ANTEC® AGENDA

8:00 AM - PLENARY
POLYMER PHYSICS: ACADEMIC RESEARCH & IMPACTS
SPE INTERNATIONAL AWARD RECIPIENT,
SINDEE SIMON, RENAISSANCE BALLROOM

MONDAY MARCH 18, 2019 - MORNING

	MICHELANGELO	DAVINCI	MONET	MACKINAC E	MACKINAC W	MARQUETTE
SESSION	APPLIED RHEOLOGY	TECHNICAL ENTREPRENEURSHIP BOOTCAMP	COLOR & APPEARANCE	TOPICS IN ROTATIONAL MOLDING & ELECTRONIC DEVICES	EXTRUSION: SINGLE SCREW	SUSTAINABILITY
9:00-9:30 AM	Strain Hardening In Polymer Melts, Solutions, & Glasses	Entrepreneurship & Intrapreneurship	When Color Pigment Development Meets Facebook, Elmo & The EPA	A Comparison Between Two Ground Tire Rubber Surface Treatments To Produce Compounds Based On Linear Low Density Polyethylene Via Rotational Molding	Numerical Optimization Of Advanced Mixing Elements On Single Screw Extruders	Third Sustainability Survey
9:30-10:00 AM	Strain Hardening Behavior in Transient Elongational Viscosity for PP Containing LDPE	Overview of Business Model Canvas	History of Colour in Plastics	Experimental Setup Design for Processing Functionally Graded Cellular Composites in Rapid Rotational Foam Molding	Comparison of the Conventional and the Disperse Melting Model Regarding Different Process Parameters	Recycling of Polyethylene Grocery Bags into High-strength Fibers and Yarns without using Melt Processing
10:00-10:30 AM	Effect of Long Chain Branching on the Rheology and Flame Properties in Polycarbonate Resins	Target Customer and Market	Appearance Specifications for Plastic Parts: A Practical Method for Ensuring Consistent Appearance		Performance Analysis of Five Plasticating Screws	Energy Saving Strategies For Plastics Injection Molding: Lubrication
10:30-11:00 AM	Effect of Polypropylene Chain Branching on Melt Blown Process Stability	Value Proposition	Reflecting 100 Years of TiO2	Overview of Next Generation Engineering Thermoplastics for Consumer Electronics	Determination of the Barrel Temperature Setting of Single Screw Extruders Using Fuzzy Logic	Characterization of Polyolefin Recyclates sourced from an Informal Waste Picker Community in Kenya
11:00-11:30 AM	Molecular Dependence on Rheological and Mechanical Properties of SEBS for Films and Fibers	How to Perform Interviews	Low emission, UV stabilized Lasermarkable POM for Automotive Interiors	Investigation on the Electrical Induced Mechanical Deformation of Polycarbonate Monolithic Film	An Experimental Validation of a Heuristic Melt-Conveying Model for Single-Screw Extruders	Vegetable Oil Based Polyester: a Versatile Material for Advanced Applications
11:30-NOON	Dual-Mode Viscoelasticity for Polymer Melts	Team Meeting Time	**KEYNOTE:** Azo Pigments: A Historical Perspective on the Discovery and their Application in Polymers		Mixing Study on Different Pineapple Mixer Designs – Simulation Results 1	

JOLIET	LASALE	CADILLAC	DULUTH	NICOLET	BRULE	RICHARD
PRODUCT DESIGN & FAILURE ANALYSIS/ PREVENTION	COMPOSITES	BIOPLASTICS	PROCESSING FOR MEDICAL APPLICATIONS	INJECTION MOLDING: MATERIALS	INJECTION MOLDING: PROCESSING	STRUCTURE-PROPERTY RELATIONSHIP IN COMPOSITES
Perspectives On Battery Enclosure Design From Failure: Product Development Objectives When Failure Can Be A Charring Event	**KEYNOTE:** Light Weighting Automobiles	Processing Of Biobased Polymers, Foams, Blends, And Composites With Special Properties For Various Industrial & Biomedical Applications	Micro Injection Molding Hydrophobic And Hydrophilic 3D Surfaces	PVDF Injection Molding-Standard Guidelines And New Technologies	Tie-Bar Elongation Based Prediction Of Injection Molding Quality	**KEYNOTE:** Fabricating Shape Morphing Polymer Composites Using Phase-Change Fillers
Simulation of Adhesive Bond Performance		Processing of Biobased Polymers, Foams, Blends, and Composites with Special Properties for Various Industrial and Biomedical Applications	Additive Manufacturing of Photopolymers for Biomedical Applications	Fiber Orientation, Tensile Property, and Electrical Conductivity of the Unfoamed and Foamed Injection Molded PP and PPGMA Carbon Fiber Composites	Quality Index Design for Online Monitoring Injection Molding Process	
Importance of Whole Package Barrier Analysis in Optimizing Packaging design	A Study of the Thermo-Oxidative Degradation of Glass-Fiber Sizings at Composite Processing Temperatures	Preparation of Maleated Thermoplastic Starch and Its Graft Copolymers via Reactive Extrusion	Additive Manufacturing of Photopolymers for Biomedical Applications	Prefinished Metal Polymer Hybrid Parts	Development of a Temperature Displacement Law for Viscosity Fluctuations Integrated into the Control Setup of the Injection Molding Process	Online film casting of PC/MWNT composites using ultrasound assisted twin screw extruder
Elastic Adhesive Contact for Rough Surfaces	Resistance Heating of Carbon Fiber Reinforced Thermoplastics: Influences on Heating Rate and Temperature Distribution	Non-Isothermal Crystallization Kinetics of Novel Nanoblends Prepared from Simultaneous in-situ Cationic Polymerization and Compatibilization of Bio-Based Tung Oil and Biodegradable PolyCaprolactone	Investigating the Effect of Temperature and Frequency on Dielectric Properties of Polyvinylidene Fluoride (PVDF)	Injection Molding and Injection Compression Molding of Ultra-High Molecular Weight Polyethylene: Minimized Thermal Degradation and Delamination Layer Formation	Rheological Material Characterization within the Injection Molding Process	Modelling of the mechanical properties of medium saturated short fiber-reinforced polycarbonate
Plastic Design Pitfalls	Polypropylene-Polyester Fiber Composites: Obviating the Toughness-Stiffness Tradeoff	Effect of Peroxide Loadings on the Rheological Behavior of PLA Ternary Blends	Reaction Injection Molding of Polyurethane Medical Device Components	A New Versatile Masterbatch Additive for Polypropylene Compounds	Anisotropic Shrinkage of Short & Long Glass Filled Composite on Injection Molding Process	Development of Multifunctional Composites for Space Radiation Shielding Applications
	Reduction of Overmolding of Thermoset In-Mold Produced Hybrid Components	Influence of Chain Extender on Mechanical, Thermal Properties of PLA/Poly(methyl methacrylate-co-3-trimethoxysilyl propyl methacrylate) Blend	Disinfectant Resistant Materials for Medical Devices	Investigation of the In-Flow Effect on Weld Lines in Injection Molding of Glass Fiber Reinforced Polypropylene	Determining Apparent Melt Viscosity by Cavity Pressure	

