



ANTEC® 2019

Detroit, MI • March 18-21, 2019

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PLATINUM



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INSPIRE TECHNICAL PROGRAM, INSIGHT TRANSPORTATION KEYNOTE & MOBILE APP

HP Inc. creates technology that makes life better for everyone, everywhere. Through our portfolio of printers, PCs, 3D Printing Technologies, mobile devices, solutions, and services, we engineer experiences that amaze.

GOLD



INSPIRE PLENARIES

Thermo Fisher Scientific offers the ultimate solution for polymer formulation. Our Thermo Scientific™ Process 11 twin-screw extruder enables quick turnaround of compound formulations and process scale-up. We provide FTIR spectroscopy for verifying incoming materials, extrusion analysis, and final product inspection. Our Near-infrared solutions measure in-process extrusion chemistry. Running live at Booth 216.

BRONZE



WOMEN IN PLASTICS LUNCH

ExxonMobil Chemical is one of the largest chemical companies worldwide. The company holds leadership positions in some of the largest-volume and highest-growth commodity chemical products in the world. Our mission is to provide quality chemical products and services in the most efficient and responsible manner to generate outstanding customer and shareholder value while remaining committed to the principles of sustainable development.



WOMEN IN PLASTICS LUNCH

Minneapolis based Steinwall, Inc. is a custom thermoplastic injection molder specializing in full-service manufacturing for small to large parts. Steinwall has the service capabilities and experience to offer our customers a total program for plastic part solutions.



CONFERENCE BAGS

CoreTech System (Moldex3D) is the world's leading provider of plastics simulation solutions. With the best-in-class analysis technology, Moldex3D can help you simulate the widest range of molding processes and materials to optimize product designs, shorten time-to-market, and maximize ROI. Visit Moldex3D at Booth 213.

THANK YOU TO OUR STUDENT ACTIVITIES SUPPORTERS

Akron Section
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Blow Molding Division
Braskem
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Southern Section
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Thermoplastics Materials and Foams Division
Upper Midwest Section
Vinyl Plastics Divisions

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// Sponsor list as of 02.22.2019

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WELCOME TO ANTEC®



On behalf of the SPE Executive Board and staff team, it is my honor you welcome you to this 77th edition of ANTEC®!

As you spend the next four days learning, sharing and connecting you'll see a lot of what's familiar – friends, colleagues, technical presentations, white papers, student posters, *Plastics for Life* entries and more. But what you'll also see lots of new stuff, intended to enhance your ANTEC® experience.

You'll attend new social events, on-site and off, with more opportunities for you to connect with your colleagues. Craft beers, Motown music and SPkaraoke (yep, that's a thing!) are all in store for you.

You'll experience our upgraded social media presence – with live feeds of ANTEC® activities, news and pix (that's how the cool people say "pictures!"). These feeds from our live social media team will inform and entertain our guests. And, I almost forgot to mention, the premiere of the *"PlastChicks"* podcast, coming to you from the ANTEC® show floor.

You'll hear INSIGHTS from industry leaders about what's happening in plastics – today and tomorrow. Presented in general session format, we will learn, question and share together – as an SPE community rather than scattered into smaller concurrent sessions.

You'll meet 70+ industry suppliers, packed into our sold-out exhibit hall. 35 of these suppliers are new to ANTEC®, and they all have come to share their products, services and ideas to make your business better. Please visit them and make them feel welcome!

I and my team are here to make your week productive and enjoyable. This is your event. Let's make it awesome together!

PAT FARREY
CEO
SPE-INSPIRING PLASTICS PROFESSIONALS

Full Conference registration fee includes all technical, plenary and keynote sessions, access to SPE's exhibit floor, ACCCLAIM Award Ceremony, Welcome Reception, Brewfest and Motown Receptions.

