



8:00 am - 11:00 am

8:00 am - 8:30 am

8:30 am - 9:00 am

9:00 am - 9:30 am

### **Extrusion- Process Modeling II**

JW Grand Ballroom 8

Moderator: Mahesh Gupta

Innovative Extrusion Process for Liquid Silicone Rubber: Calculation versus Experiment

Miriam Haerst, Technische Universität München

Towards the prediction of the wall thickness for technical parts manufactured in extrusion blow molding

Barry Morris, Technical Fellow, DuPont

Simulation of an Industrial High Capacity Blown Film Extrusion Process

9:30 am - 10:00 am	Jens Peter Siepmann, University of Duisburg-Essen Studying Layer Alignment in Flows of Multi-layered Systems through Dies with a Geometric Transition
10:00 am - 10:30 am	Tyler Schneider, Case Western Reserve University SIMULATION BASED DETERMINATION OF THE CRYSTALLINITY DISTRIBUTION IN POLYMER PIPES
10:30 am - 11:00 am	Kenny Saul, Managing Director, SHS plus GmbH THE IMPORTANCE OF INFLOW CONDITIONS ON THE SIMULATION OF EXTRUSION OF THERMALLY SENSITIVE MATERIAL
8:00 am - 11:00 am	Jesse Gadley, Case Western Reserve University <b>Extrusion-Reactive &amp; Mixing Processes II</b> JW Grand Ballroom 7 Moderator: Joe Golba
8:00 am - 9:00 am	Keynote: Extensional Mixing Elements for Twin-Screw Extrusion: Computational and Experimental Validation For Liquid-Liquid and Liquid-Solid Systems
9:00 am - 9:30 am	Joao Maia, Associate Professor, Case Western Reserve University Preliminary Study of Changeover Time in a Twin-Screw Extruder
9:30 am - 10:00 am	Jin Wang, The Dow Chemical Company DEVELOPMENT OF A PREDICTIVE POWER LAW RELATIONSHIP FOR CONCENTRATED SLURRIES, PART 1: THEORY
10:00 am - 10:30 am	Gregory Campbell, Castle Associates DEVELOPMENT OF A PREDICTIVE POWER LAW RELATIONSHIP FOR CONCENTRATED SLURRIES, PART 2: EXPERIMENT AND PROCESSING IMPLICATIONS
10:30 am - 11:00 am	Mark Wetzel, DuPont EXTENSIONAL MIXING ELEMENTS FOR TWIN-SCREW EXTRUSION: EFFECTIVENESS IN DISPERSIVE MIXING OPERATIONS IN COMPOSITES
8:30 am - 10:30 am	Sidney Carson, Case Western Reserve University <b>Applied Rheology-Probing structure</b> Room 309/310
8:30 am - 9:00 am	Origin of strain hardening in branched metallocene polyethylenes
9:00 am - 9:30 am	Stephane Costeux, Dow Chemical Characterizing the Rheological Behavior of Liquid Silicone Rubber Using a High Pressure

	Capillary Rheometer
9:30 am - 10:00 am	Fabian Verheyen, University of Kassel RHEOLOGY AS A TOOL TO EVALUATE POLYMER/ACTIVE PHARMACEUTICAL INGREDIENT (API) SOLID DISPERSIONS
10:00 am - 10:30 am	Fengyuan Yang, Merck THE EFFECTS OF NANO-CLAY ON THE RHEOLOGICAL PROPERTIES OF POLYLACTIC ACID
8:30 am - 12:30 pm	Wei Zheng, University of Wisconsin-Stout <b>Injection Molding- Simulation 2</b> White River A Moderator: Matt Dachel Cavity Effect on Core Penetration in Co-Injection Multi-Cavity Molding
8:30 am - 9:00 am	
9:00 am - 9:30 am	Chao-Tsai Huang, Tamkang University The Viscoelastic Effects on the Birefringence Variation for an Injected Optical Lens
9:30 am - 10:00 am	Gwo-Geng Lin, Professor, Tamkang University 3D-SIMULATION OF GAS-ASSISTED INJECTION MOLDING
10:00 am - 10:30 am	tie geng, Hen Nan University of Technology & University of Wisconsin-Madison New approaches for the integration of process disturbances in injection molding simulation
10:30 am - 11:00 am	Benjamin Grümer, Institute of Plastics Processing at RWTH Aachen University SIMULATION AND EXPERIMENTAL VALIDATION OF A CONFORMALLY COOLED INJECTION MOLD
11:00 am - 11:30 am	Syed Rehmathullah, Research Engineer , Autodesk Stochastic Modeling and Quantification of Uncertainties of the Injection Molding Process
8:30 am - 11:30 am	Linda Gesenhues, Federal University of Rio de Janeiro <b>Injection Molding- Materials 1</b> White River B Moderator: Pete Grelle TENSILE PROPERTIES MODIFICATION OF DUCTILE POLYOXYMETHYLENE/ POLY(LACTIC ACID) BLEND BY ANNEALING TECHNIQUE
8:30 am - 9:00 am	
9:00 am - 9:30 am	Hiroyuki Hamada, Professor, Kyoto Institute of Technology MECHANICAL CRYSTALLIZATION PROPERTIES AND FOAMING BEHAVIOR OF TEFLON-REINFORCED POLY(LACTIC ACID) COMPOSITES

