



# ANTEC<sup>®</sup> ORLANDO

The Plastics Technology Conference

May 7-10, 2018 • Orange County Convention Center • Orlando, FL @



## Monday Morning

8:00 am - 11:30 am

8:00 am - 8:30 am

8:30 am - 9:00 am

9:00 am - 9:30 am

9:30 am - 10:00 am

10:00 am - 10:30 am

10:30 am - 11:00 am

11:00 am - 11:30 am

8:30 am - 11:30 am

8:30 am - 9:00 am

### **M1-Additive Manufacturing(Moderators: Kal Migler and Ray Pearson)-Room S320E**

3D Printed Capsules for On-Site Formulations

Derrick Smith, Merck

Modification of PLA for Improved Layer-to-Layer Adhesion in 3-D Printed Parts

Michael Thompson, McMaster University

Influence of the Layer Time on the Resulting Part Properties in the Fused Deposition Modeling Process

Frederick Knoop, Paderborn University - DMRC

EFFECTS OF POLYMER RHEOLOGY ON PREDICTED DIE SWELL AND FIBER ORIENTATION IN LARGE SCALE POLYMER COMPOSITE ADDITIVE MANUFACTURING

Zhaogui Wang, Baylor University

Mechanical Properties of Reinforced Compounds for Large Format Additive Manufacturing (LFAM)

Rabeh Elleithy, Lead Scientist, Additive Manufacturing and Cost Modeling, SABIC

THE INFLUENCE OF MELT FLOW RATE AND NOZZLE TEMPERATURE IN FUSED FILAMENT FABRICATION

Nicole Hoekstra, Western Washington University

Mechanical Properties of 3D Printed Polylactide/Microfibrillated Polyamide Composites

Nahal Aliheidari, Ph.D Student, Washington State University

### **M2-Bioplastics: Biobased Polymer Structures and Analysis(Moderator: Douglas Hirt)-Room S320A**

Transamidation of corn oil side-stream product from bioethanol industry as strategy to develop sustainable polyesteramides

Jean-Mathieu Pin, University of Guelph

9:00 am - 9:30 am	NANOCELLULOSE AS A SIZING AGENT FOR GLASS FIBER TOWARDS AN ENHANCED GLASS FIBER - EPOXY INTERPHASE Joyanta Goswami, Georgia Institute of Technology
9:30 am - 10:00 am	On the Use of High-throughput Electrospinning to Produce Optimized Packaging Films from Polyhydroxyalkanoates Jose Lagaron, IATA-CSIC
10:00 am - 10:30 am	Polycaprolactone Nanofibers Containing Vascular Endothelial Growth Factor-Encapsulated Gelatin Particles Enhance Mesenchymal Stem Cell Differentiation to Endothelial Cells and Angiogenesis of Endothelial Cells YONG-CHAO JIANG, Zhengzhou University
10:30 am - 11:00 am	Effect of shish material on the formation of Self Induced Shish-Kebab Structure Xiaofeng Wang, Zhengzhou University
11:00 am - 11:30 am	FULLY BIOBASED DEGRADABLE PLASTIC WITH INSECTICIDE FUNCTIONALITY Cindu Annand, Iowa State University
8:00 am - 11:30 am	<b>M3-Engineering Properties and Structure: Innovations in Polyolefins and Plastics(Moderators: Teresa Karjala and Rajen Patel)-Room S320B</b>
8:00 am - 8:30 am	<i>KEYNOTE:Innovation in Mature Markets: Understanding Global Trends across the Value Chain Key and Accelerating Development</i> Narayan Ramesh, Dow Chemical
8:30 am - 9:00 am	MELT-MASTICATION OF ISOTACTIC POLYPROPYLENE FOR IMPROVED THERMAL AND PHYSICAL PROPERTIES Brian Cromer, R&D, Arkema
9:00 am - 9:30 am	Techniques to Measure Impact Properties of Polymers Sean Teller, Veryst Engineering
9:30 am - 10:00 am	Ways to enhance thermoelectric properties of melt mixed polypropylene-carbon nanotube composites Petra Pötschke, Scientist, IPF Dresden
10:00 am - 10:30 am	Analysis of Newly-Developed Textured PTFE Gaskets Subjected to Creep Relaxation Ali Gordon, University of Central Florida
10:30 am - 11:00 am	COMPOSITION DEPENDENT CHARGE STORAGE AND EMI SHIELDING PERFORMANCE OF THERMOPLASTIC ELASTOMER NANOCOMPOSITES CONTAINING MWNTS Shital Pawar, University of Calgary
8:00 am - 11:30 am	<b>M4-Extrusion: Twin Screw I(Moderator: Costas Tzoganakis)-Room S320F</b>
8:00 am - 8:30 am	Flow, mixing and reaction of polymer reactive blending in a twin screw extruder Cailliang Zhang, Zhejiang University
8:30 am - 9:00 am	Effect of High Speed Twin and Quad Screw Compounding on the Molecular Weight, Molecular Weight Distribution, and Mechanical Properties of Polyethylene Composites Mansour Albareeki, Ph.D Student, UMass Lowell
9:00 am - 9:30 am	EXPERIMENTAL VALIDATION OF FILL RATIO, RESIN PRESSURE, RESIN