ON-SITE REGISTRATION

SUNDAY MARCH 17

12:00-5:00 PM

MONDAY MARCH 18

7:00 AM-5:00 PM

TUESDAY MARCH 19

7:00 AM-5:00 PM

WEDNESDAY MARCH 20

7:00 AM-5:00 PM

THURSDAY MARCH 21

7:00 AM-1:00 PM

EXHIBIT HALL HOURS

MONDAY MARCH 18

1:00-5:00 PM

Exhibit Setup

TUESDAY MARCH 19

7:00-11:00 AM

Exhibit Setup

11:00-11:15 AM

Exhibit Floor Opening Ceremony

11:00 AM-6:30 PM

Exhibit Floor Open

WEDNESDAY MARCH 20

8:30 AM-6:30 PM

Exhibit Floor Open

THURSDAY MARCH 21

8:30 AM-1:00 PM

Exhibit Floor Open

1:00-5:00 PM

Exhibit Floor Teardown

SPE EVENTS MOBILE APP

Use our SPE Events mobile app to view the full program and see up-to-the-minute updates. Create a schedule of the presentations you wish to attend, take notes and plan meetings. The mobile app also includes the interactive exhibit floorplan where you can search the exhibitor directory by product category and set up appointments. Download the app at Events by SPE.

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WIFI CREDENTIALS

NETWORK: SPEANTEC

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SCHEDULE OVERVIEW

SUNDAY MARCH 17

6:00-8:00 PM

ACCLAIM – A Celebration of Inspiring Plastics Professionals (Renaissance Ballroom)

ANTEC® INSPIRE 2019

MONDAY MARCH 18

7:45-8:00 AM

SPE Annual Business Meeting (Renaissance Ballroom)

8:00 AM-5:00 PM

INSPIRE Program

8:00 AM-5:00 PM

Plastics for Life Parts® on display (Renaissance Foyer)

12:00-2:00 PM

Student Poster Judging (Cabot)

2:00-4:30 PM

Student Business Cards (Renaissance Foyer)

5:30-7:30 PM

ANTEC® Punchbowl Social (Meet at Motor Lobby)*

TUESDAY MARCH 19

7:00-7:30 AM

Cold Runner 5K (Meet at Motor Lobby)

8:00 AM-5:00 PM

INSPIRE Program

8:00 AM-5:00 PM

Plastics for Life® Parts on display (Renaissance Foyer)

9:00 AM-12:00 PM

Student Business Cards (SPE Info Area)

12:00-2:00 PM

Women in Plastics Lunch (Columbus – Everyone Welcome)

12:00-2:00 PM

Student Poster Judging (Cabot)

2:00-3:30 PM

Student Chapter Meetings (Cabot Room)

3:00-3:30 PM

Coffee Break (Exhibit Hall)

5:00-6:00 PM

Mentor Meeting (Michelangelo Room)

5:00-6:30 PM

Brewfest Detroit (Exhibit Hall Reception)

WEDNESDAY MARCH 20

8:00 AM-12:00 PM

INSPIRE Program

8:00 AM-12:00 PM

Plastics for Life® Parts on display (Renaissance Foyer)

8:30-11:00 AM

SPE Plastics spME video (Exhibit Hall Foyer)

3:00-3:30 PM

Coffee Break (Exhibit Hall)

ANTEC® INSIGHT 2019

WEDNESDAY MARCH 20

12:00-1:00 PM

Plastics News Live (Exhibit Hall Foyer)

12:00-5:00 PM

Plastics for Life® Parts On Display (Renaissance Foyer)

1:00-5:00 PM

INSIGHT Program

1:30-2:00 PM

PlastChicks Live Podcast (Exhibit Hall Foyer)

5:00-7:00 PM

Next Gen Advisory Board Meeting (Michelangelo Room)

5:00-6:30 PM

Motown Magic (Exhibit Hall Reception)

7:00-11:00 PM

SPE Fowling (Football/Bowling) Tournament – 21+ after 9pm **

THURSDAY MARCH 21

7:30-8:00 AM

Plastics for Life® Winners Announced (Renaissance Foyer)

8:00 AM-4:00 PM

INSIGHT Program

10:00-10:30 AM

Coffee Break (Exhibit Hall)

All events are business casual, unless otherwise stated. No transportation needed for Punch Bowl Social Welcome Reception. Transportation will NOT be provided for the Fowling event.