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MONDAY MARCH 18, 2019 - AFTERNOON

SESSION	MICHELANGELO	DAVINCI	MONET	MACKINAC E	MACKINAC W	MARQUETTE
	APPLIED RHEOLOGY	MOLD MAKING & MOLD TECHNOLOGIES	COLOR & APPEARANCE	AUTOMOTIVE TPO DEVELOPMENTS	EXTRUSION: SINGLE SCREW / SHEET AND DIE	SUSTAINABILITY
2:00-2:30 PM	Contribution of Flow Instability to Tiger Stripes of Polypropylene Copolymers	**KEYNOTE**	**PANEL DISCUSSION:** Navigating Supply Challenges in today's complex regulatory environment during a trade war	An Overview of Key Material Developments in Engineered Polyolefins for Automotive Applications	**KEYNOTE:** Process Design & Troubleshooting Using a Fundamental Approach, Dr. Mark Spalding – SPE International Research, Engineering & Technology Award Recipient	**KEYNOTE:** How are the World's Largest Fast Moving Consumer Goods Companies Pursuing Sustainable Plastic Packaging Practices?
2:30-3:00 PM	On-Line Processability Characterization of Thermoplastic Formulations during Injection Molding	Laser Ablation: A Complimentary Moldmaking Process	Polyester Fibers and their Mass Coloration for Automotive Applications	Have Plastic Surfaces Been Enhanced?	Troubleshooting a Rate Limitation at the Entry of a Barrier Melting Section of a Single-Screw Extruder (ID115)	
3:00-3:30 PM	High Shear Capillary Rheometry of Cellulose Nanomaterials for Industrial Relevant Processing	Injection Molding Of Thinner Parts Using Mold Surface Coatings	Preventing Discoloration in Thermoplastic Polyurethanes	Twenty Years of TPE and TPO Evolution and a Vision of the Future	Two Concepts for Extending the 3D-Simulation Technique of Melting Processes in High-Speed-Extrusion Based on a Custom Material Model (ID146)	Fracture properties of polyolefin recyclate formulations
3:30-4:00 PM	The Screw Rheometer: A Novel Rheometry for the Thermoplastic and Rubber Material	Metallurgical Comparison Between The Two Main Types of Additive Manufacturing Methods Used to Produce Conformally Cooled Plastic Injection Molding Dies	Chromatic Effects for Sensitive Plastics Applications	Driving Innovation and Material Collaboration on Exterior Products	Development of New Solid Conveying Model Based on the Actual Measurement of Polymer Processing Properties (ID248)	Nanocellulose In Plastic Composites For Automotive Applications
4:00-4:30 PM	Melt Index and Extensional Rheology Combined	Evaluation Of Novel Switch To Detect The Melt Flow Front In Injection Molding		Polypropylene's Use in Structural Automotive Applications – A Historical View	Viscoelastic Simulation of Extrusion Film Casting for Linear iPP Including Stress Induced Crystallization (ID108)	The Importance of Chemical Stabilization in Recycled Material for Corrugated and Conduit Polyolefin Pipes
4:30-5:00 PM		Effect Of Laser-Induced Periodic Surface Structures On The Self-Cleaning Properties Of Venting In Injection Molding		20 Years of Developments in Process & Equipment Trends	Using Secondary Air Cooling in Blown Film Extrusion: Concept Design and Experimental Study (ID148)	
5:00-5:30 PM		Simulative and Experimental Validation of an Inversed Cooling Channel Design for Injection Molds			A Study of Melt Temperature of a Lab-Scale Blown Film Line and Effect of Melt Temperature on the Film Properties (ID353)	

