</b> / Joseph DiGiacomo	<b>Advanced Laser Ablation and Laser Marking on Plastics</b> / Faycal Benayad-Cherif	<b>Fatigue Resistance of Structural Adhesives</b> / Matt Miner	
INJECTION MOLDING - MATERIAL INNOVATIONS & MATERIAL CHARACTERIZATION	<b>An Investigation of the Crystallinity in Vibration Assisted Injection Molded Poly-Lactic Acid</b> / Peng Gao	<b>The Effect of Plasticizing Conditions on Viscosity Measurement of a Mold-type Slit-die Rheometer</b> / Eunsu Han	<b>In Situ Injection Molding Thermotropic Liquid Crystalline Polymer Reinforced Nylon 6 Composites With</b> / Jier Han	<b>Hot Runner Molding of Bioplastics and Recyclates</b> / Davide Masato	<b>Glass Reinforced PA 66 Compound with Improved Flowability for Thin Wall Applications</b> / Mo Meysami	<b>Direct Compounding of Long Glass Fiber-Reinforced Plastics in the Injection Molding Process</b> / Marius Wittke

# TUESDAY / MARCH 31

	1-1:30 PM	1:30-2 PM	2-2:30 PM	3:30-4 PM	4-4:30 PM	4:30-5 PM
<b>EPD/IV/APPLIED RHEOLOGY - HONORARY SYMPOSIUM FOR MONTGOMERY SHAW'S 77TH BIRTHDAY (II)</b>	<b>Montgomery Shaw: Old Legends Go into the Sunset and We Have Learned from Them /</b> Greg McKenna	<b>Fabrication, Characterization and Applications of Nanocellulose for Water Purification /</b> Ben Hsiao	<b>Polymer Degradation and Recycling with Montgomery Shaw /</b> Chris White	<b>The Importance of Rheology in Additive Manufacturing /</b> Anson Ma	<b>Time, Temperature &amp; Applied Rheology in Wire &amp; Cable /</b> Scott Wasserman	<b>A Reptation Slip Model for Flow of Polymer Melts /</b> Savvas Hatzikariakos
<b>EXTRUSION - MIXING</b>	<b>Design of a Novel Free-Rotating Mixing Sleeve for Single-Screw Extrusion /</b> Mirco Janßen	<b>Simulation of a Saxton-Mixer in High-Performance Extruders Using the Immersed Boundary Method /</b> Jochen Kettemann	<b>Evaluation of Mesh Interface and Immersed Boundary Models for the Optimisation of Mixing Elements /</b> Malte Schön	<b>Analysis of the Advantageous Process and Mixing Behaviour of Wave-Dispersion Screws in SSE /</b> Marius Dörner	<b>Energy Transfer Single-Screw Extruder Design for Peroxide-Containing Polyolefin Compositions /</b> Qian Gou	<b>Effect of Ultrasonic Extrusion on Properties of Colloids Containing Epoxidized Soybean Oil and Clay /</b> Avraam Isayev
<b>POLYMER ANALYSIS DIVISION - POLYMER CHARACTERIZATIONS</b>	<b>Thermo-rheological, Mechanical, and Dielectric Characterizations &amp; Kinetic Studies of Thermosets /</b> Terri Chen	<b>Reverse Engineering and Failure Analysis of Materials and Polymers Using Infrared and Raman Spectroscopy /</b> Sergey Shilov	<b>Analytical Characterization of Commercial Foams for Consumer Bedding Applications /</b> Praveen Boopalachandran	<b>Barrier Properties of Urethane/Nano clay Composites /</b> James Sloan	<b>Studies of Material Properties of HTPB-Based Composite Under Aging Conditions /</b> Jaehee Jeong	<b>Analysis of the Three-Phase Structure of Semi-Crystalline Polymers and its Simulative Approach /</b> Dario Heidrich
<b>JOINING OF PLASTICS &amp; COMPOSITES: EXPERIMENT AND SIMULATION</b>	<b>Modeling of Heat Generation in Spin Welding /</b> Miranda Marcus	<b>Effects of Ultrasonic Consolidation on Ballistic Performance of Composite Armor /</b> Avraham Benatar	<b>The Influence of Surface Coating on the Mechanical Performance of 3D-Printed ABS/Aluminum Joints /</b> Sergio Amancio	<b>Optimization of friction- riveted PC-AA2024-T351 joints using Artificial Neural Networks /</b> Lucian-Attila Blaga	<b>Long and Short Term Tensile Strength and Morphology of Joined Beta-Nucleated Polypropylene Parts /</b> Andrea Wübbecke	<b>Experimental Study of Heat Sealing and Ultrasonic Sealing of PET/PE Films /</b> Avraham Benatar
