



ANTEC[®] ORLANDO

The Plastics Technology Conference

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



Wednesday Afternoon

1:30 pm - 7:00 pm

1:30 pm - 2:00 pm

2:00 pm - 2:30 pm

2:30 pm - 3:00 pm

3:00 pm - 3:30 pm

3:30 pm - 4:00 pm

4:00 pm - 4:30 pm

4:30 pm - 5:00 pm

5:00 pm - 5:30 pm

5:30 pm - 6:00 pm

6:00 pm - 6:30 pm

W11-Additive Manufacturing: Simulation, Materials and Processes(Moderators: Rabeh Elleithy and Ray Pearson)-Room S320E

A closed form solution for predicting final part strength of fused deposition modeling
Steven Devlin, Extension Business and Communities Development Program Senior Director and Assistant Dean for Industrial Engagement, University of Missouri

3D PRINTING PROCESS SIMULATIONS AND THEIR APPLICATIONS
Prasad Dasappa, SABIC

Characterization and mechanical behavior of SLS processed PA11/CB nanocomposites
Gabrielle Esposito, Graduate Student, Lehigh University

Process impact of Elliptic Smoothness and Powder Shape Factors on Additive Manufacturing with Laser Sintering
Marc Vetterli, inspire ag icams

Fundamental Characterization of CLIP 3D Printed Materials
Danielle Grolman, United Technologies Research Center

3D Printed Tooling Solutions
Venkatesha N, SABIC

Investigation of A Novel Additive Manufacturing Technique "4D-RheoPrinting" For the Manufacture of Enhanced Polymeric Products

Alaauldeen Duhduh, Ph.D Student, Lehigh University

Critical Capillary Number in a Hyperbolic Converging Nozzle for Polymer Based Additive Manufacturing

Aditya Sangli, University of Maryland, College Park

Material selection, testing and validation of additively manufactured components
Johannes Wiener, Montanuniversitaet Leoben

3D Printed Metal Tool for Efficient Injection Molding
Venkatesha N, SABIC

6:30 pm - 7:00 pm	Investigation of Selective Laser Sintering Parameters on the Tensile Properties of Polyamide-11 Gabrielle Esposito, Graduate Student, Lehigh University
1:30 pm - 6:00 pm	W12-Applied Rheology(Moderators: Kurt Koppi and Qian Qin)-Room S320A
1:30 pm - 2:00 pm	<i>KEYNOTE: Rheology of Polymer Nanocomposites</i> Avraam I. Isayev, The University of Akron
2:00 pm - 2:30 pm	Modification of rheological and crystallization properties of high performance polymers for thermoplastic composite applications Sarah Morgan, U. Southern Mississippi
2:30 pm - 3:00 pm	Investigation on the Viscosity Characterization of the Glass Mat Thermoplastics (GMT) in Compression Molding System
3:00 pm - 3:30 pm	Visualization of the flow paths in a tangential internal mixer to optimize the mixing behavior Annika Lipski, Institute of Plastics Processing in Industry and the Crafts at the Aachen University of Technology
3:30 pm - 4:00 pm	The Effects of Metal Stearates on the Rheological Properties of Powder Injection Molding Feedstocks and Resulting Molded Green Parts Michael Shone, UMass Lowell
4:00 pm - 4:30 pm	Root Cause Analysis of Polyolefin-Based Wire and Cable Formulation Die Build-Up Kurt Koppi, Sr. Research Scientist, Dow
4:30 pm - 5:00 pm	RHEOLOGICAL METHOD DEVELOPMENT: POLYMER DESIGNS FOR BLOW-MOLDED, AUTOMOTIVE SEATBACKS Mary Ann Jones, Senior Research Scientist, The Dow Chemical Company
5:00 pm - 5:30 pm	THE IMPORTANCE OF HOW ONLINE RHEOMETERS ACCURATELY INDICATE MELT FLOW RATE IN AN EXTRUDER Catherine Lindquist, Dynisco
5:30 pm - 6:00 pm	A Mechanistic Model for Nanocavity Filling Donggang Yao, Georgia Institute of Technology
1:30 pm - 7:00 pm	W13-Composites: Modelling, Numerical Studies and Long Fiber Composites(Moderator: Alex Kravchenko) -Room S320D
1:30 pm - 2:00 pm	Fundamental Understanding of Tribological Behavior of Multiphase Polymeric Systems using FEM Modeling Mohammad Hossain, Texas A&M University-Kingsville
2:00 pm - 2:30 pm	EXPERIMENTAL VERIFICATION ON MOLDEX3D FIBER ORIENTATION PREDICTION IN HIGH FIBER CONCENTRATIONS Venny Yang, President, CoreTech System (Moldex3D) Co., Ltd.
2:30 pm - 3:00 pm	High Confidence Performance Predictions for Hybrid Thermoplastic Composite Applications Subhransu Mohapatra, Staff Scientist, SABIC Research & Technology Pvt Ltd
3:00 pm - 3:30 pm	In-Situ Synthesis of Poly(Ethylene Terephthalate) Graphene Nanocomposites Vahid Shabafrooz, Oklahoma State University