SESSION	JOLIET	LASALE	CADILLAC	DULUTH	NICOLET	BRULE	RICHARD
	DECORATING & ASSEMBLY	COMPOSITES	BIOPLASTICS	MATERIALS FOR MEDICAL APPLICATIONS	INJECTION MOLDING: MATERIALS	INJECTION MOLDING: PROCESSING	STRUCTURE-PROPERTY RELATIONSHIP IN POLYMERS & BLENDS
2:00-2:30 PM	Innovations and New Trends in Specialty Coatings	Study on the Viscoelasticity Properties of the Glass Mat Thermoplastics (GMT) in Compression Molding System	Pyrolyzed Soybean Hulls as Fillers in Polypropylene and Linear Low Density Polyethylene	Applications of Polyamide-based Thermoplastic Elastomers in Medical Devices: From Fundamentals to Engineering	Determining the Degree of Agglomeration of Solid Additives while Using Inline Injection Molding Compounding (iimc)	Investigating the Effect of the Feedstock Shape on Ultrasonic Microinjection Moulding	Influence of Meltspinning Conditions on the Morphology and Crystallization of Polyester Fibers
2:30-3:00 PM	Application of 2K Injection Molding & Decorative Chrome Plating on Plastics	A New Flow-Orientation Coupling Analysis in Injection Molding Simulation of Fiber Composites	Novel Biobased Poly(Butylene Terephthalate) for Biocomposites Uses	Tailored Polymer Surfaces for Customized Pharmaceutical Packaging Solutions	Investigating the Effects of Dynamic Melt Manipulation on PLA Crystallization During the Injection Molding Process	Studying the Effects of High Shear Exposure and Rapid Cooling to Relate α, α', and Chain Extended Crystal Formation to Micro Injection Molded Medical Component Morphology	Solutions for Polyamide Impact Modification Based on Ethylene Copolymers and Elastomers
3:00-3:30 PM	Advancements in Decorative PVD Chromium Coatings for Polymer Substrates	Computer-aided Engineering Approach to Composite Manufacturing Solutions of Resin Transfer Molding Process	Heat Treated Bamboo Fiber for Sustainable Polymer Blends	Tailored Polymer Surfaces for Customized Pharmaceutical Packaging Solutions	Influences of Process Parameters on Penetration in a Hybrid Single Shot Manufacturing of Carbon Fiber/Epoxy Polypropylene Structure	Real-time characterization of microcellular injection molding via ultrasonic technology	Effect of Polyethylene Structure on Silane Grafting and Properties of Associated Moisture-Crosslinked Compositions and Cable Constructions
3:30-4:00 PM	UV Curing Process Development and Control	Study of the Effect of Process Parameters on Fiber Length, Fiber Orientation and Tensile Strength of Long Glass Fiber Reinforced Polypropylene Molding	Mechanical Characterization and Effect of Water Absorption on PLA-Carbon Fiber Composites in Injection Molding	An Injection Moldable Ultra-High Molecular Weight Polyethylene For Medical Applications	Automotive Lightweighting via Supercritical Foam Injection Molding of Thermoplastic Olefin	Anomaly Detection in Injection Molding Process Data Using Cluster Analysis	Influence of additive type and mixing protocol on the properties of LDPE-PA6-Blends
4:00-4:30 PM	Why Test Inks and Dyne Pens Cannot Tell The Full Truth About Surface Free Energy	A Composition-Morphology Mapping of Fumed Silica Filled Polymer Blends	Processing and Characterization of Microcrystalline Cellulose Reinforced Amorphous Polyamide Composites	Requirements for Medical Plastics – Launch of New Guideline	The Novel Silver Based Antimicrobial for Plastics	Injection Molding Processing of Bio-Based and Bio-Filled Resins	Multimodal HDPE for Small Part Blow Molding
4:30-5:00 PM	Fixtureless Laser Marking Drastically Cuts Cost of Tooling	Thermal Properties of Carbon Fiber Reinforced Polyamide 66 Composites Throughout the Direct Long-Fiber Reinforced Thermoplastic Process	Polyhydroxyalkanoate (PHA) based Sustainable Biocomposites with High Mechanical and Barrier Properties in Packaging	Medical Plastics: Review of Material Models Required for Simulation Through Case Studies		Evaluation of Methodologies Utilized to Determine the Ideal Fill Speed for an Injection Molding Process	Study on Thermal Characteristics and Mechanical Properties of Poly(Lactic Acid)/Paraffin Wax Blends
5:00-5:30 PM	New Developments in Adhesion Promotion Using Flame Plasma Surface Treatment-A Tutorial			Accelerated Aging and Viscoelastic properties of Medical-Grade Resins			

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8:00 AM - PLENARY
CAN WE END PLASTICS WASTE?
STEVE RUSSELL, ACC, RENAISSANCE BALLROOM