<b>CHEMICAL RECYCLING AND THE CIRCULAR ECONOMY (EMERGING TECHNOLOGY FORUM)</b>	<b>Recyclable Drop-In Solution to Standard Epoxy Resins /</b> Selvm (Brian) Pillay	<b>Plastic Should Never be a Single-use Material. With Chemical Recycling it Never Has to Be /</b> Tim Dell	<b>The Future Is Garbage: Converting Organic Waste into Polymers for the Circular Economy /</b> Tony Bova	<b>Solving the Recycled Content Supply Gap using Alternative Feedstocks and Disruptive Technology /</b> David Bedner	<b>From Plastics Waste to Certified Circular Polymers /</b> Matthew Morrison	<b>Agilyx's Role in Commercial Recovery of Chemical Value in Post-Use Plastic /</b> Barry Cavinaw
<b>COMPOSITES II - PROCESSING METHODOLOGIES</b>	<b>Light Weight Sheet Molding Compound Via Syntactic Foams /</b> Edward DiLoreto	<b>Elastomer Modification of Self-Reinforced Composites (SRC) Via the Film Stacking Method /</b> Fabian Jakob	<b>Study of the Effects of Plasticization Condition on of Ultra-Long-GF Reinforced PP Injection Molding /</b> Hsin-Shu Peng	<b>The Properties of PCL/PLA Composites Monolith Fabricated by Thermally Induced Phase Separation /</b> Ziyang Pu	<b>Surface Modification of Cellulose Nanocrystals by Grafting Poly(lactic Acid) via Polymerization- from T /</b> Hormoz Eslami	<b>Effect of Maleic Anhydride on Cellulose Acetate Fiber Reinforced Thermoplastic Polystyrene /</b> Hamad Al-Turaif
<b>ADDITIVE MANUFACTURING</b>	<b>Investigation of Glass Bubbles iM16K Polyamide 12 Composites for Selective Laser Sintering /</b> James Klett	<b>Development of an Agile, Battlefield Additive Manufacturing Plant for Recycled PET /</b> Prabhat Krishnaswamy	<b>Determination of Physical Properties of Fused Filament Fabrication Parts as Influenced by the Nozzle /</b> Justin Limkaichong	<b>Comparison of Additive and Conventional Tooling on Injection Molded Part Properties /</b> Maria Camila Montoya	<b>Structural Integrity of Shrinkage and Warpage Optimized Polypropylene Produced by Material Extrusion /</b> Sandra Petersmann	<b>Design and Evaluation of Bicomponent Core-Sheath Die for 3D Printer Filament Feedstock Co-extrusion /</b> Rebecca Ruckdashel
<b>AUTOMOTIVE</b>	<b>Recent Innovations in Materials and Applications of Automotive Plastics /</b> Suresh Shah	<b>Advanced Thermoplastic Material Solutions to Improve Fuel Economy and Emissions Performance /</b> Rodrigo Orozco	<b>Innovations to Reduce Odor in Filled Polypropylene Materials /</b> Lily Liu	<b>Circular Economy New Challenges and Opportunities for the Plastics Industry /</b> Michael Shoemaker	<b>High Definition PC/ABS Blend for Automotive Interior /</b> Marina Rogunova	<b>Internal Damping and its Variability of Polyamide 6.6-Based Materials /</b> Kai Becker
<b>EPD/IV - COATING, MEMBRANES, AND THIN FILMS</b>	<b>Hybrid Polymer/Quantum Dot Thin Films for Color Improvement of Displays /</b> Hsueh-Shih Chen	<b>Effect of Coating Anisotropy on Scratch Behavior /</b> Mohammad Hossain	<b>Fabrication of Multifunctional PVDF/MWCNT Nanofibrous Membrane via Electrospinning for Membrane Bioreactors /</b> Esrat Jahan	<b>Time-Dependent Large Deformation Mechanical Behavior of Spatially Confined Polymer Nanostructures /</b> Pavan Kolluru	<b>Polymer/Clay Nanocoatings with Exceptional Mechanical, Barrier, and Flame Retardant Properties /</b> Luyi Sun	<b>Effect of Long-Chain Branching on Scratch Behavior of Polypropylene /</b> Chia-Ying Tsai