9:30 am - 10:00 am	An Huang, South China University of Technology Fast prediction of crystallinity in injection molding during the packing stage
10:00 am - 10:30 am	Peng Zhao, Zhejiang University Investigation of Fiber Breakage Phenomena for Different Fiber Types in Injection Molding
10:30 am - 11:00 am	Chao-Tsai Huang, Tamkang University EFFECTS OF CLAY LOADING AND GAS COUNTER-PRESSURE ON THE TENSILE/FOAMING/SURFACE ROUGHNESS PROPERTIES OF MICROCELLULAR INJECTION MOLDED PP/CLAY NANO COMPOSITES
11:00 am - 11:30 am	Shyh-shin Hwang, Chien-hsin University of Science and Technology INFLUENCES OF THE VARIATION OF PROCESS PARAMETERS ON THE POLE LENGTH OF MULTIPOLAR BONDED MAGNETS
8:00 am - 11:00 am	Katharina Kurth, Institute of Polymer Technology <b>Composites- Nanocomposites</b> White River H Moderator: Nikhil Verghese
8:00 am - 9:00 am	Effect of Carbon Nanotubes on the Structure, Processing, and Properties of Polymers
9:00 am - 9:30 am	Satish Kumar, Georgia Institute of Technology USING ULTRASONIC TECHNOLOGY TO PREPARE WELL-DISPERSED POLYCARBONATE/CARBON NANOTUBES COMPOSITES AT HIGH FLOW RATE
9:30 am - 10:00 am	Xiang Gao, The University of Akron STRUCTURE AND PROPERTIES OF PVDF/GO NANOCOMPOSITES PREPARED BY WATER-ASSISTED MIXING EXTRUSION
10:00 am - 10:30 am	Han-Xiong Huang, South China University of Technology Improving the barrier and mechanical properties of PET/clay nanocomposites
10:30 am - 11:00 am	Kazem Majdzadeh Ardakani, University of Toledo PHASE MORPHOLOGY ASSEMBLING IN PP:PS BLENDS BY ADDITION OF MWCNT
8:00 am - 10:30 am	Ivonne Otero Navas, University of Calgary <b>Composites- Modeling / Analysis of Composites</b> White River G Moderator: Enamul Haque
8:00 am - 8:30 am	Determination of Stress Concentrations in Orthotropic Composites Using Mapping Collocation Techniques

8:30 am - 9:00 am	Abdullah Alshaya, UW-Madison Evaluating Rigid and Semi-Flexible Fiber Orientation Evolution Models in Simple Flow
9:00 am - 9:30 am	Gregory Lambert, Virginia Polytechnic Institute and State University PROPERTIES AND MODELING OF PARTIALLY COMPACTED, COMMINGLED POLYPROPYLENE GLASS FIBER FLEECE COMPOSITES
9:30 am - 10:00 am	Blanca Maria Lekube, TCKT Foaming effects on the percolation threshold in conductive polymer composites: a systematic analysis
10:00 am - 10:30 am	Sai Wang, University of Toronto Improved Sand Erosion Resistance and Mechanical Properties of Multifunctional Carbon Nanofiber Nanopaper Enhanced Glass Fiber/Epoxy Composites
8:30 am - 11:30 am	Eusebio Cabrera, Ohio State <b>Marketing &amp; Management Session: Innovation and Management of Risk</b> Room 312
8:30 am - 9:30 am	Building Competencies through Experiential, Evidence Based Entrepreneurship-Start up Skill Building for Entrepreneurs and Intrapreneurs
9:30 am - 10:00 am	Margaret Baumann, G.h.associates Kelvin Akamoto, Gem-Bio Bonnie Bachman, MST Supply Chain Pressure Test and Business Contingency Planning
10:00 am - 10:30 am	Sherry Hersey, Traveler's Insurance Erika Melander, Industry Manager Manufacturing, Travelers Commercial Accounts, Traveler's Insurance High Value, Low Cost Coextruded Backsheets for Solar Modules
10:30 am - 11:00 am	Bob Davis, Tomark-Werthen, LLC Education for Manufacturing in the 21st Century
11:00 am - 11:30 am	Margaret Baumann, G.h.associates Panel Discussion
8:00 am - 11:00 am	<b>Polymer Modifiers and Additives Session: Non-Halogenated Flame Retardants</b> White River C/D Moderator: Raj Maddikeri
8:00 am - 8:30 am	The Flameretardancy Study of The Cardboard Bed Made from Corrugated Cardboard