TUESDAY MARCH 19, 2019 - MORNING

	MICHELANGELO	DAVINCI	MONET	MACKINAC E	MACKINAC W	MARQUETTE
SESSION	APPLIED RHEOLOGY	ADDITIVE MANUFACTURING/3D PRINTING TUTORIAL	EXTRUSION TUTORIAL	AUTOMOTIVE MATERIALS DEVELOPMENTS	EXTRUSION: COMPOUNDING	POLYMER ADDITIVES TUTORIAL
9:00-9:30 AM	Lubricated Two-Phase Flow of Rubber-Filled Thermoplastic Melts Through Dies	HP: MJF 3D Printing for Production	Extrusion Tutorial is for ANTEC registrants who want to know about basic Single Screw & Twin Screw equipment and their applications and controls.	Innovations in Automotive Plastics "Materials and Processes"	Study on Thermal Characteristics and Mechanical Properties of Poly(Lactic Acid)/ Paraffin Wax Blends	Acid Neutralizers
9:30-10:00 AM	Rheological Method Development: Using Rheological Tools to Predict Thermoformability	Carbon: The Difference Between Designing for Additive Manufacturing and Injection Molding for Production		Effect of Fiber Pretreatment on Mechanical Properties of Agave Fiber (AF)- Polypropylene (PP) Biocomposites	Non-linear Rheological Response as a Tool for Measuring Dispersion in Nanocomposites and Blends	Antioxidants
10:00-10:30AM	Flow Behavior and Polymer-Particle-Interaction in Highly Filled PolyLactides	Stratasys: Ford Mustang Window Alignment Fixture		Extremely Low Emission Polyoxymethylene for Automotive Interior Parts	Chemical Modification of Polybutene-1 Resins Through Reactive Processing - Costas Tzoganakis	UV stabilizers
10:30-11:00AM	Flow-Induced Birefringence Study of Vortices in LDPE Polymer Melt Extrusion	3YourMInd: Moving AM from Prototyping to Series Production with Digital Workflows		Recent Advances in Graphene Based Rubber Compounds	Which Extruder System for Which Compounding Job? A Reliable and Field-Tested Methodology	Nucleators/ Clarifiers
11:00-11:30AM	Rheology of Molten Polyolefin Interfaces: Slip in Shear, Hardening in Extension	TRUMPF Laser: 3D-Printing in the Mold Making Industry - Challenges of the Plastic Injection Molding with Conformal Cooling		Foamed PP for Visible Automotive Applications - Challenges and Opportunities	Quad Screw Extrusion of Highly-filled Polymer Composites	Fillers
11:30-NOON		Avante: Lowering the Costs of 3D Printed Injection Molds for Short Run Production		3D printing Applications with MJF for Automotive Production	Specialty Discharge Methods for Continuous Compounders	Processing aids

	JOLIET	LASALE	CADILLAC	DULUTH	NICOLET	BRULE	RICHARD
SESSION	FAPSIG	COMPOSITES	OCEAN PLASTICS	TPM&F	INJECTION MOLDING: SIMULATION	INJECTION MOLDING: PROCESSING	SCRATCH AND WEAR BEHAVIORS OF POLYMERS
9:00-9:30 AM	Environmental Stress Cracking Failure of Amorphous Polymer Materials	**KEYNOTE:** General Motors/ Light Weighting Automobiles with Metals, Composites and Plastic Materials	Environmental impact of plastics in oceans and waterways Prof. Anthony Andrady	Piezoresistive Polymer Nanocomposites and their Foams as Smart Sensing Materials	Viscoelastic Effect on the Warpage Prediction Accuracy and Experimental Validation in Injection Molding	Effect of Cooling Time, Packing Pressure, and Antistiction Coating on Replication of Micro Molded Substrates	**KEYNOTE:** Physical Correlation between Scratch and Abrasive Wear Behaviors of Polyurethane Elastomers
9:30-10:00 AM	Physical Aging Behavior of Aliphatic and Aromatic Thermosets of Various Cross-link Densities Conditioned with Hydrostatic Pressures		Plastic Marine Debris Management Thomas Sprehe	Effects of Electroactive Crystal Phases and Porous Structure on Triboeletrication of Poly(Vinylidene Fluoride)	Investigation on the Microstructures of Long Fiber and Their Influences on Warpage and Mechanical Property in Injection Reinforced Thermoplastics (FRT) Parts	Investigation on Gas-Assisted Injection Molding (GAIM) for Improving Metal Injection Molding (MIM) Molded Quality and Properties	
10:00-10:30AM	Modeling for Damage Accumulation of Injection Molding Machine Components Using Production Planning Data for Predictive Maintenance	Scalable Production of "Z" Aligned Ultra-Sensitive, Transparent and Flexible Piezoelectric Pressure Sensors and Loudspeakers	OceanBound Plastic: Intercept it BEFORE it Enters the Ocean Sandra Lewis	Why 1.5-Nanometer Titanates and Zirconates Are Better Than Silanes	Indirect Analysis of Flash During Injection Molding Using Flow Simulation Software	Cavity Pressure Measurement during Injection Molding via Ultrasonic Technology	Puncture Resistance for Flexible Films - the Search for Solutions
10:30-11:00AM	Air-coupled Ultrasonic Inspection of Thermoplastic CFRP Tapes, a Probability of Detection Analysis	Method to Utilize Aligned Carbon-Fiber Prepreg Trim Scrap for Structural Applications	Is biodegradability a solution to plastics end-of-life? Prof. Ramani Narayan	The Effect of Hygrothermal Exposure on the Thermal Conductivity and Density of Nanocellulose Based Foams	Influence of Injection Molding Parameters and Fiber Content on Product Roundness Accuracy	Hybrid Process of Forming-Injection Molding □ Investigation of Polymer Melt Behavior on the Final Injected Part	Developing Scratch-Resistant Clear Coating for Automotive by Using Molecular Necklace Cross-linker
11:00-11:30AM	Inline System for Optical Quality Assurance of Multi-Step Processes	Effects of Coupling Agent on the Properties of Hybrid Composites via Direct Injection Molding	Innovate, Collaborate, and Accelerate to Improve Plastics' End of Life and Prevent Marine Debris Jennifer Ronk	Phenolic Foams with the Re-Entrant Porous Structure: Fabrication, Structure and Properties	Application of Transfer Learning of CAE to the Training of Neural Networks of Different Injection Products	Novel V/P Transfer Actuation Method and Injection Molding Strategy and Their Comparison to Traditional Methods	Understanding Scratch and Mar Behaviors of Textured Polymer Surfaces through FEM Modeling
11:30-NOON	Mechanical Failure in Agricultural Silo Bags	Reinforcing Phenomena of Elemental Carbon: the Case of Carbon Black vs. Biocarbon in Composite Uses	**PANEL DISCUSSION**	Ultrafast Removal of Pathogens from Wastewater Using Acid-Base Foams	Simulation of Flow through an Injection Molding Machine Non-return Valve; Influence of Material Parameters	Flow Properties of CO2-loaded Bioplastics in Micro Injection Molding	Crosshatch Tape-Adhesion Test for Multi-layer Films Using Scratch Machine

