



1:30 pm - 4:00 pm

1:30 pm - 2:00 pm

2:00 pm - 2:30 pm

2:30 pm - 3:00 pm

**New Technology Forum- Surface Engineering: The Next Frontier**

White River C/D

Moderator: Roger Avakian

Reinventing the Biological Interface

Ethan Mann, Director of Research and Quality , Sharklet technologies

Three-Dimensional Hierarchical Materials by Memory-Based, Sequential Wrinkling

Teri Odom, Professor of Chemistry and Professor of Materials Science and Engineering,  
Northwestern University

Amphiphilic Silicones to Control Biological Adhesion

3:00 pm - 3:30 pm	Melissa Grunlan, Texas A&M Amine Stabilized Alkyl Boranes: Grafts New Surface to Polymers
3:30 pm - 4:00 pm	Mark Torgerson, BASF "Radical" Routes to Printing and Patterning of Plastics by Room Temperature Alkylborane Technology
1:30 pm - 4:00 pm	Shaun Ahn, Technical Leader and Research Scientist, Dow Corning Corporation <b>Injection Molding- Emerging Technologies</b> White River A Moderator: Brenda Clark
1:30 pm - 2:00 pm	Precision Micro Feature Moulding Using Vacuum Assisted Moulding Technique For Polymeric Microfluidic Chip Applications
2:00 pm - 2:30 pm	Ge Chen, Singapore Institute of Manufacturing Technology Process-integrated printing technology for plastic parts during injection molding
2:30 pm - 3:00 pm	Agnieszka Kalinowska, Chemnitz University of Technology Atomized spray as a process fluid for fluid-assisted injection molding
3:00 pm - 3:30 pm	Matthias Theunissen, Institute of Plastics Processing at RWTH Aachen University High precision and repeatability in micro injection molding using the inverse screw
3:30 pm - 4:00 pm	Torben Fischer, Institute of Plastics Processing (IKV) at RWTH Aachen University Back-Flow Compensation (BFC) for Thermoplastic Injection Molding
4:00 pm - 4:30 pm	Stefan Kruppa, R&D Engineer , KraussMaffei Technologies GmbH An Investigation of Real-Time Monitoring of Shear Induced Cavity Filling Imbalances During Polymer Injection Molding
1:30 pm - 4:00 pm	Qi Li, Lehigh University <b>Injection Molding- Materials II</b> White River B Moderator: David Kusuma
1:30 pm - 2:00 pm	Measuring Thermal Crystallinity in PET
2:00 pm - 2:30 pm	Masoud Allahkarami, OSU-Tulsa (HRC) INJECTION MOLDING AND MECHANICAL CHARACTERIZATION OF CARBON FIBER-WOODFIBER/POLYPROPYLENE HYBRID COMPOSITES
2:30 pm - 3:00 pm	Gangjian Guo, Bradley University EFFECT OF RUBBER ADDITION ON STRUCTURE AND PROPERTY DISTRIBUTION

OF THIN-WALL INJECTION MOLDED POLYPROPYLENE

3:00 pm - 3:30 pm

Kazushi Yamada, Assistant Professor, Kyoto Institute of Technology  
INFLUENCES OF PROCESSING PARAMETERS, MATERIAL, AND MOLD GEOMETRY  
ON THE SHAPE OF CAVERNS AS A QUALITY PARAMETER FOR ELECTROPLATING  
ON PLASTICS

3:30 pm - 4:00 pm

Jens Peter Siepmann, University of Duisburg-Essen  
INTERFACIAL FRACTURE BEHAVIOR OF INJECTION MOLDED PARTS

1:30 pm - 5:00 pm

Matthieu Fischer, Leibniz-Institut fuer Polymerforschung Dresden e.V.