8:30 am - 9:00 am	Yusaku Mochizuki, Kyoto Institute of Technology The Flameretardancy Study of PVA Using for Furniture Made from Corrugated Cardboard
9:00 am - 9:30 am	Mizutani Yoshihiro, Kyoto Institute of Technology A Novel Synergist for Flame Retardant Glass-fiber Reinforced Polyamide 66
9:30 am - 10:00 am	Zheng Qian, R&D Scientist, Polymer Dynamix Tannic Acid: A Bio-based Intumescent Char-forming Additive for Nylon 6
10:00 am - 10:30 am	Zhiyu Xia, UMass Lowell New Halogen-Free Flame Retardants for Films and other thin-walled applications
10:30 am - 11:00 am	Kyle Mitchell, Thor Specialties, Inc. ORGANIC ALKALI METAL SALT ESTIMATION BY ICP-OES IN THERMOPLASTIC
8:00 am - 11:30 am	Rosa AD, Senior Scientist/Elemental Specialist, Sabic Research and Technology Pvt Ltd <b>Engineering Properties and Structure: Recycling and Scratch</b> Room 103/104 Moderator: Steve Driscoll Moderator: Luyi Sun
8:00 am - 8:30 am	Polypropylene Based Olefin Block Copolymers as Compatibilizers for Polyethylene and Polypropylene
8:30 am - 9:00 am	Amaia Montoya, Dow Chemical Melt Mastication: A new rheological process to generate high performance parts from semi-crystalline polymers
9:00 am - 9:30 am	Alan Lesser, University of Massachusetts ULTRASONIC EXTRUSION TECHNOLOGY FOR RECYCLING OF CROSSLINKED POLYOLEFINS
9:30 am - 10:00 am	Avraam Isayev, Distinguished Professor Emeritus, The University of Akron Microcellular Injection Molded Polymer Foams and Their Structure–Property Relationship
10:00 am - 10:30 am	Lih-Sheng Turng, University of Wisconsin-Madison VARIATION OF SCRATCH BEHAVIORS OF THERMOPLASTIC POLYOLEFINS (TPO) DUE TO THERMAL DEGRADATION
10:30 am - 11:00 am	Jungsub Lee, Korea University Scratch Resistance of Thin polymeric Films Effect of Orientation and Polyethylene Content

11:00 am - 11:30 am	Marouen Hamdi, Texas A&M University ENHANCEMENT OF PAINT ADHESION WITH POLYOLEFIN BLENDS
8:30 am - 11:30 am	Kyle Anderson, The Dow Chemical Company <b>Thermoplastic Materials and Foams- New Materials and New Foams</b> White River J Moderator: Chul Park
8:30 am - 9:00 am	EFFECTS OF BLEND MORPHOLOGY AND OPERATING PARAMETERS ON FOAMING OF POLYLACTIC ACID/THERMOPLASTIC POLYURETHANE
9:00 am - 9:30 am	Changchun Zeng, Florida State University Preparation of PPC/PS/PTFE Composites With In-Situ Fibrillated PTFE Nanofibrillar Network and Their Supercritical Carbon Dioxide Extrusion Foaming Properties
9:30 am - 10:00 am	Chul Park, Distinguished Professor, University of Toronto Open cell microcellular foams of poly(lactic acid) blend with poly(butylenes succinate)
10:00 am - 10:30 am	Xian-hong Chen, Hubei University of Technology SOLID-STATE FOAMING OF POLYLACTIC ACID-HEXAGONAL BORON NITRIDE COMPOSITES TO FABRICATE THERMALLY CONDUCTIVE FOAMS
10:30 am - 11:00 am	Yanting Guo, York University Foaming Behavior of Fluorinated Ethylene Propylene Copolymer using Supercritical Carbon Dioxide
11:00 am - 11:30 am	Zhen Yao, Zhejiang University AN EFFECTIVE WAY OF PROCESSING IMMISCIBLE PP/PS BLENDS INTO HIGH STRENGTH FIBER
8:00 am - 10:30 am	Jing Shi, Georgia Institute of Technology <b>Polymer Analysis Session: Thermal Analysis and Barrier Properties</b> Room 302/303 Moderator: Greg Kamykowski
8:00 am - 8:30 am	IMPROVED MODEL OF THERMAL DIFFUSIVITY FOR SEMICRYSTALLINE POLYMERS AS A FUNCTION OF TEMPERATURE, TEMPERATURE GRADIENTS, COOLING RATE AND INJECTION MOLDING PROCESS CONDITIONS
8:30 am - 9:00 am	Juan Carlos Ortiz Pimienta, Instituto de Capacitación e Investigación del Plástico y del Caucho Blends Characterization by Thermal Analysis
	Subhransu Mohapatra, Lead Scientist, SABIC