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TUESDAY MARCH 19, 2019 - AFTERNOON

SESSION	MICHELANGELO POLYMER ANALYSIS DIVISION	DAVINCI ADDITIVE MANUFACTURING	MONET JOINING	MACKINAC E AUTOMOTIVE PROCESS DEVELOPMENTS	MACKINAC W EXTRUSION: TWIN SCREW	MARQUETTE THERMOPLASTIC ELASTOMERS: INNOVATIONS & APPLICATIONS
2:00-2:30 PM	**KEYNOTE:** Informatics in Plastics Research Beyond the Characterization Laboratory	Recycled Cellulose Polypropylene Composite Feedstocks for Polymer Additive Manufacturing	Process Monitoring of Induction-based Adhesively Bonded Lap-Joints	Evolution in Automotive TPO	Nanoparticle Production by Solvent-Free Extrusion Emulsification	**KEYNOTE:** Thermoplastic Elastomers: An Overview, Anil K. Bhowmick, IIT Kharagpur (India), Recipient of SPE Education Award
2:30-3:00 PM	Characterization of Recycled Polymer Compound by Thermal Analysis	High Density Polyethylene Blends for Additive Manufacturing	Evaluating Healing Behavior of Reversible Adhesive Bonded Joints Subjected to Transverse Impact Loads	Innovations in Automotive Plastics "Materials and Processes/ Enabling Technologies"	Mechanical Properties of Polyacrylonitrile Nascent Fibers Prepared by Super-large Length-diameter Ratio Twin-screw Extruder with Different Screw Speed	Copolyester Elastomers for Automotive Applications with Focus on CVJ Boots
3:00-3:30 PM	Quantification of Material Damping Properties by the Ultrasonic Melting Test	3D Printing of Biodegradable Polymeric Blend by Fused Deposition Modelling: Processing & Characterization	Evaluating Residual Stresses in Bonded Lap Joints through Experiments and Numerical Modeling	Novel Polyolefin Solutions Addressing the Main Challenges of Future Mobility	Experimental Validation of Numerical Simulations of Devolatilization in a Co-Rotating Twin-Screw Extruder	Mechanical Actuation in Polymeric Bilayers
3:30-4:00 PM	Analytical Characterization of Commercial High End Cosmetic Foams: New Class of Hydrophilic MDI Prepolymers (HYPOLTM Prepolymers) for Consumer Applications	Evaluating the Effect of Stress Concentration on the Mechanical Properties of LFAM Parts; Simulation and Verification	Effects of Post-Mixing Time and Dispensing Method on the Dual Curability of a Two-Part Acrylate-Epoxy Hybrid Adhesive System	Mineral Fiber Filled PC+ABS Blend Designed For Large Off-line Painted Exterior Components	Residence Time Distribution in Solid-State Shear Pulverization (SSSP) Extruder	A Computational Study of Necking And Drawing of Plastic-Rubber Laminates
4:00-4:30 PM	Process-Technical Examination and Analysis of Coiled Filament Mats Based on Production According to Fitzer	On the Use of Silica Nanoparticles on SLS Processed Polyamide-11	Experimental Determination of Reduction Factors for the Dimensioning Process of the Shear Tensile Strength of a Screw Blind Rivet	Lightweight Automotive Composites for Lowered Emissions	Evaluation by On-Line FTIR of the Kinetics of PP/PA6 Blend Compatibilization with PP-g-MAH during Extrusion	Investigation of the foamability and resulting mechanical properties of foamed thermooplastic elastomers
4:30-5:00 PM	Dynamic Mechanical Analysis - Fundamentals and Developments	Direct and Converse Piezoelectric Behavior of Three-dimensionally Printed Polymer without Filler or Poling, with Relevance to Monitoring and Actuation	Direct Joining of Polytetrafluoroethylene and Polyamide to Steel via use of Surface Treatment	Magnum ABS: The Benchmark ABS for Extrusion	Highly-filled Polymeric Systems for Sheet Extrusion	Poly(trimethylene terephthalate) Toughened with Biobased-Rubber: Morphological, Mechanical, and Blend Characteristics
5:00-5:30 PM		Direct and Converse Piezoelectric Behavior of Three-Dimensionally Printed Polymer without Filler or Poling, with Relevance to Monitoring and Actuation	Modelling Laser Light Transmission in Thermoplastic Composites Using Monte-Carlo Simulation	Plastic Material Considerations for Electrified Propulsion Systems	**EXTRUSION DIVISION AWARDS CEREMONY AND RECEPTION**	Flexil-A Novel Soft Touch Thermoplastic Elastomer