<b>PLASTIC PIPE &amp; FITTINGS / FAILURE ANALYSIS AND PREVENTION JOINT SESSION / VINYL</b>	<b>Transition from Ductile Failure to Brittle Fracture of High Density Polyethylene Under Creep Loading /</b> Na Tan	<b>Morphology and Mechanical Performance of Pipe Grade HDPE Exposed to Chlorinated Water /</b> Susan Mantell	<b>Numerical Simulation of Slow Crack Growth Mode Transition of HDPE Using Modified Crack Theory /</b> Byoung-Ho Choi	<b>Reduced Order Kinetic Model for Corrosion of High-Density Polyethylene in Bleach Solutions /</b> Susan Mantell	<b>Degradation of CPVC Sprinkler Piping Material by Simulated Sunlight and UVB Light (Vinyl) /</b> Rajni Madan	<b>Foaming of PVC Using Ultra High Molecular Weight Acrylic Processing Aids /</b> Manoj Nerkar
<b>APPLIED RHEOLOGY II</b>	<b>Polymer Melt Rheology: What Is It and Why Is It Critical For Extrusion? /</b> Olivier Catherine	<b>Modeling of Shear and Uniaxial Extensional Viscosities in Very Wide Deformation Rates /</b> Martin Zatloukal	<b>Rheokinetics of Thermal-Induced Gelation of Liquid Polybutadiene Resin /</b> Samy Madbouly	<b>Anomalous Viscosity Drop by Addition of Immiscible Polymer /</b> Masayuki Yamaguchi	<b>Minimizing Interfacial Orientation during Processing of Immiscible Blends /</b> Donggang Yao	<b>High Temperature Extensional Rheology Measurements to Understand Anti-Drip Properties /</b> Manojkumar Chellamuthu
<b>INJECTION MOLDING - PROCESS / TOOLING INNOVATIONS I</b>	<b>Intelligent Hybrid Hot Runner System for Optimized Polymer Products /</b> Khalid Alqosaibi	<b>Creating a Skin-Core Structure with Foamed Phenolic Resins in an Injection Molding Process /</b> Martin Bayer	<b>Method for Determining Cooling Time in Injection Molding Using Infrared Thermography /</b> Eric Boud	<b>Towards Multi-Tiered Quality Control in Manufacturing of Plastics and Composites Using Industry 4.0 /</b> Saeed Farahani	<b>Additive Manufacturing of Large, Temperature-Controlled Injection Molding Tools Using Arc Welding An /</b> Johannes Ullrich	<b>Enhanced Filling of Injection Molds by Microstructured Cavity Surfaces /</b> Magnus Orth



# WEDNESDAY / APRIL 1

	1-1:30 PM	1:30-2 PM	2-2:30 PM	3:30-4 PM	4-4:30 PM	4:30-5 PM	5-5:30 PM
<b>INJECTION MOLDING - PROCESS / TOOLING INNOVATIONS 2</b>	<b>Dynamic Variable Gate of Mold and its Application to Injection Molded Part Quality</b> / Min-Chi Chiu	<b>Blending Scholarly Knowledge and Practitioner Know-How to Successfully Injection Mold a Complex Part</b> / Jeremy Dworshak	<b>Experimental Wear Data Acquisition for Condition Monitoring in Injection Molding Machines</b> / Sebastian Fruth	<b>Improving Surface Quality Of An Injection Molded Part By Adapting Rapid Heating And Cooling Technology</b> / Somasekhar Bobba	<b>Injection Mold Cooled with Additive Manufactured Heat Pipe Core</b> / Stephan Kartelmeyer	<b>Development of the Vent Clogging Monitoring Sensors in the Injection Molding Process</b> / Bongju Kim	<b>A Valid Design Prediction Approach of 3D Metal-Printed Mold Manufacturing</b> / Wen Hsin Weng
<b>EXTRUSION</b>	<b>Use of Gradually Changing Profile Shape in Extrudate Sizers for Simplification of Die Design</b> / Mahesh Gupta	<b>Profile Extrusion Die Balancing Using Polymer Extrusion Simulation Software</b> / Jingyang Xing	<b>Flow Simulation of a Microcapillary Cast Film Die</b> / Kurt Koppi	<b>Viscosity Considerations in Multilayer Coextrusion</b> / Deepak Langhe	<b>Improving Thermoformability of iPP Through Multilayer Coextrusion</b> / Alex Jordan	<b>Using a Micro Blown Film Line for Formulation Screening</b> / Jin Wang	<b>Extrusion Division Awards Meeting</b>