3:30 pm - 4:00 pm	Draping behavior of Uni-directional tape laminates – Experimental and Numerical Studies Sandeep Kulkarni, SABIC
4:00 pm - 4:30 pm	VIRTUAL CHARACTERIZATION OF PREPREG PLATELET LENGTH EFFECT ON TENSILE PROPERTIES OF COUPONS WITH STOCHASTIC MORPHOLOGY Sergey Kravchenko, Post-Doctoral Research Associate, Composites Manufacturing & Simulation Center
4:30 pm - 5:00 pm	Geometrical Effects on Fiber Micro-structure Variations and the Influences on Long Fiber Reinforced Thermoplastics (FRT) Parts Chao-Tsai Huang, Assistant Professor, Tamkang University
5:00 pm - 5:30 pm	AN INVESTIGATION OF RHEOLOGICAL PROPERTIES OF POLYPROPYLENE SINGLE-POLYMER COMPOSITES Mingxing Yu, Beijing Institute of Technology
5:30 pm - 6:00 pm	Suppression of necking in LLDPE/SEPS rubber bilayer laminates Sachin Velankar, University of Pittsburgh, Chemical Engineering Dept
6:00 pm - 6:30 pm	Synergistic Reinforcing and Toughening High Density Polyethylene by introducing Dynamic Shear Force Field and Ultrahigh Molecular Weight Polyethylene Tong Liu, South China University of Technology
6:30 pm - 7:00 pm	Effects of Extruder Screw Configuration on Thermal Properties of Glass Fiber Reinforced Polyamide 6 Composites Throughout the Direct Long-Fiber-Reinforced Thermoplastics Process Takashi Kuboki, University of Western Ontario
1:30 pm - 6:00 pm	W14-Engineering Properties and Structure: Physical Properties of Polymers III(Moderators: Luyi Sun and Pavan Valavala)-Room S320B
1:30 pm - 2:00 pm	Thermal conductivity enhancement through stretching of polyethylene-graphene nanocomposites Brian Grady, Director, School of Chemical, Biological and Materials Engineering, University of Oklahoma
2:00 pm - 2:30 pm	PROCESSING PARAMETERS EFFECT ON BARRIER PROPERTIES OF NITRILE BASED NANOCOMPOSITE MEMBRANE Mohamed Zemzem, Ph.D Student, École de Technologie Supérieure
2:30 pm - 3:00 pm	Characterization of Scratch Behaviors of Multilayer Automotive Coatings for Various Scratch Conditions sung wook moon, Korea university
3:00 pm - 3:30 pm	Biomimetic Nanocoatings with Exceptional Mechanical, Barrier, and Flame Retardant Properties from Large Scale One-Step Co-assembly Luyi Sun, Associate Professor, University of Connecticut
3:30 pm - 4:00 pm	Architecture of micro- and nano-layer structure and its functional properties of polymers Shaoyun GUO, polymer research institute of sichuan university
4:00 pm - 4:30 pm	EXPLOITING CAPILLARY FORCES IN FILLED PLASTICS: ELECTRICALLY CONDUCTIVE PLASTICS BY BONDING COPPER FILLER WITH MOLTEN SOLDER Derrick Amoabeng, Ph.D Candidate, University of Pittsburgh, Chemical Engineering Dept