SESSION	JOLIET DURABILITY, TESTING & THE FUTURE OF PLASTIC PIPE & FITTINGS	LASALE COMPOSITES	CADILLAC BIOPLASTICS	DULUTH POLYMER MODIFIERS & ADDITIVES	NICOLET INJECTION MOLDING & PRODUCT DESIGN & DEVELOPMENT	BRULE TPM & F	RICHARD POLYMER CHARACTERIZATION & MODELLING
2:00-2:30 PM	On The Way To The Pipe Architecture Of Tomorrow	Cellulose Nanofibril Reinforced Polybutylene Suiccanate Bio-Composite	Study on Compatibilization of Multicomponent Composites Through a Transitioning Phase	Process Aid for Polyamide applications	Embedding Intelligence into Smart Tupperware Brings Internet of Things Home	Effects of N2 and CO2 as Physical Blowing Agents on the Foamability of Linear and Branched PA6	Impact Testing and Modeling of 3D Printed Materials
2:30-3:00 PM	Molecular and Morphological Parameters Governing Yield Behavior of Polyethylene Pipe Materials	The Effect of Graphene Nanoplatelets on the Complex Viscosity of High Density Polyethylene	The Benefits of Farrel Continuous Mixing (FCM(TM)) Technology in Processing Polylactide (PLA) Compounds	Advancements in Aspects of Automotive Anti-Scratch	Plastic Part Design at Shure Incorporated-Getting It Right The First Time	In-Situ Visualization of Crystal Nucleation and Growth Behaviors of Polypropylene (PP) Under High Pressure CO2	Sustainable Polyamide Compounds
3:00-3:30 PM	Influence of Polyolefin Cross-Contamination on the Slow Crack Growth Resistance of Polyethylene Pipe Grade	Development of polypropylene nanocomposites reinforced with cellulose filaments	Wet Compounding of Cellulose Nanocrystals into Polylactic Acid for Packaging Applications	Development of a Polyolefin Stabilizer Blend with Predefined Properties and Food Contatct Status	**CASE STUDY:** Synergy of Industrial Designa and Plastics Engineering Applied to the Design of a Hyperspectral Imaging Camera	Solubility and diffusivity of CO2 and N2 in TPU and their effects on cell nucleation in batch foaming	Determination of Delamination Strength in Semi-rigid Polymeric Laminates
3:30-4:00 PM	Multi-Relaxation Test to Characterize PE Pipe Performance	Control of PA6/PP biocarbon composite morphology by varying biocarbon content	Improved Performance of Polyurethane Foam Insulation Using PolyLactide Biopolymer Liners and its Impact on Energy Efficiency of Refrigerator and Freezers	Partial Replacement of Glass Fiber with Minerals in Polyamide 6 Applications	Designer Polymers: Additive Manufacturing of Smart Materials as a Complement to Injection Molding	Engineered Nanofibers with Enhanced Foamability of Linear Polymer	Statistical modeling of the squeak noise occurrence of natural rubber
4:00-4:30 PM	Differences and Similarities in Fatigue Failure Mechanisms of PA12 Pipe Grades Compared to Modern PE Pipe Grades	Effect of nanoclay on dimensional stability of biocarbon-filled polyamide 6 biocomposites	Fabrication and Characterization of 3-D Porous Hydroxyapatite (HA)-Modified Polyurethane (PU) Scaffold for Tissue Engineering	Performance of Minerals in Polyamide 6	Addressing 'Cost' Right at the Design stage - How Design Engineers Need to Take Charge	The Effects of Material Properties on Microcellular Injection Molding Simulation	An Anomaly in the Drop Dart Testing of Polyethylene Film
4:30-5:00 PM	Durability, Testing and The Future of Plastic Pipe Fittings *Sponsored by Chevron Phillips Chemical Company*	Effects of Fiber Content on Optical, Viscoelastic, and Thermal Properties of Cellulose Nanofiber Reinforced Poly(methyl methacrylate)	Study on Compatibilization of Multicomponent Composites Through a Transitioning Phase	Polycarbonate-Polyester Blend Degradation Behavior	The Influence of Fiber Length and Fiber Orientation on the Impact Behaviour of Polypropylene	Crystallization and Elasticity Behavior of Poly(ether-block-amide) (Pebax®) Foams Manufactured by High-Pressure Foam Injection Molding with Mold Opening under N2	Scratch Behavior of Epoxy Resins
5:00-5:30 PM						Optimizing Process Condition of PU Chemical Foaming: Validation of Material Properties for Numerical Simulation	

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8:00 AM - PLENARY
ADVANCES IN AUTOMOTIVE PLASTICS & COMPOSITES
DR. DEBBIE MIELEWSKI, FORD, RENAISSANCE BALLROOM