	TEMPERATURE OBTAINED FROM THE 2.5D HELE-SHAW MODEL IN FLOW OF COROTATING TWIN SCREW EXTRUDER Masatoshi Ohara, TOSHIBA MACHINE CO.,LTD.
9:30 am - 10:00 am	Designing and Computational Validation of Extensional Mixing Elements (EMEs) for Improved Dispersive Mixing in Extrusion Operations Vivek Pandey, Case Western Reserve University
10:00 am - 10:30 am	CHARACTERIZATION OF STRESS IN A TWIN-SCREW EXTRUDER FOR PROCESSING AND EXTRUSION OF EXTRINSICALLY SELF-HEALING THERMOPLASTICS Connor Armstrong, University of Maryland, College Park
10:30 am - 11:00 am	IMPROVED NANOCCLAY DISPERSION IN ETHYLENE VINYL ALCOHOL VIA SUB-CRITICAL GAS-ASSISTED PROCESSING Thomas Ellingham, Ph.D Student, UW-Madison
11:00 am - 11:30 am	NEW INVOLUTE EXTRUDER SCREW ELEMENTS FOR IMPROVED PRODUCTIVITY AND QUALITY Paul Andersen, Process Engineering Consultant, Coperion
11:30 am - 12:00 pm	Resolving Feed Issues for Specialty Compounds in the TriVolution Compounder Gonzalo Marulanda, Technical Center Manager, B&P Littleford
8:00 am - 11:30 am	<b>M5-Joining of Plastics and Composites(Moderator: Sergio Amancio)-Room S320H</b>
8:00 am - 8:30 am	Methods of Polymer Weld Quality Evaluation Miranda Marcus, Edison Welding Insititue
8:30 am - 9:00 am	Development of Molecular Diffusion Models for Ultrasonic Welding of PLA Karla Lebron, Graduate Student, Iowa State University
9:00 am - 9:30 am	EFFECTS OF BUILD ORIENTATION AND FILL-LEVEL ON MECHANICAL PROPERTIES OF FUSED DEPOSITION MODELING PLA Avraham Benatar, Associate Professor, The Ohio State University
9:30 am - 10:00 am	Correlating Ultrasonic Weld Quality with Melt layer Thickness Alex Savitski, Dukane IAS
10:00 am - 10:30 am	UNDERSTANDING MELTDOWN DURING QUASI-SIMULTANEOUS LASER TRANSMISSION WELDING Philip Bates, Royal Military College of Canada
10:30 am - 11:00 am	RESEARCH ON TEMPERATURE FIELD OF LASER TRANSMISSION WELDING POLYCARBONATE BASED ON 3D REAL SURFACE TOPOGRAPHY Zhong Hongqiang, soochow university
11:00 am - 11:30 am	Temperature Field And Fluid Field Simulation Of Laser Transmission Welding Polycarbonate Yan Tingpei, Soochow University
8:00 am - 11:30 am	<b>M6-Plastics Pipe and Fittings: Testing, Durability and Fracture of Plastic Piping Materials(Moderator:Dell Doyle)-Room S322</b>
8:00 am - 8:30 am	Assessment of Polybutylene Plumbing Installations after Long-term Service