**Welcome Reception is being held off-site at Punch Bowl Social
1331 Broadway St, Detroit, Michigan, 48226 • (313) 749-9738*

***Fowling Tournament is being held off-site at Fowling Warehouse
3901 Christopher St, Hamtramck MI • (313) 264-1288*

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// For details on the INSPIRE & INSIGHT Programs, including plenary speakers, keynote speakers and full technical sessions, please see the ANTEC Agenda on pages 16-27.

USE #ANTEC19 OR #INSPIREdetroit ON TWITTER TO JOIN THE CONVERSATION AT 4SPE.ORG/SOCIAL

FEATURED SPEAKERS



MONDAY, MARCH 18, 2019 - 8:00 AM - PLENARY
Polymer Physics: Academic Research and Impacts

DR. SINDEE L. SIMON
DEPARTMENT CHAIR OF CHEMICAL ENGINEERING,
TEXAS TECH UNIVERSITY

SPE INTERNATIONAL AWARD RECIPIENT 2019
Award Co-Sponsored by the SPE Automotive Division, Engineering
Properties & Structure Division & South Texas Section



TUESDAY, MARCH 19 - 2:00 PM - KEYNOTE
Thermoplastic Elastomers – An Overview

DR. ANIL K. BHOWMICK
CHAIR PROFESSOR, INDIAN NATIONAL ACADEMY
OF ENGINEERING & PROFESSOR OF EMINENCE,
RUBBER TECHNOLOGY CENTRE, INDIAN INSTITUTE OF
TECHNOLOGY

**SPE FRED SCHWAB EDUCATION
AWARD RECIPIENT 2019**
Award Co-Sponsored by the SPE Automotive & Detroit Section



MONDAY, MARCH 18, 2019 - 2:00 PM - KEYNOTE
*Process Design and Troubleshooting Using a
Fundamental Approach*

DR. MARK SPALDING
FELLOW IN PACKAGING AND SPECIALTY PLASTICS R&D,
THE DOW CHEMICAL COMPANY

**SPE RESEARCH/ENGINEERING TECHNOLOGY
AWARD RECIPIENT 2019**
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WEDNESDAY, MARCH 20, 2019 - 8:00 AM - PLENARY
Advances in Automotive Plastics & Composites

DR. DEBORAH MIELEWSKI
SENIOR TECHNICAL LEADER OF SUSTAINABLE
MATERIALS AND ADVANCED MATERIALS, FORD MOTOR
COMPANY



TUESDAY, MARCH 19, 2019 - 8:00 AM - PLENARY
Can We End Plastics Waste?

STEVE RUSSELL
VICE PRESIDENT OF THE PLASTICS DIVISION, AMERICAN
CHEMISTRY COUNCIL

FEATURED SPEAKERS



WEDNESDAY, MARCH 20, 2019 - 1:00 PM - KEYNOTE
Disruptive Energy Futures & Implications for Plastics

DR. AMORY LOVINS
CO-FOUNDER, CHIEF SCIENTIST & CHAIRMAN
EMERITUS, ROCKY MOUNTAIN INSTITUTE



THURSDAY, MARCH 21, 2019 - 8:30 AM - KEYNOTE
Leveraging Cradle to Cradle® Design for a More Circular Economy

ALBIN KÄLIN
FOUNDER & CEO, EPEA SWITZERLAND



WEDNESDAY, MARCH 20, 2019 - 3:00 PM - KEYNOTE
VOLCAT: Transforming the Recycling of Dirty Plastics

GREG BREYTA
SENIOR TECHNICAL STAFF MEMBER, IBM ALMADEN
RESEARCH CENTER



THURSDAY, MARCH 21, 2019 - 1:00 PM - KEYNOTE
Challenges & Opportunities for Plastics in the Future Mobility Ecosystem

DR. PAUL KRAJEWSKI
DIRECTOR, VEHICLE SYSTEMS RESEARCH LAB, GLOBAL
RESEARCH & DEVELOPMENT CENTER, GENERAL MOTORS



THURSDAY, MARCH 21, 2019 - 8:00 AM - KEYNOTE
Global Product Innovation for a Complex World

DR. LORRAINE JUSTICE
PROFESSOR OF INDUSTRIAL DESIGN & DEAN EMERITUS
— COLLEGE OF ART & DESIGN, ROCHESTER INSTITUTE
OF TECHNOLOGY

ANTEC® INSIGHT
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WOMEN IN PLASTICS NETWORKING LUNCH

TUESDAY, MARCH 19, 2019 - 12:00 PM
Columbus Room

We are excited to create an opportunity for networking and knowledge transfer between women in the plastics industry.