WEDNESDAY MARCH 20, 2019 - MORNING

	MICHELANGELO	DAVINCI	MONET	MACKINAC E	MACKINAC W	MARQUETTE
SESSION	NON-HALOGENATED FLAME RETARDANTS	TECHNICAL ENTREPRENEURSHIP BOOTCAMP		TRANSPORTATION	EXTRUSION: DIES & PELLETIZATION	PRODUCT DESIGN & DEVELOPMENT
9:00-9:30 AM	Natural Fiber Reinforced Technical (Bio-)Composites modified with Halogen Free Flame Retardant (ID 104)	Review Target Customer and Market		Impact of Autonomous, Connected, Electrified, and Shared Vehicles on the Materials and Manufacturing Shashank Modi	Pellet Heat Transfer Model with Crystallization Kinetics Using Finite Element Method	Development of a Plastic Frame Mounted Bumper that Meets the Requirements for Pedestrian Safety Performance
9:30-10:00 AM	Evolution of Automotive Standards for Flammability, Odor and Emissions	Review Value Proposition		Accelerating Hybrid Electric Autonomous Driving (AHEAD™) Paula Hietpas	Development of thin film sensors: The influence of layer variation on the measurement quality for inline melt temperature measurements	Water Delivery During Accelerated Weathering Testing for Improved Correlation to Outdoor Results
10:00-10:30 AM	Changing Fire Risk Scenarios for Automotive: Materials, Power, and New Technology	Team Meeting Time		Experimental and Numerical Determination of Delamination Strength in Polymeric Laminates and Coatings Prof. Hung-Jue Sue	The Influence of different die geometries on the Extrusion Process of High-Consistency Silicone Rubber	Increased Food Shelf-Life in Retail Display Cases Using Sustainably Sourced Filtering Technologies
10:30-11:00 AM	Phosphorus Flame Retardants from Naturally-occurring Phenolic Acids	Teams: Provide results of interviews and actions taken due to interview results		Automotive Interior Design Trends: Electronics Everywhere Susan Mack	New Approaches for Equalizing the Granulate Size and Bulk Density in Mechanical Recycling Using Heuristic Approaches Based on Specific Data Analyses	Mechanical Failure in Agricultural Silo Bags
11:00-11:30 AM	**KEYNOTE:** New Flame Retardant Technology with Green Chemistry Profile for Plastic Applications	Go over more in-depth right half of Business Model Canvas		Pushing the Boundaries with Proxima Thermoset Norbornene Technology Dr. Daryl Allen	The Effect of Boundary Conditions, Material Parameters, and Rotational Flow on Center Layer Thickness and Stability in Tri-Layer Annular Flow	Designing Successful Products with Plastics: Fundamentals of Plastic Part Design
11:30-NOON	**PANEL DISCUSSION:** Current Fire Safety & FR Trends in Transportation and other Sectors			**PANEL DISCUSSION**	Optimization of Transfer Lines for Mitigating Resin Degradation	Designing Successful Products with Plastics: Fundamentals of Plastic Part Design

	JOLIET	LASALE	CADILLAC	DULUTH	NICOLET	BRULE	RICHARD
SESSION	FLEXIBLE PACKAGING		BIOPLASTICS	POLYMER MODIFIERS & ADDITIVES	INJECTION MOLDING & MOLD TECHNOLOGIES	TPM & F	TUTORIAL: FUNDAMENTALS OF STRUCTURE/ PROPERTY RELATIONSHIPS
9:00-9:30 AM	**KEYNOTE:** Developments and Trends in Bioplastics for Flexible, Pouch and Barrier Packaging		Life Cycle Assessment of Bio-Based Epoxies	Fabrication and Properties of Aluminum Oxide / Polyimide Composite Films via Ion Exchange Technique Using Different Alkali Solution	Now You See It, Now You Don't – The Magic of Dry Ice in Plastics & Rubber	Role of Polyamide 6 as the Antishrinkage Agent in PA 6/PEBAX Blends	Rheological Characterization of Plastic Materials in Synthesis, Processing, and Usage
9:30-10:00 AM	Processing of Poly(Lactic Acid) Blown Films with Food Grade Chain Extenders for Packaging Applications		A Novel Small-Diameter Eggshell Membrane/TPU Double-Layered Vascular Scaffold with Wavy Structure	Cure and Mechanical Properties of Filled, ZnO-Free, Sulfur-Cured Isoprene Rubber	Nextherm – Next Evolution of TCUs	Stepped Isothermal Method and Stress Rate Accelerated Creep Rupture Tests for Efficient Creep Investigation of Engineering Thermoplastics	
10:00-10:30 AM	Morphology Development in LLDPE Stretch Films Prepared with Different Cast Film Process Parameters		Aerobic Biodegradation of Bioplastics under Different Environmental Conditions	Novel Flame Retardants Based on Ionic Liquids for PMMA, PC and TPU Plastics	Simulation and Testing of a Heat Pipe Tempered Injection-Mold-Tool vs. Conventional Water-Based Cooling	Challenge to Prepare for Flame-Retardant Polypropylene Foam Boards	
10:30-11:00 AM	A Study on the Effects of the Processing Parameters on the Flatness Quality of Blown Films Using Laser Triangulation		BioPolyesters for Agriculture: Permeation and Degeneration for Controlling Chemical Release	Preliminary Study on Impact Evaluation of RPET Samples using Reactive and Non-Reactive Modifiers	Long-Term Analysis of Surface Coatings for their Wear Resistance in the Injection Moulding Process	Modeling of a Foamable Mixture Flow through a Heat Exchanger and Relation to Foam Inhomogeneities	
11:00-11:30 AM			Blending CA with PBS to Increase the Bonding Strength in Two-Component Injection Molding	Two-Tiered Approach to Extending Food Life	Additive Blooming: Origins, Detection, and Control in Polymer Processing	Mechanical Properties of Extruded Polypropylene Foams	Simultaneous Rheology and Vibrational Spectroscopy: Tracking Phase Transitions at the Macro- and Molecular Levels
11:30-NOON				Polycarbonate-Polyester Blend Degradation Behavior	Failure Analysis of Automotive Air Conditioning Connectors	Thermoforming evaluation of Coextruded Multilayer EVOH/ LDPE Film/Foam	