8:30 am - 9:00 am	Dale Edwards, Engineering Systems Inc. PERFORMANCE OF PE PIPE RESINS IN CHLORINE DIOXIDE CONTAINING AQUEOUS SOLUTION
9:00 am - 9:30 am	Márton Bredács, Polymer Competence Center Leoben Quantifying Oxidative Degradation in Polyolefin Pipe by IR Spectroscopy
9:30 am - 10:00 am	Don Duvall, Sr. Managing Consultant, ESI Pipe Quick Burst Pressure Investigations of Sample Length on Two Plastics
10:00 am - 10:30 am	Bryan Hauger, Hauger Consulting INNOVATIVE MILLIMETER WAVES TECHNOLOGY FOR MEASURING DIAMETER, OVALITY, WALL THICKNESS AND SAGGING OF LARGE PLASTIC PIPES
10:30 am - 11:00 am	Katja Giersch, SIKORA AG Effects of Primer on Mechanical Behavior of CPVC Pipe
11:00 am - 11:30 am	Bingjun Chen, University of Alberta Fracture mechanic principles for multi-layer pipe-wall design
8:00 am - 11:30 am	Florian Arbeiter, Montanuniversitaet Leoben <b>M7-Injection Molding: Injection Mold Technologies(Moderator: Srikanth Pilla)-Room S320D</b>
8:00 am - 8:30 am	Additive Manufacturing of large, temperature-controlled injection molding tools using Arc Welding and Diffusion Bonding
8:30 am - 9:00 am	Johannes Ullrich, Hochschule Schmalkalden Controlling the Local Part Properties Using a Segmented Temperature Control in Injection Molding
9:00 am - 9:30 am	Mauritius Schmitz, Institute of Plastics Processing (IKV) in Industry and the Skilled Crafts CHARACTERIZATION OF FILLING PERFORMANCES AND MECHANICAL PROPERTIES OF MICRO MOLDED FEATURES
9:30 am - 10:00 am	Jiang Jing, Zhengzhou University VALVE GATE OPEN LAG TIME IN CONVENTIONAL HOT RUNNER SYSTEM
10:00 am - 10:30 am	Byungohk Rhee, Ajou University Injection molding setup by means of machine learning based on simulation and experimental data
10:30 am - 11:00 am	Julian Heinisch, Research Assistant, Institute of Plastics Processing (IKV) in Industry and the Skilled Crafts at RWTH Aachen University Study on an optical evaluation of surface adhesion in the multilayer injection molding process
11:00 am - 11:30 am	Byungohk Rhee, Ajou University Modeling of the ultrasound-assisted ejection in micro injection molding
8:00 am - 11:30 am	Giovanni Lucchetta, University of Padova <b>M8-Polymer Modifiers and Additives(Moderator: Robert Sherman)-Room S320G</b>
8:00 am - 8:30 am	New High Strength Low Density Glass Bubble Products for Ultra-lightweight Composites Stephen Amos, 3M

8:30 am - 9:00 am	High Performance Fillers – Wide range of improvement with small particles! Péter Sebő, Head of Marketing and Market Development, Quarzwerke GmbH
9:00 am - 9:30 am	New Insights From Tailored Dispersion of Multi-Walled Carbon Nanotubes Through the Optimization of Melt Mixing Parameters during Production of Polypropylene-Based Nanocomposites Valérie Lison, NANOCYL
9:30 am - 10:00 am	Acrylonitrile Butadiene Styrene (ABS)/Mica composites: Preparation and characterization Mohammed Alghamdi, Yanbu Industrial College
10:00 am - 10:30 am	STATISTICAL OPTIMIZATION OF ADDITIVES FOR GLASS FILLED POLYPROPYLENE STABILIZATION Syed Hassan, R&D Engineer, A. Schulman Inc
10:30 am - 11:00 am	A new carbon black for high jetness and easy dispersion Marc Delvaux, Cabot Corporation
11:00 am - 11:30 am	Mechanical Reinforcement with Cellulose Filaments Helen Lentzakis, Kruger
8:00 am - 12:00 pm	<b>M9-Technical Marketing-Polymer Processing I(Moderator: Mark Spalding)-Room S320C</b>
8:00 am - 8:30 am	Development of Elongational Mixing Geometries for Twin-Screw Compounding Extruders Adam Dreiblatt, CPM Extrusion Group
8:30 am - 9:00 am	Facing Compounding Challenges of the Future with the RingExtruder RE© Michael Erdmann, Head of Process Technology, Extricom Extrusion GmbH
9:00 am - 9:30 am	TWW Micro (TM) Extruder for 3D Printing Timothy Womer, President, TWWomer & Associates
9:30 am - 10:00 am	Advanced Extrusion Control Ben Freckmann, Product Portfolio Manager, Eurotherm by Schneider Electric
10:00 am - 10:30 am	New Extruder Design and Features Bill Kramer, US Extruders
10:30 am - 11:00 am	Coperion Pelletizing Technology Update - What's New and Why? Mike Bickley, Coperion
11:00 am - 11:30 am	Eberhard Dietrich, Coperion
11:30 am - 12:00 pm	Energy Efficient Drying DOUG HARDY, WITTMANN BATTENFELD
	S-Max Series Screenless Granulator Technology Joe Golin, Wittmann-Battenfeld