**Extrusion-Single Screw Extrusion**

JW Grand Ballroom 7

Moderator: Kevin Slusarz

1:30 pm - 2:30 pm

Keynote: Fifty years addressing a range of industrially relevant problems through research  
fundamentals

2:30 pm - 3:00 pm

Gregory Campbell, Castle Associates

The Incumbent Resin Effect for the Single-Screw Extrusion of Polyethylene Resins

3:00 pm - 3:30 pm

Mark Spalding, Fellow in the Materials & Parts Processing Group , Dow Chemical  
Company

PRODUCT QUALITY CONTROL FOR SINGLE SCREW EXTRUSION PROCESS

3:30 pm - 4:00 pm

Zhijun Jiang, HKUST

MEASUREMENT OF THERMOPLASTIC POLYURETHANE (TPU) VISCOSITY WITH  
SLIT DIE RHEOMETER

4:00 pm - 4:30 pm

Qingping Guo, EHC Canada Inc

Optimization of Maddock-Style Mixers for Single-Screw Extrusion

4:30 pm - 5:00 pm

Xiaofei Sun, Dow Chemical

SINGLE PELLET EXTRUSION

1:30 am - 5:00 pm

David Kazmer, Univ. Mass. Lowell

**Extrusion- Forming Processes II**

JW Grand Ballroom 8

Moderator: Olivier Catherine

1:30 pm - 2:30 pm

Keynote: Enhancing Productivity of Extrusion Processes by Integrative Research

2:30 pm - 3:00 pm

Christian Hopmann, Chair of Plastics Processing, RWTH Aachen University  
A PROTOCOL FOR FILAMENT PRODUCTION AND USE

3:00 pm - 3:30 pm	David Kazmer, Univ. Mass. Lowell MICROPELLETIZATION AND THEIR APPLICATION TO MANUFACTURE POROUS PLASTIC PARTS
3:30 pm - 4:00 pm	Christian Schäfer, Polymer Engineering Center, UW-Madison THE EFFECT OF VISCOUS ENCAPSULATION ON LAYER UNIFORMITY AND RHEOLOGY IN MULTILAYER COEXTRUSION
4:00 pm - 4:30 pm	Hyunwoo Kim, The Dow Chemical Company ROOT CAUSE ANALYSIS AND FIXING OF COEXTRUDED POLYOLEFIN BLOWN FILM DEFECTS
4:30 pm - 5:00 pm	Kurt Koppi, Dow Chemical Increased throughputs in blown film extrusion by using a contact cooling sleeve
5:00 pm - 5:30 pm	Marco Hennigs, Institute of Plastics Processing at RWTH Aachen University Nonwoven Microfilters Produced By a Novel Melt Coextrusion-Process
1:30 pm - 4:00 pm	Ravi Ayyar, Senior Scientist, PolymerPlus <b>Alloys and Blends- Compatibilization, Morphology Development and Characterization of Polymer Blend Systems</b> Room 305/306 Moderator: Elliot Lee
1:30 pm - 2:00 pm	THE INFLUENCE OF BLEND COMPOSITION AND ADDITIVE TYPE ON THE PROPERTIES OF LDPE-PA6-BLENDS
2:00 pm - 2:30 pm	Christoph Burgstaller, Managing Director and Head of R&D, TCKT THERMOPLASTIC SEMICONDUCTIVE POWER CABLE JACKET
2:30 pm - 3:00 pm	Jianmin Liu, Lead Engineer, General Cable PHASE BEHAVIOR OF POLYAMIDE 6/612 BLENDS
3:00 pm - 3:30 pm	Ying Shi, R&D Engineer, A.Schulman RECYCLING OF PP/LDPE BLEND: MISCIBILITY, THERMAL PROPERTIES, RHEOLOGICAL BEHAVIOR AND CRYSTAL STRUCTURE
3:30 pm - 4:00 pm	Chuanchom Aumnate, Graduate Student, University of Wisconsin-Madison MORPHOLOGY OF HDPE/PS BLENDS ALONG THE AXIAL POSITION IN A NOVEL CO-ROTATING NON-TWIN SCREW EXTRUDER
	Baiping Xu, Guangdong Industry Polytechnic

1:00 pm - 6:00 pm

## **Plastic Pipes and Fittings-Durability and Joining of Structural and Pressure Piping**

Room 103/104

1:00 pm - 2:00 pm

Keynote: Design and performance of bell and spigot joints for thermoplastic pipes

2:00 pm - 2:30 pm

Ian Moore

Comparative Testing of Pre-Pigmented and Natural Compound + Coloring Masterbatch HDPE Pipes for Potable Water Applications

2:30 pm - 3:00 pm

Douglas Keller, LyondellBasell Industries

Selecting the Best Remediation Option for CPVC Piping Systems

3:00 pm - 3:30 pm

Duane Priddy, Plastic Failure Labs

Crystallinity Distribution Analysis By Raman Mapping for Polyethylene of Raised Temperature Resistance After Long-Term Hot Water Immersion Tests