4:30 pm - 5:00 pm	Microcapillary Film Membranes based on Polyvinylidene Fluoride Gerald Billovits, The Dow Chemical Company
5:00 pm - 5:30 pm	Numerical Modelling of Complex Parison and Sheet Formation in Blow Molding Processes using BlowView Software Zohir Benrabah, National Research Council Canada
5:30 pm - 6:00 pm	How Polymer Rheology Impacts the Extrusion Blow Molding Process David Kababik, Technical Service and Development , The Dow Chemical Company
1:30 pm - 5:30 pm	W15-Extrusion: Modeling(Moderator: Sid Carson)-Room S320F
1:30 pm - 2:00 pm	Unified Simulation of Extrudate Distortion Due to Non-uniform Exit Velocity and Cooling Shrinkage Mahesh Gupta, President, Plastic Flow
2:00 pm - 2:30 pm	MODELING OF A SIMPLE NUMERICAL CALCULATION METHODOLOGY TO IMPLEMENT CROSS FLOWS IN EXTRUSION DIE DESIGN BASED ON NETWORK THEORY Bianka Jacobkersting, University of Paderborn
2:30 pm - 3:00 pm	Modelling the Contamination Behavior of Polymer Melt Filters and Pressure Loss Simulations of Filtration Media Volker Schöppner, Paderborn University
3:00 pm - 3:30 pm	Experimental study on the melt encapsulation: An analysis of die pressure and rearrangement effects Christian Hopmann, Institute of Plastics Processing (IKV) in Industry and the Skilled Crafts at RWTH Aachen University
3:30 pm - 4:00 pm	THE EFFECT OF CHANNEL CURVATURE ON THE FLOW RATE AND VISCOUS DISSIPATION OF POWER-LAW FLUIDS Wolfgang Roland, Ph.D Student, Institut of Polymer Extrusion and Compounding
4:00 pm - 4:30 pm	A HEURISTIC MODEL FOR PREDICTING THREE-DIMENSIONAL NON-NEWTONIAN FLOWS IN METERING CHANNELS Christian Marschik, Institute of Polymer Extrusion and Compounding
4:30 pm - 5:00 pm	MODELING THE OPERATING PERFORMANCE OF MELT FILTRATION IN POLYMER RECYCLING Sophie Pachner, Institute of Polymer Extrusion and Compounding
5:00 pm - 5:30 pm	Optimizing Fluted Mixers John Perdikoulis, President, Compuplast International Inc.
1:30 pm - 6:00 pm	W16-Injection Molding: Processing-Quality Control and Analysis(Moderators: Adam Kramshuster and Tom Turng)-Room S320H
1:30 pm - 2:00 pm	Automatic Anomaly Detection and Root Cause Analysis for Holistic Process Monitoring and Control in Injection Molding Alexander Schulze Struchtrup, University of Duisburg-Essen
2:00 pm - 2:30 pm	Inflation Behavior of Preforms in the Special Injection Molding Process GITBlow Combining Gas Assisted Injection Molding and Blow Molding

2:30 pm - 3:00 pm	Björn Landgräber, Paderborn University EFFECT OF INJECTION MOLDING CONDITION ON MOLD ADHESION DURING THERMOPLASTIC POLYURETHANE INJECTION MOLDING
3:00 pm - 3:30 pm	Jian-Yu Chen, Feng Chia University STABILIZATION OF BMC INJECTION MOLDING BY PROCESS CONTROL MEASURES
3:30 pm - 4:00 pm	Nicolina Topic, KraussMaffei Technologies GmbH ZERO DEFECT MANUFACTURING IN INJECTION COMPRESSION MOLDING OF POLYMER FRESNEL LENSES
4:00 pm - 4:30 pm	Dario Loaldi, Technical University of Denmark 3D SURFACE CHARACTERIZATION OF ETCHED, INJECTION MOLDED PARTS BEFORE A FOLLOW UP ELECTROPLATING PROCESS
4:30 pm - 5:00 pm	Jens P. Siepmann, University of Duisburg-Essen Multilayer Injection Molding of Thick-Walled Optics Using Dynamic Mold Tempering and Optimized Layer Thickness Distribution
5:00 pm - 5:30 pm	Malte Röbig, Institut of Plastics Processing (IKV) in Industry and the Skilled Crafts at RWTH Aachen University USING MAGNETO-ARCHIMEDES LEVITATION FOR NON-INVASIVE CHARACTERIZATION OF INJECTION MOLDED PARTS
5:30 pm - 6:00 pm	Peng Zhao, Associate Professor, Zhejiang University Verification of Numerical and practical approach in implementing PVT Properties of Polymer to control to control shrinkage quality of molded
1:30 pm - 6:00 pm	Tzu-Hsiang Wei, Ph.D Student, Chung Yuan Christian University W17-Medical Plastics: Materials and Processing for Medical Applications(Moderators: Vipul Dave and Amin Sedighiamiri)-Room S322
1:30 pm - 2:00 pm	<i>KEYNOTE:Medical Tubing Process Optimization with Simulation</i> John Perdikoulis, President, Compuplast International Inc.
2:00 pm - 2:30 pm	SYSTEMS ENGINEERING FOR MEDICAL DEVICE DEVELOPMENT: APPLICATION TO INSULIN PUMPS Marc Horner, ANSYS,Inc.
2:30 pm - 3:00 pm	Effects of the Biological Environment on Thermoplastic Polyurethanes Ajay Padsalgikar, Senior Principal Scientist, Abbott
3:00 pm - 3:30 pm	Accounting for Differences in Modulus and Stress Relaxation Behavior in Plastics Undergoing Chemical Resistance Testing Mark Yeager, Field Engineering Manager, Covestro LLC
3:30 pm - 4:00 pm	Degradation Products of Medical Devices in Complex Biological Environments: Risk Assessment Strategies Adam Kozak, Cambridge Polymer Group
4:00 pm - 4:30 pm	ACCELERATED AGING OF MEDICAL-GRADE RESINS: Q10 FACTORS AND MATERIAL AGING MODELS Rob Klein, Stress Engineering Services