<b>APPLIED RHEOLOGY / POLYMER ANALYSIS JOINT SESSION</b>	<b>Tricks and Shortcuts for Dealing with the Rheological Characterization of Polymer Melts and Solids</b> / Montgomery Shaw	<b>Improvement of Processability and Mechanical Toughness of PLA Addition of EVA</b> / Daisuke Kugimoto	<b>Polymer Nanocomposites Containing 1D and 2D Hybrid Nanofillers for Microwave Absorption</b> / Uttandaraman Sundararaj	<b>The Use of Multi-Wave Oscillation to Expedite Testing and Provide Key Rheological Information</b> / Gregory Kamykowski	<b>Characterization of Polymeric Pellets in Injection Molding Using Magnetic Levitation</b> / Jun Xie	<b>Slot requested for session on "Polymer Analysis"</b> / TBD	<b>Slot requested for session on "Polymer Analysis"</b> / TBD
<b>BIOPLASTICS AND RENEWABLE TECHNOLOGIES - INNOVATIONS IN BIOCOMPOSITES</b>	<b>Influence of moisture absorbing (uv radiation) on the mech. properties of cellulose reinforced PBT</b> / Nicole Gemmeke	<b>Novel Method of Compounding Cellulose Nanocrystal Suspensions into Poly(lactic Acid and Poly(vinyl Acetate Blends</b> / Ronald Sabo	<b>Durability of Cellulose Nanomaterials under Industry Relevant Shear Stresses</b> / Bradley Sutliff	<b>Antioxidant Activity Effect of Isosorbide into Flexible Polyurethane Foams</b> / Gwangseok Song	<b>Vibration Welding of Agave Fiber Biocomposites</b> / Curtis Covelli	<b>Degradable Plastics / Wood Hybrids for Sustainable Packaging Solutions</b> / Simon Wurzbacher	<b>Slot requested for session on "Bioplastics"</b> / TBD
<b>AUTOMOTIVE</b>	<b>Advanced Olefinic Materials for the Interior of Autonomous and Electric Vehicles</b> / Sassan Tarahomi	<b>Compounding Technology (Techniques and Tips) for Improved Performance and Productivity of Automotive</b> / Paul Andersen	<b>Mechanical Properties Characterization of Recycled Thermoplastic Composites Subjected to Various Hygrothermal Conditions</b> / Alper Kiziltas	<b>Predicting Fiber Orientation for Injection Molded Thermoplastics</b> / Kennedy R. Boyce	<b>Advances in Simulation of Discontinuous Fiber Composite Materials: Compression Molding of Bulk Form</b> / Umesh Gandhi	<b>Fibre Reinforced Polyolefin Materials for Lightweight Constructions</b> / Kevin DeGroot	<b>Process Development and Monitoring Using Advanced Hot Runner System and Cavity Sensors</b> / Kuang-Yi Lu
<b>RECYCLING - SUSTAINABILITY</b>	<b>Sustainability and the Need for a Framework</b> / Narayan Ramesh	<b>Stabilization of Polymers for a More Circular Economy</b> / Ian Query	<b>Bottle-to-Bottle Recyclability for Barrier Packaging Enabled by Surface Modified HDPE</b> / Zhenshuo Liu	<b>Recycling PET into Plastic Lumber at Forward Operating Bases</b> / Prabhat Krishnaswamy	<b>Mechanical and Optical Characterization of Recycled Carbon Fiber Based Recycled LDPE Composites</b> / Dr. Katherine Stewart	<b>Circular Economy - New Styrene Polymer Processing Concepts</b> / Cassie Bradley	<b>Slot requested for session on "Recycling"</b> / TBD