ANTEC® AGENDA

WEDNESDAY MARCH 20, 2019 - AFTERNOON

	COLUMBUS/CARTIER	CABOT
1:00PM - 1:55PM	**KEYNOTE:** *The Energy Sector and Disruptive Global Forces* » Amory Lovins, Ph.D., Co-founder, Chief Scientist & Chairman Emeritus, Rocky Mountain Institute	
1:55PM - 3:00PM	**ADVANCED MANUFACTURING SESSIONS:** ***PANEL 1:** Additive Manufacturing: From Design to Production "Strategies for Digital Transformation"* **MODERATOR:** Michelle Bockman, Global Head of 3D Printing, HP Inc. » Steve Wishau, Production Development Engineer, Carbon » John Flynn, VP – Enterprise Solutions, Fast Radius » Ravi Kunju, Sr. VP, Strategy & Business Development – Simulation-Driven Design, Altair » Harold Sears, Technical Leader – Additive Manufacturing Technologies, Ford Motor Co. » John Tenbusch, CEO & Founder, Linear AMS	**ADVANCED MANUFACTURING SESSIONS:** ***PANEL 2:** The Promise of Nanotechnology & Graphene "From Micro Structures Big Things Will Come"* **MODERATOR & PRESENTER:** Lisa Friedersdorf, Ph.D, Director, National Nanotechnology Coordination Office » Debbie Mielewski, Ph.D., Sr. Technical Leader, Sustainability & Emerging Materials, Ford Motor Co. » Terrance Barkan, Executive Director, The Graphene Council » Philip Rose, Ph.D., CEO, XG Sciences Inc.
3:00PM - 3:45PM	**VOLCAT:** *Transforming the Recycling of Dirty Plastics* » Greg Breyta, Senior Technical Staff Member, IBM Almaden Research Center	
3:45PM - 4:15PM	**PACKAGING TRENDS:** *Smart Packaging and the Impact of E-Commerce* » Amanda Williams, Ph.D., Smart Packaging Lead & Sr. Business Unit Manager Jabil Packaging Solutions	
4:15PM - 4:45PM	**THE WORLD OF DIGITAL & SMART PRINTING** » Sriman Banerjee, Head of Packaging – Respiratory Category, GlaxoSmithKline plc	
4:45PM - 5:00PM	**PACKAGING PANEL & GROUP Q&A** » Amanda Williams, Ph.D., Smart Packaging Lead & Sr. Business Unit Manager Jabil Packaging Solutions » Sriman Banerjee, Head of Packaging – Respiratory Category, GlaxoSmithKline plc	

ANTEC® AGENDA

THURSDAY MARCH 21, 2019 - MORNING

COLUMBUS/CARTIER

8:00AM - 8:30AM

KEYNOTE:
Global Product Innovation for a Complex World

» Lorraine Justice, Ph.D., Professor of Industrial Design & Dean Emeritus, College of Art & Design, Rochester Institute of Technology

8:30AM - 9:00AM

KEYNOTE:
Leveraging Cradle to Cradle® Design for a More Circular Economy

» Albin Kälin, Founder & CEO, EPEA Switzerland

9:00AM - 9:30AM

KEY TRENDS IN SUSTAINABILITY:
How Additive Manufacturing Can Address the Challenges of Tomorrow

» John Ortiz, Global Director of Product Stewardship, HP Inc.

9:30AM - 10:00AM

JOINT DISCUSSION AND Q&A

» Lorraine Justice, Ph.D., Professor of Industrial Design & Dean Emeritus, College of Art & Design, Rochester Institute of Technology
» Albin Kälin, Founder & CEO, EPEA Switzerland
» John Ortiz, Global Director of Product Stewardship, HP Inc.

10:00AM - 10:30AM Networking Break

10:30AM - 11:30AM

PANEL:
Lighting as a Design Feature

MODERATOR & PRESENTER: Mark Torgerson, Technical Marketing Manager, Mobility, Covestro LLC
» Robert Miller, Advanced New Business Development Mgr., Pacific Insight Electronics Corp.
» John Simonetti, VP – Sales & Business Development, GOT Interface

THURSDAY MARCH 21, 2019 - AFTERNOON

11:30AM - 1:00PM LUNCH BREAK

MACKINAC BALLROOM

1:00PM - 1:45PM

KEYNOTE:
Challenges & Opportunities for Plastics in the Future Mobility Ecosystem

» Paul Krajewski, Ph.D., Director, Vehicle Systems Research Lab, Global Research & Development Center, General Motors

1:45PM - 2:15PM

TRANSPORTATION PANEL:
The Future of Mobility

» Debbie Mielewski, Senior Technical Leader – Sustainability & Emerging Materials Ford Motor Co.
» Paul Krajewski, Ph.D., Director, Vehicle Systems Research Lab, Global Research & Development Center, General Motors

2:15PM - 3:15PM

BUILDING AND CONSTRUCTION TRENDS PANEL

MODERATOR: Robert Grace, Content Director, SPE
» Ed Hudson, Director of Market Research, Home Innovation Research Lab
» Platt Boyd, CEO & Founder, Branch Technology Inc.
» Donald Thomson, CEO & Founder, Center for Regenerative Design & Collaboration

3:15PM - 3:30PM

PANEL DISCUSSION AND Q&A

MODERATOR: Robert Grace, Content Director, SPE
» Ed Hudson, Director of Market Research, Home Innovation Research Lab
» Platt Boyd, CEO & Founder, Branch Technology Inc.
» Donald Thomson, CEO & Founder, Center for Regenerative Design & Collaboration

3:30PM WRAP UP

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