4:30 pm - 5:00 pm	Engineered Polymer Surfaces for Superior Performance in Pharmaceutical Applications Steve Banko, Director of Healthcare , Inhance Technologies
5:00 pm - 5:30 pm	Supercritical Carbon Dioxide Assisted Extrusion of Graphene Nanofiller Reinforced Polymers for Biomedical Applications Austin Coffey, Senior Member of Lecturing Staff & Principal Investigator , Waterford Institute of Technology
5:30 pm - 6:00 pm	The regulation of micro-super-hydrophobic silicone rubber to the behavior of human lens epithelial cells Liuxueying Zhong, State Key Laboratory of Ophthalmology, Zhongshan Ophthalmic Center, Sun Yat-sen University, Guangzho
1:30 pm - 6:00 pm	W18-Technical Marketing: Polymer Analysis(Moderator: Mark Spalding)-Room S320C
1:30 pm - 2:00 pm	Laboratory Weathering for Plastics Andy Francis, Weathering and Corrosion Projects Manager, Q-Lab
2:00 pm - 2:30 pm	ACCELERATED WEATHERING INSIGHTS INTO ASA POLYMER UV RESISTANCE: Xenon vs QUV vs Florida and Arizona Steven Blazey, A. Schulman, Inc.
2:30 pm - 3:00 pm	The Importance of How Online Rheometers Accurately Indicate Melt Flow Rate in an Extruder Catherine Lindquist, Dynisco
3:00 pm - 3:30 pm	Characterization of Cure of Polymeric Material by Dielectric Analysis (DEA) Yanxi Zhang, Technical Sales Support, NETZSCH INSTRUMENTS NORTH AMERICA, LLC
3:30 pm - 4:00 pm	Optical Metrology for Stress Determination Steven Danyluk, Polaritek Systems, Inc.
4:00 pm - 4:30 pm	Leveraging Advanced Edge Analytics for Improved Fault Detection in Discrete Manufacturing Processes Andrew Wilson, Product Marketing Specialist, MKS Instruments, Inc
4:30 pm - 5:00 pm	The New Discovery DMA850 from TA Instruments Greg Kamykowski, SPE
5:00 pm - 5:30 pm	3D Line Confocal Imaging: New High-Resolution Sensor Technology for Challenging Online & Offline Plastic Measurement Applications Juha Saily, Technical Sales and Marketing Professional, FocalSpec, Inc.
5:30 pm - 6:00 pm	75% of ERP Fail - How to avoid it Pierre Maillet, President, CyFrame
1:30 pm - 4:30 pm	W19-New Technology Forum: Safety and Sustainability in Construction(Moderator: Mark Barger)-Room S320G
1:30 pm - 2:00 pm	Towards a Lightweight Ontology: Carbon to Building Mark Goulthorpe, Associate Professor, Massachusetts Institute of Technology
2:00 pm - 2:30 pm	Achieving International Building Code Recognition of Polymeric Building Materials: Fire Performance Requirements

2:30 pm - 3:00 pm	Nicholas Dempsey, Professor, Worcester Polytechnic Institute Designing for fire safety – considerations for product development
3:00 pm - 3:30 pm	Christine Lukas, Product Stewardship & Fire Safety , Dow Chemical Services Toward Intelligent Design of Fire-safe Polymeric Products
3:30 pm - 4:00 pm	Stanislav Stoliarov, University of Maryland Reinforced Polymer Composites for Civil Infrastructure
4:00 pm - 4:30 pm	Hota Gangarao, Maurice A. & JoAnn Wadsworth Distinguished Professor of Civil and Environmental Engineering, West Virginia University Panel: Safety and sustainability in Construction: Challenges and Opportunities for Plastics
4:30 pm - 6:30 pm	W20-Building and Infastructure(Moderator:Eugene Yang)-S320G
4:30 pm - 5:30 pm	<i>KEYNOTE: Design Knock-Down Factors on Polymer Composites Under Harsh Environments</i> Hota Gangarao, Maurice A. & JoAnn Wadsworth Distinguished Professor of Civil and Environmental Engineering, West Virginia University
5:30 pm - 6:00 pm	Film Technologies for Advancing Building Skin Features Sebastian Zehentmaier, Application Engineering Specialist, 3M
6:00 pm - 6:30 pm	CORROSION INHIBITION MODEL FOR ALUMINIUM BY SODIUM CABOXY METHYL CELLULOSE (POLYMER) IN ACIDIC SOLUTION Macdenis Egbuhuzor, Technologist in Charge of Process Laboratory, University of Nigeria nsukka