<b>PLASTIC PIPE AND FITTINGS</b>	<b>The Complexity of Service Life Prediction for Polyolefins in Chlorinated Disinfectants</b> / Karin Jacobson	<b>Technical Basis for Maximum Allowable Scratch Depths in HDPE Pipes Made with High Pent Values for N</b> / Prabhat Krishnaswamy	<b>Thermal Derating Factors for Fused PVC</b> / Tom Marti	<b>Tailoring Composite Architecture to Improve the Toughness of Pipe Grade Materials</b> / Johannes Wiener	<b>Multi-layer Co-extruded Annular Structures Burst Pressure Performance</b> / Erik Steinmetz	<b>Best Paper Award Presentation / Plastic Pipe and Fittings SIG</b>	<b>Slot requested for session on "Plastic Pipe and Fittings"</b> / TBD
<b>INJECTION MOLDING - SIMULATION / FIBER ORIENTATION</b>	<b>Investigation on the Coupling Effects Between Flow and Fibers on FRP Injection Parts</b> / Chao-Tsai Huang	<b>Study on the Fiber Orientation Distributions and their Variation between the Single and Co-injection</b> / Chao-Tsai Huang	<b>Workflow for Enhanced Fiber Orientation Prediction of Short Fiber-reinforced Thermoplastics</b> / Susanne Kugler	<b>Predicting Fiber Orientation in Short Fiber Reinforced Injection Molding Process Using DEM</b> / Ravi Mayavaram	<b>Comparison of Fiber Orientation Results of a Moldflow®. Implemented pARD-RSC model to µCT Scans</b> / Sandra Saad	<b>Analyzing the Machine-Specific Process Behavior for Automated Adaption of Setting Parameters</b> / Pascal Bibow	<b>Simulative Representation of an LSR Injection Molding Process</b> / Kevin Klier
<b>EPSDIV - NOVEL CHARACTERIZATION TECHNIQUES</b>	<b>Applications of Spectroscopic Techniques to Elucidate Aging Process of Bio-based Polymers</b> / Shaw-Ling Hsu	<b>Characterization of the Non-Uniform Compression Behavior and the Internal Morphology in Flexible Polyurethane Foams Using Digital Image Correlation and X-Ray Micro-Tomography</b> / Hieu Truong McElroy	<b>Optical 3D Metrology the Ultimate Biomechanics Tool</b> / Justin Bucienski	<b>Spreading Coefficient: A Simple Tool for Predicting Failure in Adhesives</b> / Ica Manas-Zloczower	<b>Characterization of Impact Toughness of Thin Plastics Films</b> / Sanjib Biswas	<b>Quantitative Determination of Interfacial Strength of Multilayer Films Using an Instrumented Machine</b> / Kwanghae Noh	<b>Simulation of Structure Development During Isothermal Crystallization of Semi-Crystalline Polymers</b> / Tobias Daniel Horn
<b>COLOR AND APPEARANCE</b>	<b>Characterization of Polycarbonate - Using Thermogravimetric Rheology Analysis</b> / Dr. Jamal Al Sadi	<b>Design for Sustainability - A Case Study with Appearance Nylon</b> / Bruce Mulholland	<b>Introduction to Color Theory - Part 1</b> / Bruce Mulholland	<b>How Materials, Design, Processing and Tooling Affect the Aesthetics of Plastic Parts - Part 1</b> / Vikram Bhargava	<b>Role of Branding and Color Science in Medical Devices</b> / Jacqueline Anim	<b>What Designers Need to Know About the Science of Color and Appearance of Plastic Parts - Part 2</b> / Vikram Bhargava	<b>Slot requested for session on "Color and Appearance"</b> / TBD
<b>COMPOSITES III - MODELING, SIMULATION AND ANALYSIS</b>	<b>Mechanical Behavior Modelling of Braided Yarns and Elastomeric Core Composite Under Tension</b> / Avia Bar	<b>Analysis of Contributive Forces in Intra-Laminar Shear of Continuous Fiber Reinforced Thermoplastics</b> / Tobias Mattner	<b>Experimental vs. Numerical Buckling/ Post-Buckling Response of Cantilever Orthotropic Web Beams Under</b> / Abdul Halim	<b>A Force-Balanced Fiber Retardation Model to Predict Fiber-Matrix-Separation During Polymer Processing</b> / Christoph Kuhn	<b>The Design-induced Fiber Orientation and Influences on Warp in Injection Fiber Reinforced Plastic</b> / Chao-Tsai Huang	<b>Slot requested for session on "Composites"</b> / TBD	<b>Slot requested for session on "Composites"</b> / TBD
