8:00 am - 11:00 am
Extrusion- Tutorials I
JW Grand Ballroom 7
Moderator: Adam Dreiblatt
Specification of Twin Screw Extruders
Adam Dreiblatt, Director of Process Technology, CPM Century Extrusion
Melting Mechanisms: Single vs. Co-rotating Twin-screw Extruders
Gregory Campbell, Castle Associates
Paul Andersen, Coperion
SPECIFIC MECHANICAL ENERGY AS A PARAMETER FOR CORRELATING
PROCESS CHARACTERISTICS AND MATERIAL RESPONSE IN MELT
9:30 am - 10:00 am
10:00 am - 10:30 am
COMPOUNDING AND REACTIVE EXTRUSION OPERATIONS
Joe Golba, Lead Scientist - Reactive Extrusion, PolyOne Corporation
Model-Based Inferential Sensing of Melt Flow Rate In Polymer Compounding Operations

10:30 am - 11:00 am
Costas Tzoganakis, Professor, University of Waterloo
Applying Ludovic 1D Twin Screw Extrusion Simulation for the Analysis and Scale-Up of Melt Compounding and Reactive Extrusion Processes

8:00 am - 11:00 am
Extrusion- Tutorials II
JW Grand Ballroom 8

8:00 am - 8:30 am
A SHORT REVIEW OF RHEOLOGY PRINCIPLES OF MOLTEN POLYMERS FOR EXTRUSION APPLICATIONS
Olivier Catherine, Technical Director, Cloeren

8:30 am - 9:00 am
A New Software for Optimization of Extrusion Dies
Mahesh Gupta, Michigan Tech University

9:00 am - 9:30 am
Understanding Materials and Equipment as a Film Processor
Karen Xiao, Celgard, LLC

9:30 am - 10:00 am
Compounding Process 3D Simulation Tutorial
Philippe David, General Manager, SCC

10:00 am - 10:30 am
Fundamental of Single Screw Extruders
Hassan Eslami, Macro Engineering and Technology

10:30 am - 11:00 am
Trouble shooting Multilayer coextrusion systems
Eldridge Mount III

8:30 am - 10:30 am
New Technology Forum- Macromolecules in Medical and Healthcare Applications
White River C/D
Moderator: Len Czuba

8:30 am - 9:00 am
The Future of Plastics in Orthopedics
Jordan Freedman, Research Manager - Biomaterials, Zimmer Biomet, Inc.

9:00 am - 9:30 am
The Development of an Artificial Meniscus Using Medical Grade Plastics
Jack Farr, Vice President, Clinical and Regulatory Affairs, Active Implants

9:30 am - 10:00 am
The Red Queen: Antimicrobial Challenges in Medical Devices
10:00 am - 10:30 am  
Peter Gabrielle, Vice President, Research and Development, Secant Medical  
Novel Applications of Polymers for Medical and Pharmaceutical Product Concept

Vipul Dave, Enterprise Resin Director & Fellow, Plastics Category, Medical Device Supply Chain, Johnson & Johnson  

8:30 am - 11:30 am  
**Alloys and Blends- Design, Performance and Characterization of Advanced Engineering Blends**  
Room 305/306  
Moderator: Rubinder Kaur Lakhman

8:30 am - 9:00 am  
Comparative Analysis of Low-Smoke, Zero-Halogen Compounds for Wire and Cable Applications  
Jon Malinoski, General Cable  

9:00 am - 9:30 am  
INFLUENCE OF FILLER DISPERSION ON ELECTRICAL AND RHEOLOGICAL PROPERTIES OF PC/SAN BLENDS WITH GRAPHITE NANOPLATES OR EXPANDED GRAPHITE  
Petra Potschke, IPF Dresden  

9:30 am - 10:00 am  
FIRE SURVIVAL CABLE: UNDERSTANDING OF LAB SCALE TO MANUFACTURING SCALE CABLE VALIDATION  
Sathish Kumar Ranganathan, Lead Engineer, General Cable  

10:00 am - 10:30 am  
The Surface Resistance Value and Physical Properties of Conductivity Fiber Filler-compounded PES OPTIMIZATION OF MECHANICAL PERFORMANCE AND MISCIBILITY OF RECYCLED PET AND PC BLENDS BY VENTED INJECTION MOLDING  
Supaphorn Thumsorn, Researcher, Kyoto Institute of Technology  