3:30 pm - 4:00 pm

Kazushi Yamada, Assistant Professor, Kyoto Institute of Technology

Structural Design & Performance of Thermoplastic Joints for Non-Pressure Applications

4:00 pm - 4:30 pm

James Goddard, JimGoddard3, LLC

EVALUATION OF CONSUMPTION PROCESS ON ANTIOXIDANTS IN POLYETHYLENE BY CHEMILUMINESCENCE MEASUREMENT METHOD

4:30 pm - 5:00 pm

Koichi Hanamura, Graduate Student, Kyoto Institute of Technology

POLYETHYLENE PIPE PERFORMANCE – OBSERVATIONS AND INSIGHTS FROM EXPERIMENTAL INVESTIGATIONS

5:00 pm - 5:30 pm

Ashish Sukhadia, Chevron Phillips Chemical Company LP

Effect of Residual Chlorine on Durability of Plastic Pipes Used for Hot Water Supply

5:30 pm - 6:00 pm

Takehiro Fujii, President, Shinwasangyo Co.LTD

Best paper Presentation

1:30 pm - 3:30 pm

## **Electrical and Electronics Session**

White River I

Moderator: Wei Zhao

1:30 pm - 2:00 pm

The Potential of Expanding Elongation Flows to Increase the Through-plane Thermal Conductivity

2:00 pm - 2:30 pm

Otto Skrabala, Institut für Kunststofftechnik, University of Stuttgart

POLYMER MULTILAYER FILMS FOR HIGH TEMPERATURE DIELECTRIC APPLICATIONS

2:30 pm - 3:00 pm	Kezhen Yin, Case Western Reserve University Control Strategies for Web Handing
3:00 pm - 3:30 pm	Mathias Radziwill, Siemens HIGH TEMPERATURE AND HIGH ENERGY DENSITY NANOLAYER FILM CAPACITORS
1:30 pm - 3:30 pm	Deepak Langhe, PolymerPlus LLC <b>Applied Rheology-Assessing Processibility I</b> Room 309/310
1:30 pm - 2:00 pm	APPLIED RHEOLOGY FOR UNDERSTANDING FLOW INSTABILITIES IN POLYMER PROCESSING
2:00 pm - 2:30 pm	Martin Zatloukal, Professor, Tomas Bata University in Zlin VISCOSITY MEASUREMENT OF MULTILAYER STRUCTURES VIA PARALLEL PLATE RHEOLOGY
2:30 pm - 3:00 pm	Kurt Koppi, Dow Chemical PREDICTING MOONEY VISCOSITY FROM ONLINE RHEOLOGY MEASUREMENTS
3:00 pm - 3:30 pm	Brenda Colegrove, Principal Research Scientist, The Dow Chemical Company CONTROL OF RHEOLOGICAL RESPOSES UNDER ELONGATIONAL FLOW FOR POLYOLEFIN MELTS
1:30 pm - 5:00 pm	Masayuki Yamaguchi, Japan Advanced Institute of Science and Technology <b>Joining of Plastics and Composites- Polymer Welding</b> Room 102
1:30 pm - 2:00 pm	Moderator: David Grewell Generating Ultrasonically Welded Parts with Improved Strength and Reliability for Critical Applications in Medical Device Manufacturing by Utilizing Advanced Melt Flow Controls of Servo Driven Ultrasonic Welding Equipment.
2:00 pm - 2:30 pm	Alexander Savitski, Chief Engineer, Dukane Corporation ULTRASONIC SEALING TOOL DESIGN FOR THIN FILM PLASTICS
2:30 pm - 3:00 pm	Miranda Marcus, EWI Comparative Analysis of Energy Director Styles with Servo-Driven Ultrasonic Welding of Valox 325
3:00 pm - 3:30 pm	Miranda Marcus, EWI EXPERIMENTAL METHODS TO DETECT DEGRADATION AT THE WELD CAUSED BY

## LASER TRANSMISSION WELDING

3:30 pm - 4:00 pm

Philip Bates, Royal Military College of Canada  
Welding of incompatible thermoplastic polymers

4:00 pm - 4:30 pm

Mirko Albrecht, Chemnitz University of Technology  
Development of a flexible polymer joining center