<b>INJECTION MOLDING - UNDERSTANDING &amp; IMPROVING PART QUALITY</b>	<b>Permanent Quality Assurance In the Plastic Injection Molding With A Focus On Self-Learning Algorithm</b> / Michael Werner	<b>In-Mold and Machine Sensing, Feature Extraction, and Parameter Settings for Optimized Injection Mold</b> / Ming-Shyan Huang	<b>Real-time PRESS MEAS during Plasticization and Injection Process and Its Effect on Part WT Variation</b> / Hsin-Shu Peng	<b>The Effect of Clamping Force on Product Quality: A Study on Platen Deformation</b> / Hsin-Shu Peng	<b>Machine Calibration Effect on the Optimization through Design of experiments (DOE) in Injection Mold</b> / Chao-Tsai Huang	<b>Experimental and Numerical Studies On Sink-Marks During Thermoplastics Injection Molding Processes</b> / Sejin Han	<b>Design and Analysis of Fresnel Microstructure for Contact Lens</b> / Vivek Kshirsagar

Preliminary agenda as of 2/19/2020. Subject to change. For the most up to date information, visit [4spe.org/antec](http://4spe.org/antec).



# THURSDAY / APRIL 2

	8-8:30 AM	8:30-9 AM	9-9:30 AM	9:30-10 AM	10:30-11 AM	11-11:30 AM	11:30-12 PM	12-12:30 PM
<b>ROTATIONAL MOLDING / AUTOMOTIVE</b>	Polypropylene Ground Tire Rubber (PP/GTR) Composites Produced Via Rotational Molding / Denis Rodrigue	Processing of Functionally Graded Integral-Skin Cellular Polymeric Composites Utilizing RRFM / Isha Raktim	Development of High Stiff Polypropylene Foam as an Alternative to Existing Polyethylene Foam Grades / Jake Kelly-Walley	Advanced Reactive Based Compounded Materials for Interior, Exterior and Underhood Applications / Sassan Tarahomi	Carbon Fiber Demand Forecast and Recycling Challenges / Andrew Sanders	Advances in Simulation of Discontinuous Fiber Composite Materials: Compression Molding of Sheet Form / Yuyang Song	Experimental and Numerical Investigations of the Effects of Curing on the Material Properties of HEXCEL AS4/8552 PREPREG / Shardul Panwar	TPO Advances for Interior Applications / Jason Fincher
<b>EXTRUSION</b>	Processing Conditions and Procedures to Optimize Quality and Efficiency for Extrusion / Thomas Bezigian	Optimization of Processing Properties of Co2 Rubber Compounds / Michael Drach	Machine Learning and Multi-Objective Optimization of Industrial Extrusion / David Kazmer	Increasing the Process Window of Single-screw Extruders Operated with Regrind / Philipp Thieleke	Understanding of Neck-In Phenomenon in Production of Flat Polymeric Films: A Review / Martin Zatlouk	Smart Water and Oil Separation / Yiyang Xu	Simulation of Thermoforming Process for Truck Roof Fairing Applications / Carlos Pereira	(Injection Molding) / Amber Lin
<b>ADDITIVE MANUFACTURING</b>	Enhancement of Binding Matrix Stiffness in Composite Filament Co-extrusion Additive Manufacturing / Chethan Savandaiah	Reliability Evaluation of Conductive Tracks Integrated into Additively Manufactured Components / Kaja Schmidt	Electro-Spun PVP (POLYVINYLPIRROLIDONE) Nanofibers: An Experimental Investigation / Utkarsh	3D Metal Printing in Molding Industry Bigger and More Popular Application / Benson Yang	Slot requested for invited speaker on "Additive Manufacturing Finishing Process" / TBD	Slot requested for invited speaker on "Additive Manufacturing Finishing Process" / TBD	Slot requested for invited speaker on "Additive Manufacturing Finishing Process" / TBD	Slot requested for invited speaker on "Additive Manufacturing Finishing Process" / TBD