10:30 am - 11:00 am  
EFFECTS OF REACTIVE POLYMER AS MODIFIER ON IMPACT STRENGTH AND HYDROLYTIC STABILITY OF PC/ABS BLEND  
Kohhei Nishino, Denka Company Limited  

11:00 am - 11:30 am  
The Surface Resistance Value and Physical Properties of Conductivity Fiber Filler-compounded PES  
Hiroyuki Hamada, Professor, Kyoto Institute of Technology  

9:00 am - 11:00 am  
**Applied Rheology-Assessing Processibility II**  
Room 309/310  
Study on Extrudate Swell of High-Density Polyethylenes in Slit (Flat) dies  
Vinod Kumar Konaganti, University of British Columbia  

9:00 am - 9:30 am  
THERMAL AND TIME-DEPENDENT RHEOLOGICAL STABILITY BEHAVIOR OF
POLYACRYLONITRILE WITH VARIOUS PLASTICIZERS

Jianger Yu, Virginia Tech
Determination of the Geometrical and Non-newtonian Correction Factors for the Calculation of Viscosity Function Using Screw Rheometers Applying the Self-consistent Method

Myung-Ho Kim
Non-Traditional uses for a capillary rheometer

Tim Haake, General Manager, Goettfert
Injection Molding - Troubleshooting & Processing
White River A
Moderator: David Okonski

TROUBLESHOOTING AND APPROPRIATE MAINTENANCE IN INJECTION MOLDING

Kenny Saul, Managing Director, SHS plus GmbH
Weld lines in injection molded parts - strength, morphology and improvement

Ines Kuehnert, Leibniz-Institut fuer Polymerforschung Dresden e.V.
Trouble Shooting Hot Tip Induced Polycarbonate Splay

Jeremy Dworshak, Steinwall
The Melt Temperature Variation in the Barrel of Injection Molding Machine

JooHyeong Jeon, Ajou University
Design Optimization of the Layout of the Heating/Cooling Pipes of Rapid Heat Cycle Molding

Yanjin Guan, Shandong University
EFFECT OF GAS COUNTER PRESSURE(GCP) ON SHRINKAGE AND RESIDUAL STRESS

Wen-Ren Jong, Department of Mechanical Engineering, Chung Yuan Christian University
Development of an Inline Plasma Treatment during Injection Molding Process

Timo Nordmeyer, University of Paderborn
MICROINJECTION MOLDING: INFLUENCE OF MOLDING PARAMETERS ON THE ELECTRICAL CONDUCTIVITY OF POLYPROPYLENE FILLED WITH MULTI-WALLED CARBON NANOTUBES

Shengtai Zhou, University of Western Ontario
8:30 am - 11:00am
Injection Molding: Simulation 3
White River B
Moderator: Lynzie Nebel

8:30 am - 9:00 am
TWO-SHOT OVERMOLDING COOLING SIMULATION
Lu Chen, Autodesk

9:00 am - 9:30 am
Validation of Numerical approach and experiment in Metal Powder Molding by Using Injection Compression Technology
Kuan-Hua Lee, Chung Yuan Christian University

9:30 am - 10:00 am
SIGMASOFT® Virtual Molding: A New Approach to Resin Selection
Gabriel Geyne, SIGMASOFT Virtual Molding

10:00 am - 10:30 am
NUMERICAL SIMULATION FOR INSERT INJECTION MOLDING OF ONE-CONSTITUENT POLYPROPYLENE SINGLE-POLYMER COMPOSITES
Nannan Jiang, Beijing Institute of Technology

10:30 am - 11:00 am
ACCURATE THREE DIMENSIONAL COOLING SIMULATION OF THE GAS-ASSISTED PLASTIC INJECTION MOLDING PROCESS
Clinton Kietzmann, Autodesk Australia

8:00 am - 11:30 am
Plastics in Building and Construction Session
White River H
Moderator: Mahesh Narkhede

8:00 am - 9:00 am
Keynote - Novel Applications of Polymer Composites for Navigational Structures
Hota GangaRao, West Virginia University

9:00 am - 9:30 am
POLYSTYRENE FOAM INSULATION: IMPLEMENTATION OF ALTERNATE SUSTAINABLE FLAME RETARDANT
Shari Kram, Dow Chemical Co.