MODERATOR

MERCEDES LANDAZURI
OPERATIONS MANAGER FOR APEX COLORS
AND VICE PRESIDENT, INDACE



EVE VITALE
CHIEF EXECUTIVE,
SPE FOUNDATION



SONITA LONTOH
GLOBAL HEAD & VICE PRESIDENT
OF MARKETING, 3D PRINT & DIGITAL
MANUFACTURING, HP INC.



PATRICIA MILLER
CEO & VISIONARY,
MATRIX 4, INC.

HOW TO INTERACT ONLINE

ANTEC® 2019 is all about engaging with your plastics community. During the conference you will see multiple monitors hosting a stream of **content provided by you**. Let your opinion be heard, interact with speakers and exhibitors, advertise your booth or connect with SPE headquarters to win cool prizes.

Use your social media accounts to join the conversation online with other industry professionals on and off-site. Staff and volunteers will be floating around the conference to help you out, whether it's by just taking a selfie with you or sending out your first tweet. Network and learn something new!

TWITTER

Use #ANTEC19 or #INSPIREdetroit in your posts to be connected to our conference stream. You can retweet, follow threads and start a trending post. Upload text, photos, videos or GIFs to share your thoughts on a presentation or connections you're making.

Your posts will show up on Twitter, on our social media walls throughout our on and off-site locations and on our website at www.4spe.org/social.

FACEBOOK

Mention or tag @4SPEplastics in your posts, photos and videos to be included in our conference stream.

Your posts will show up on Facebook, on our social media walls throughout our on and off-site locations and on our website at www.4spe.org/social.

LINKEDIN

Use #ANTEC19, #plastics or mention @SPE: Inspiring Plastics Professionals to share your photos and videos to our online network of industry professionals.

Your posts will show up on LinkedIn.

INSTAGRAM

Tag @4spe_plastics to share your photos, videos and live story with our following online.

Your posts will show up on Instagram.

www.4spe.org/antec

WOMEN'S
NETWORKING LUNCH
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MEN & WOMEN ARE WELCOME TO ATTEND THE WOMEN IN PLASTICS NETWORKING LUNCH

EXHIBIT HALL DIRECTORY

BOOTH	COMPANY
219	3M Company
312	Advanced Blending Solutions
327	AGS Technology
416	American Cutting Edge
325	Anton Paar
428	B&P Littleford LLC
117	Brabender Technologie Inc
217	Bruker Optics
313	Buss Inc. USA
322	C.W. Brabender Instruments, Inc.
309	Cannon Instrument Company
316	Collin Lab and Pilot Solutions
209	Compuplast International Inc
212	Coperion Corporation
123	Crafts Technology
222	Die-Bond, LLC
420	The Dow Chemical Company
430	Duro-Chrome
318	Eckart America
119	ECON Inc
310	Element Materials Technology
105	Enercon Industries
208	ENTEX
424	EYE Applied Optix
304	Forecast 3D
315	Gelest Inc
225	Goettfert Inc
410	The Graphene Council
111	Hanser Publications
211	Heraeus Noblelight America LLC
210	Heritage Plastics
107	HunterLab
422	iD Additives
426	Imerys
308	iMFLUX

306	Integrated Control Technologies
109	Labtech Engineering Co., Ltd.
311	LCI Inc.
205	Leistritz Extrusion
434	LyondellBasell
412	Malvern Panalytical
307	Milliken & Company
423	Mixaco USA, LLC
213	Moldex3D
421	Nanovea
223	NETZSCH Instruments
121	NFM Welding Engineers Inc
206	Novastar Solutions
302	O.M.G.
220	Oden Technologies
317	Parkinson Technologies
204	Penn Color Inc.
329	PerkinElmer
324	Plastics Machinery Magazine
320	Polymers Center of Excellence
323	RJG, Inc.
429	Shimadzu Scientific Instruments
414	Sodick by Plustech Inc.
114	SPE Detroit Section
116	SPE Foundation
331	SPEX SamplePrep
333	Struktol Company of America, LLC
432	Surfx Technologies LLC
113	TA Instruments
321	Technovel Corporation
216	Thermo Fisher Scientific
406	Townsend Solutions (An SPE Preferred Partner)
425	Wacker Chemical Corp.
408	Wiley
203	Witte Pumps & Technology
301	Xplore Instruments