<b>MEDICAL PLASTICS</b>	Thermal Analysis and Dual UV/Thermal Curability of a Medical-Grade, Cationic Epoxy Adhesive System / Xiaoping Guo	Effect of Photoinitiator Concentration and Curing Time on Soybean Polyethylene Glycol Resins / Kaetlyn Byers	Chemical Resistance Testing of Polycarbonates and Blends with Hospital Disinfectants and Cleaners / Paul Nowatzki	Development of Innovative Biocidal Nanoparticles for Use in Plastics Technology / Ruben Schlutter	The Effect of Argon Plasma Irradiation on 3D Scaffolds for Bone Tissue Engineering / Katherine Wood	High-Flow Peek for Medical Devices with Aesthetic Enhancement / Xiaowei Zhang	Slot requested for session on "Medical Plastics" / TBD	Slot requested for session on "Medical Plastics" / TBD
<b>POLYMER MODIFIERS AND ADDITIVES</b>	Erucamide Slip Analysis in Polyethylene by GC using a Nitrogen Chemiluminescence Detector / Garry Yamashita	Flame-Retardant Polycarbonate for EN45545-2 Railway Standards / Minoru Soma	Engineering Impact Modification of Polypropylene for Low-temp/High-strain rate Loading Conditions / Chinmay Saraf	Influence of Additive Type on the Properties of Polyolefin Blends / Christoph Burgstaller	Development of Low-Cost Graphene/Polyethylene Nanocomposites / Shroq AlZadjali	Characterization and Processing of Thermally Conducting Thermoplastic Elastomers for a Microclimate / Szetong de Clair	Comparison of Longevity of PE- and PP-based TPO Waterproofing Membranes / Yushan Hu	Functional Alkane Solvent Systems / Ying-Hua Fu
<b>FAILURE ANALYSIS AND PREVENTION / PRODUCT DESIGN AND DEVELOPMENT JOINT SESSION</b>	When Plastic Design Does Not Align with Manufacturing and Assembly - A Multiple Factor Investigation / Jeffrey Jansen		Design for Reliability of Consumer Products with Mechanically Sensitive Internal Components / Steven Kreuzer	The Most Frequent Design Flaw that Leads to Part Failure / Paul Gramann	Impact Simulation and Analysis of an HDPE Bottle Pump / Sean Teller	Slot requested for session on "Product Design" / TBD	Slot requested for session on "Product Design" / TBD	Slot requested for session on "Product Design" / TBD
<b>THERMOPLASTIC MATERIALS AND FOAMS</b>	New High Melt Strength Polypropylene WAYMAXTM - Aesthetic Stamping Film designed for TOM method / Kazuki Sakashita	Fibrillated and Highly Interconnected Porous PCL Scaffolds by Supercritical Foaming and Leaching / Jing Jiang	Hybrid Conductive and Semi-Conductive Fillers Towards High Dielectric Permittivity and Low Loss in T / Amir Ameli	Foam Sheet Extrusion with Blowing Agent Mixtures and Correlation Analysis with Dimensionless Numbers / Robert Breuer	Foam Extrusion of HPMCAS/Itraconazole Amorphous Solid Dispersion / Shahab Kashani Rahimi	The Effects of Molecular Weight and CO2 Solubility on the Structure of PMMA Nanocellular Foam / Shu Kai Yeh	3D Chemical Foaming Simulation for Transfer Molding Process / Li-Yang Chang	Numerical Analysis of Polymer Micro-Foaming Process in Extrusion Flow / Lixia Wang
<b>COMPOSITES IV - MODELING, SIMULATION AND RECYCLING, MATERIALS</b>	Computational Modeling of IR Heating of Composite-Material Parts / Somasekhar Bobba	The Advanced Study of Hybrid Molding by CAE Simulation / Che-Ping Lin	Advanced simulation methods for prediction of multi-layer non-matching fiber-mat applications in Resin Transfer Molding Process / Fred Yang	The Influence of Recycling on Thermotropic Liquid Crystalline Polymer and Glass Fiber Composites / Tianran Chen	Reinforced Thermoplastic Containing Recycled Cardboard Fibers for Recreational Vehicles Applications / Liqing Wei	Reaction Induced Phase Separation of High-Tg Thermoplastic from Glassy Thermoset During Cure / Matthew Hartline	Slot requested for session on "Composites" / TBD	Slot requested for session on "Composites" / TBD