9:00 am - 9:30 am	THE ROLE OF ADDITIVES AND FREE VOLUME ON THE GAS BARRIER PROPERTIES OF PET
9:30 am - 10:00 am	Shahab Zekriardehani, University of Toledo The Effect Of Ozone Ageing on the Chemical, Physical and Barrier properties of Packaging films
10:00 am - 10:30 am	Lohith Nanjegowda, SABIC EFFECT OF SILICA FILLER CONCENTRATION ON THE MECHANICAL AND DIFFUSION PROPERTIES OF COMMERCIAL GASOLINE THROUGH POLYETHER-POLYURETHANES
8:30 am - 11:00 am	James Sloan, U.S. Army Research Lab <b>Bioplastics Session</b> White River I
8:30 am - 9:00 am	Moderator: Douglas Hirt Modification of the rheological and thermal properties of PLA by reactive extrusion in the presence of a multifunctional coagent
9:00 am - 9:30 am	Praphulla Tiwary, Queen's University DuPont's Renewably Sourced High Performance Polymers
9:30 am - 10:00 am	Anna Mathew, DuPont Properties of poly(ethylene glycol)methyl ether acrylate-grafted polylactide
10:00 am - 10:30 am	Mohammed Dirany, Sherbrooke university PREPARATION AND CHARACTERIZATION OF BIODEGRADABLE POLYLACTIDE/ETHYLENE METHYL ACRYLATE COPOLYMER BLENDS
10:30 am - 11:00 am	Linqiong Xu, Post Doctoral Candidate, South China University of Technology FABRICATION OF INTERCONNECTED POROUS POLY(LACTIC ACID) SCAFFOLDS BASED ON DYNAMIC ELONGATIONAL FLOW PROCEDURE, BATCH FOAMING AND PARTICULATE LEACHING
8:30 am - 11:00 am	Xiang-Fang Peng, South China University of Technology <b>Medical Plastics: Materials for Wearables</b> Room 305/306
8:30 am - 9:00 am	Moderator: Maureen Reitman Performance enhancement of PEBAX using supercritical fluid extrusion for biomedical applications
	Austin Coffey, Senior Lecturer, Waterford Institute of Technology



9:00 am - 9:30 am

Highly Resilient Non-Soften Thermoplastic Polyurethanes

9:30 am - 10:30 am

Anthony Walder, Global Technology Manager, Lubrizol  
Panel Discussion. From Implantables to Wearables: The Biocompatibility and Regulatory Requirements.

8:30 am - 11:30 am

Ajay Padsalgikar, Senior Principal Scientist, St. Jude Medical  
Meredith May, Vice President, Empirical Consulting  
Steven Spiegelberg, Co-Founder, Cambridge Polymer Group

**Additive Manufacturing/3D Session III**

Room 101

8:30 am - 9:00 am

Measuring the Interlayer Fracture Resistance of FDM Printed Thermoplastics

9:00 am - 9:30 am

Amir Ameli, Washington State University  
A Process for Generating Composites of Acrylonitrile-Butadiene-Styrene Reinforced with a Thermotropic Liquid Crystalline Polymer for Use in Fused Filament Fabrication

9:30 am - 10:00 am

Craig Mansfield, Ph.D Student, Virginia Tech  
Study on fabrication of CNT-based conductive products via melt differential 3D printer

10:00 am - 10:30 am

Chi Baihong, Doctoral Candidate, Beijing University of Chemical Technology  
Differential Scanning Calorimetry (DSC) Quantification of Polyamide 12 (Nylon 12)  
Degradation during the Selective Laser Sintering (SLS) Process

10:30 am - 11:00 am

Lukas Duddleston, Ph.D Student, University of Wisconsin-Madison  
Novel Polycarbonate/SEBS-g-MA Blend for FDM-Type 3D Printing

11:00 am - 11:30 am

David Roberson, Assistant Professor, The University of Texas at El Paso  
Optimization of the FDMT Additive Manufacturing Process<

Thomas Pfeifer, Masters Student, University of Wisconsin-Madison