4:30 pm - 5:00 pm

Jan-Michael Geck, University of Kassel  
Alternative welding processes in apparatus, tank and pipeline construction at  
Environmental Stress Cracking

1:30 pm - 5:00 pm

Ronald Dietz, Chemnitz University of Technology  
**Decorating and Assembly Session-Advances and Trends in Plastic Decoration  
and Assembly**

Room 312

Paul Uglum

Moderators: Ken Holt

1:30 pm - 2:00 pm

Surfaces as Sources - Combining Form with Function in Plastics Automotive Interior  
Components

2:00 pm - 2:30 pm

Marshall Paterson, ADS  
New Materials Bring New Testing Challenges

2:30 pm - 3:00 pm

Alan Jaenecke, Taber Industries  
Clean Enough? The Importance of a Clean Surface to Attaining Adhesion

3:00 pm - 3:30 pm

Andy Stecher, Plasmatreat North America  
Bonding of Plastics

3:30 pm - 4:00 pm

George Ritter, EWI  
Short Pulsed Laser Marking

4:00 pm - 4:30 pm

Jake Wieloch, Rofin-Baasel, Inc.  
Mastering Plasma & Flame Surface Treating Technologies to Improve Coating Adhesion  
Operations

4:30 pm - 5:00 pm

Mark Plantier, Enercon Industries  
Bridging the Gap - Liquid Solutions for Joint Sealing

1:30 pm - 5:00 pm

Timothy Holmes, Application Engineer , Henkel  
**Composites & Failure Analysis and Prevention- Failure Analysis in Composites**

1:30 pm - 2:30 pm	White River G Moderator: Brian Ralston Moderator: Antoine Rios Advances in the Prediction of Weld Line Strength Failures for Fiber Filled Plastics
2:30 pm - 3:00 pm	Matt Jaworski, Technical Specialist , Autodesk Why it is Not Always Better to Use Fiber Reinforced Plastics
3:00 pm - 3:30 pm	Antoine Rios, The Madison Group A THROUGH-PROCESS MODELING APPROACH FOR ANISOTROPIC PERFORMANCE AND LIFETIME EVALUATION OF FIBER REINFORCED THERMOPLASTIC PARTS
3:30 pm - 4:00 pm	Amin Sedighiamiri, Senior Scientist, SABIC DEGRADATION INSPECTION OF GFRP STORAGE TANK WITH LONG-TERM USE UNDER HYDROCHLORIC ACID
4:00 pm - 4:30 pm	Masumi Ikegami, Kyoto Institute of University Endurance Regression Testing: A Method to Replace ASTM D2992
4:30 pm - 5:00 pm	David Granderson, NOV - Fiber Glass Systems INTERLAMINAR FRACTURE TOUGHNESS OF WOVEN GLASS FIBER-EPOXY LAMINATES WITH CARBON NANOTUBE BUCKYPAPERS
1:30 pm - 5:00 pm	Diego Pedrazzoli, Research Associate, Case Western Reserve University <b>Composites- Composites Processing</b> White River H
1:30 pm - 2:00 pm	Moderator: Shankar Srinivasan IMPACT OF FOAMING ON FIBER BREAKAGE, CONDUCTIVITY, AND EMI SHIELDING OF INJECTION-MOLDED POLYPROPYLENE/STAINLESS STEEL FIBER COMPOSITES
2:00 pm - 2:30 pm	Amir Ameli, Washington State University IN-SITU-PULTRUSION – STRUCTURAL THERMOPLASTIC FRP-PARTS
2:30 pm - 3:00 pm	Stefan Epple, Ph.D Student, Institut für Kunststofftechnik ELECTROSPUN PCL/NC COMPOSITE FIBERS AND THEIR MINERALIZATION
3:00 pm - 3:30 pm	Zhixiang Cui, Fujian University of Technology Effects of Thermoplastic Elastomers on Mechanical Properties of Glass Fiber Reinforced Poly(3-hydroxybutyrate-co-3-hydroxyhexanoate)