UNIVERSITY ROW	
Iowa State University	Michigan State University
Pennsylvania College of Technology	Schoolcraft College
UMass Lowell	Virginia Tech

// Exhibitor list as of 02.22.2019

VIEW THE INTERACTIVE FLOORPLAN, SEARCH THE EXHIBITOR DIRECTORY BY PRODUCT CATEGORY, AND SET UP APPOINTMENTS ON THE SPE EVENTS MOBILE APP.

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	

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	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)	

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
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 (limc)	Investigating the Effect of the Feedstock Shape on Ultrasonic Microinjection Moulding	Influence of Meltspinning Conditions on the Morphology and Crystallization of Polyester Fibers
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
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 Composites and Cable Constructions
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
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
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	
New Developments in Adhesion Promotion Using Flame Plasma Surface Treatment-A Tutorial			Accelerated Aging and Viscoelastic properties of Medical-Grade Resins			

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

TUESDAY MARCH 19, 2019 - MORNING

SESSION	MICHELANGELO	DAVINCI	MONET	MACKINAC E	MACKINAC W	MARQUETTE
	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		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
10:00-10:30 AM	Flow Behavior and Polymer-Particle-Interaction in Highly Filled PolyLactides	Stratasys: Ford Mustang Window Alignment Fixture	Extrusion Tutorial is for ANTEC registrants who want to know about basic Single Screw & Twin Screw equipment and their applications and controls.	Extremely Low Emission Polyoxymethylene for Automotive Interior Parts	Chemical Modification of Polybutene-1 Resins Through Reactive Processing - Costas Tzoganakis	UV stabilizers
10:30-11:00 AM	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
11:00-11:30 AM	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
FAPSIG	COMPOSITES	OCEAN PLASTICS	TPM&F	INJECTION MOLDING: SIMULATION	INJECTION MOLDING: PROCESSING	SCRATCH AND WEAR BEHAVIORS OF POLYMERS
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 Andradhy	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
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 Triboelectricity 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	
Modeling for Damage Accumulation of Injection Molding Machine Components Using Production Planning Data for Predictive Maintenance		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	
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 Hydrothermal 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
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
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 CO ₂ -loaded Bioplastics in Micro Injection Molding	Crosshatch Tape-Adhesion Test for Multi-layer Films Using Scratch Machine

SESSION	MICHELANGELO	DAVINCI	MONET	MACKINAC E	MACKINAC W	MARQUETTE
	POLYMER ANALYSIS DIVISION	ADDITIVE MANUFACTURING	JOINING	AUTOMOTIVE PROCESS DEVELOPMENTS	EXTRUSION: TWIN SCREW	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 thermoplastic 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

JOLIET	LASALE	CADILLAC	DULUTH	NICOLET	BRULE	RICHARD
DURABILITY, TESTING & THE FUTURE OF PLASTIC PIPE & FITTINGS	COMPOSITES	BIOPLASTICS	POLYMER MODIFIERS & ADDITIVES	INJECTION MOLDING & PRODUCT DESIGN & DEVELOPMENT	TPM & F	POLYMER CHARACTERIZATION & MODELLING
On The Way To The Pipe Architecture Of Tomorrow	Cellulose Nanofibril Reinforced Polybutylene Succinate 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
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) 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
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 Contact 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
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
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
Durability, Testing and The Future of Plastic Pipe Fittings <i>Sponsored by Chevron Phillips Chemical Company</i>	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
					Optimizing Process Condition of PU Chemical Foaming: Validation of Material Properties for Numerical Simulation	