<b>EPSDIV - TAILORING POLYMERS TO TARGETED PERFORMANCE</b>	Property Enhancements and Gradients in Nanocomposites via Polymer-Nanofiller Interactions / John Torkelson	Tailoring Interfacial Properties of Polyethylene Oxide/Boron Nitride Nanocomposites via Polydopamine / Bin Li	Electrically Conductive Poly(Vinylidene Fluoride) Carbon Nanotube Composites For Strain Sensing / Petra Poetschke	Polymers, Foams, Blends, Composites, Aerogels, and Hydrogels with Tailored Structures and Properties / Lih-Sheng Tzeng	Hydroxide Conducting Block Copolymers / Yossef Elabd	Influence of Processing Method on the High Strain-Rate Behavior of Polycarbonate / Fabian Ullrich	Effect of Pre-Mixture Ingredient Feeding Protocol on Resonant Acoustic Mixing Quality / Marcelo Arispe-Guzman	Development of Shape Memory Thermoplastic Polyurethane (TPU)/ Poly(lactic Acid) (PLA) Polymer Blend / Yulei Guo
<b>EPSDIV / FLEXIBLE PACKAGING JOINT SESSION - FLEX PACK SUSTAINABILITY</b>	Technical challenges for Recyclables Flexible packaging - Brand Owner Point of View / Lora Liang	Plantic - A Biobased, Biodegradable and Barrier Solution for Packaging / Kevin Laux	Accelerating the Circular Economy through Collaborative Product and Application Development / Brant Wunderlich	Biomass-based Renewable Polymers - A Pathway to a Sustainable Future / Joshua Yuan	The Development of a Flexible Spout for Flexible Packaging / Liangkai Ma	Ship Less Air - Flexible Chip Bag Filling Simulation for Sustainability / Jay Yuan	Strength and Failure of Sealed Polyethylene Films / Dongming Li	Slot requested for session on "Flexible Packaging" / TBD
<b>RECYCLING / BLOW MOLDING JOINT SESSION - SUSTAINABILITY II</b>	Upcycling Ocean Bounding PET Waste Into Durable Materials / Peter Vollenberg	Demonstration of a Preliminary Simulation Framework for Foam Blow-Molding using Commercially Available Blow-Molding Software / Anish Kumar	Influence of Variothermal Temperature Control on the Weld Line Quality of Extrusion Blow Molded Articles / Martin Facklam	Recycling of Polyethylene Terephthalate / Hai bin Ning	Differences Between the Recycled Carbon Fibers Especially Regarding Product Quality / Hatice Malatyali	Slot requested for session on "Blow Molding" / TBD	Slot requested for session on "Blow Molding" / TBD	Slot requested for session on "Blow Molding" / TBD
<b>INJECTION MOLDING - GENERAL PROCESSING &amp; TROUBLESHOOTING</b>	Process Parameters Effects on Fiber Orientation, Air Traps and Tensile Strength of Injection Molding / Kuei-Shan Chen	Low-and-High Pressure Foam Injection Molding of Polypropylene/Talc Through Chemical and Physical / Gethin Llewelyn	Pressure Driven Filling in the Injection Molding Process of Micro Structured Parts / Dario Loaldi	Reducing Warpage of Polycarbonate and Liquid Silicone Rubber Products Using Insert Injection Molding / Shi-Chang Tseng	A Quick Response and Tribologically Durable Graphene Heater for Rapid Heat Cycle Molding / Huang Yang	Injection Molding of Delamination Free Ultra-High Molecular Weight Polyethylene Parts / Galip Yilmaz	The Challenge of Simulation for Ear-Flow Phenomenon in Injection-Mold Filling / Huan-Chang Tseng	Simulation and Measurement of the Melt Temperature Variation during Injection Molding / Michael Zielonka