3:30 pm - 4:00 pm	Takashi Kuboki, University of Western Ontario STUDY OF ULTRASONIC TREATMENT ON PP/CNT, PP/GNP AND PP/CB COMPOSITES USING CONTINUOUS ULTRASONIC TWIN-SCREW EXTRUSION
4:00 pm - 4:30 pm	Jing Zhong, The University of Akron Study on Nano Polyacrylonitrile Fiber by Cotton Candy Method
4:30 pm - 5:00 pm	Hiroyuki Hamada, Professor, Kyoto Institute of Technology Optimizing Process Condition of Compression Molding: From Material Properties Characterization to Numerical Simulation
1:30 pm - 3:00 pm	Chao-Tsai Huang, Tamkang University <b>Polymer Modifiers and Additives</b> Room 203
1:30 pm - 2:00 pm	Influence of elastomer on morphology and mechanical properties of Nylon 6/OMMT/elastomer composite
2:00 pm - 2:30 pm	Xiaohong Yu, Sunshow NOVEL THERMOPLASTIC POLYMER FOR SOFT TOUCH APPLICATIONS
2:30 pm - 3:00 pm	Helen Lentzakis, Polymer Dynamix Controlled life technology - plastic waste solution.
1:30 pm - 4:00 pm	Michael Stephens, Technical Director , Symphony Environmental <b>Thermoplastic Materials and Foams- Structure and Properties of Thermoplastics and Foams</b> White River J
1:30 pm - 2:00 pm	Moderator: Anson Wong Microstructure-Property Relationship for Impact Energy Absorption of Functionally Graded Porous Structures of Acrylonitrile Butadiene Styrene (ABS)
2:00 pm - 2:30 pm	Farooq Al Jahwari, University of Toronto IMPROVING THE MECHANICAL PROPERTIES AND FLAME RETARDANCY OF MULTILAYERED PP FOAM/FILMS VIA THE INTRODUCTION OF FLAME RETARDANTS
2:30 pm - 3:00 pm	Sangjin Lee, Case Western Reserve University PROPERTIES OF MELT BLENDED CHITIN NANOWHISKER-POLYPROPYLENE COMPOSITES
3:00 pm - 3:30 pm	Sharon Li, University of Toronto Stability of Poly(etheretherketone) and Poly[2,2'-(m-phenylene-5,5'-bibenzimidazole]

	Blend Under Harsh Environments
3:30 pm - 4:00 pm	Peng Liu, Texas A&M Univeresity Viscoelastic Shear Analysis of Polymeric Foam Midsoles
1:30 pm - 4:30 pm	Alex Brill, School <b>Polymer Analysis Session: Modelling and Innovative Methods</b> Room 302/303
1:30 pm - 2:00 pm	Moderator: Greg Kamykowski Modeling and simulation of the foaming process in elastomers
2:00 pm - 2:30 pm	Nora Catalina Restrepo Zapata, Ph.D Student, Universidad Nacional de Colombia Time Temperature Superposition of Short Term Stress Relaxation Behavior to understand retention of material modulus over time
2:30 pm - 3:00 pm	Prasanta Mukhopadhyay, SABIC Non-Destructive Characterization of Hygrothermally Aged Polymers
3:00 pm - 3:30 pm	Matthias Hüttner, University of Paderborn Capacitance to digital converter method for dielectrostriction of polymeric materials
3:30 pm - 4:00 pm	Yi Zhang, Ph.D Student, Huazhong University of Science and Technology Ultrasonic Measurement of Particle Concentration in Polystyrene-Glass beads Composites by a Differential Scheme
4:00 pm - 4:30 pm	Zou Weijian, 1National Engineering Research Center of Novel Equipment for Polymer Processing, South China Univers Understanding Reaction Products of Polyethylene-Acrylic Acid Dispersions with Calcium Chloride
1:30 pm - 4:00 pm	Praveenkumar Boopalachandran, Dow Chemical Company <b>Additive Manufacturing/3D Session IV</b> Room 101
1:30 pm - 2:30 pm	Future Fabricated With Light - Keynote
2:30 pm - 3:00 pm	Xinyu Gu, Carbon 3D Numerical Prediction of Stiffness and Strength of a Highly Complex Topology Optimized Thermoplastic Part designed for 3D Printing
3:00 pm - 3:30 pm	Subhransu Mohapatra, Lead Scientist, SABIC Drug-Eluting AM Medical Materials

3:30 pm - 4:00 pm

Martin Petrak, Orthopedic Innovation Center  
Behavior of 3Dp Models

D Mahudeeswaran, L1 / CDU Australia