8:00 AM - PLENARY

ADVANCES IN AUTOMOTIVE PLASTICS & COMPOSITES

DR. DEBBIE MIELEWSKI, FORD, RENAISSANCE BALLROOM

WEDNESDAY MARCH 20, 2019 - MORNING

SESSION	MICHELANGELO	DAVINCI	MONET	MACKINAC E	MACKINAC W	MARQUETTE
	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
FLEXIBLE PACKAGING		BIOPLASTICS	POLYMER MODIFIERS & ADDITIVES	INJECTION MOLDING & MOLD TECHNOLOGIES	TPM & F	TUTORIAL: FUNDAMENTALS OF STRUCTURE/PROPERTY RELATIONSHIPS
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	
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	Nexterm - Next Evolution of TCUs	Stepped Isothermal Method and Stress Rate Accelerated Creep Rupture Tests for Efficient Creep Investigation of Engineering Thermoplastics	Rheological Characterization of Plastic Materials in Synthesis, Processing, and Usage
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	
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	
		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
			Polycarbonate-Polyester Blend Degradation Behavior	Failure Analysis of Automotive Air Conditioning Connectors	Thermoforming evaluation of Coextruded Multilayer EVOH/LDPE Film/Foam	

WEDNESDAY MARCH 20, 2019 - AFTERNOON

	COLUMBUS/CARTIER
1:00PM - 1:55PM	KEYNOTE: <i>The Energy Sector and Disruptive Global Forces</i> » 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
3:00PM - 3:45PM	VOLCAT: <i>Transforming the Recycling of Dirty Plastics</i> » Greg Breyta, Senior Technical Staff Member, IBM Almaden Research Center
3:45PM - 4:15PM	PACKAGING TRENDS: <i>Smart Packaging and the Impact of E-Commerce</i> » 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

CABOT
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.

THURSDAY MARCH 21, 2019 - MORNING

COLUMBUS/CARTIER	
8:00AM - 8:30AM	KEYNOTE: <i>Global Product Innovation for a Complex World</i> » Lorraine Justice, Ph.D., Professor of Industrial Design & Dean Emeritus, College of Art & Design, Rochester Institute of Technology
8:30AM - 9:00AM	KEYNOTE: <i>Leveraging Cradle® Design for a More Circular Economy</i> » Albin Kälin, Founder & CEO, EPEA Switzerland
9:00AM - 9:30AM	KEY TRENDS IN SUSTAINABILITY: <i>How Additive Manufacturing Can Address the Challenges of Tomorrow</i> » 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: <i>Lighting as a Design Feature</i> 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: <i>Challenges & Opportunities for Plastics in the Future Mobility Ecosystem</i> » Paul Krajewski, Ph.D., Director, Vehicle Systems Research Lab, Global Research & Development Center, General Motors
1:45PM - 2:15PM	TRANSPORTATION PANEL: <i>The Future of Mobility</i> » 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	

AWARDS & HONOREES

HONORED SERVICE MEMBERS



MR. SCOTT HEITZMAN
Color & Appearance Division



MR. EDWIN TAM
*Bioplastics & Renewable
Technologies Division*
*Additive Manufacturing Special
Interest Group*



DR. YING (LORA) LIANG
Engineering Properties & Structure Division



DR. JAN-ANDERS E. MANSSON
Composites Division

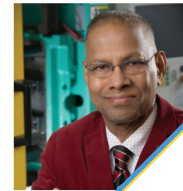
FELLOWS



DR. ABDELLAH AJJI
Flexible Packaging Division



MR. STEPHEN HOWARD CARR
Engineering Properties & Structure Division



DR. AMAR KUMAR MOHANTY
Injection Molding Division



DR. MARIA DEL PILAR NORIEGA
Extrusion Division



MS. DONNA S. DAVIS
Flexible Packaging Division



PROF. RAKESH GUPTA
Building & Infrastructure Division



DR. JOHN PERDIKOULIS
Extrusion Division



DR. HSINJIN E. YANG
Engineering Properties & Structure Division



DR. THOMAS W. HAAS
Medical Plastics Division



DR. CHRISTIAN HOPMANN
Injection Molding Division

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// Nominating chapters listed in purple

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