9:30 am - 10:00 am
IONOMERS AS SMART VAPOR BARRIERS FOR BUILDING APPLICATIONS
John Bishop, DuPont

10:00 am - 10:30 am
ADVANCES IN STRUCTURAL ADHESIVES FOR BUILDING AND CONSTRUCTION APPLICATIONS
Matt Kalinowski, Dow Chemical

10:30 am - 11:00 am
Impact Modeling of Single-Ply TPO Roofing Systems
Tianyi Luo, Lehigh University

11:00 am - 11:30 am
Flexible Acrylic Resin Technology
8:00 am - 11:00 am

**Composites - NDI and Processing**

Hailan Guo, Research Scientist, Dow Chemical Company

**Moderator: Ray Boeman**

8:00 am - 9:00 am

Recent Efforts on the Use of Focused Ultrasound to Identify Lamina/Laminate Information for Carbon Fiber Reinforced Laminated Composites

David Jack

**NON-DESTRUCTIVE TESTING OF COMPOSITES BY ROBOT SUPPORTED AIR-COUPLED ULTRASOUND**

9:00 am - 9:30 am

Yannick Bernhardt, University of Stuttgart, Germany

**NON-DESTRUCTIVE TESTING OF CFR-TAPES WITH THERMOPLASTIC MATRIX USING AIR-COUPLED ULTRASOUND**

10:00 am - 11:00 am

Morphology and strength of die-drawn porous sheets from filled polypropylenes

Krishnamurthy Jayaraman, Professor, Michigan State University

**IMPROVING ADHESION BETWEEN KEVLAR®129 FIBERS AND NATURAL RUBBER MATRIX USING MORPHOLOGICAL TREATMENTS AND COUPLING AGENTS**

8:30 am - 11:30 am

**Engineering Properties and Structure: Recycling and Scratch**

Room 103/104

Moderator: Steve Driscoll
Moderator: Luyi Sun

8:30 am - 9:00 am

Probing the Assembly, Conformation, and Thermodynamics of Thermoresponsive Poly(N-isopropylacrylamide) (PNIPAM) by Small-Angle Neutron Scattering

Michael J. A. Hore, Assistant Professor, Case Western Reserve University

9:00 am - 9:30 am

Quantification of Branching and Network Structure

Gregory Beaucage, University of Cincinnati

9:30 am - 10:00 am

Comparison of Non-Isothermal Crystallization Kinetics for Semi-Linear and Linear Polyphenylene Sulfide (PPS) and Effect on Simulated Crystallinity Gradient

Jayson Humble, A. Schulman

10:00 am - 10:30 am

Use of Conductive AFM for Composites of PP Modified with Carbon Nanofillers

Vicki Flaris, Bronx Community College

10:30 am - 11:00 am

RUBBER TOUGHENED POLYLACTIDE (PLA) VIA CATALYZED EPOXY-ACID
INTERFACIAL REACTION

Christopher Thurber, Senior Engineer, Dow Chemical Company
Effect of anhydride type on structure and thermal properties of poly(propylene carbonate) composites produced by reactive extrusion

Guo Jiang, South China University of Technology
Thermoplastic Materials and Foams- Foaming Fundamentals and Processes
White River J
Moderator: Arron Guan

Determination of CO2 Solubility and Volume Swelling in PMMA in Light of Retrograde Vitirification
No location
Syed Mahmood, Ph.D Student, University of Toronto
Critical Parameters of Generating PMMA Nanocellular Foam

Shu-Kai Yeh, Assistant Professor, National Taiwan University of Science and Technology
ENHANCED PROPERTIES OF ORIENTED MULTILAYER POLYPROPYLENE FILM/FOAMS

Andy Olah, Case Western Reserve University
EXTRUSION FOAMING OF LLDPE/WOOD FIBER COMPOSITES

Gangjian Guo, Bradley University
APPLICATION OF AIR GAP TO ENHANCE ACOUSTIC PERFORMANCE OF BIO-BASED PLA FOAMS

Shahrzad Ghaffari, University of Toronto
DYNAMIC SOLUBILITY OF CARBON DIOXIDE IN POLYPROPYLENE MELT

Alireza Tabatabaei, Ph.D Student, University of Toronto
MODELING OF THE FIBER ORIENTATION IN POLYMER/FIBER COMPOSITE FOAMS

Vahid Shaayegan, University of Toronto
Polymer Analysis Session: Spectroscopy
Room 302/303
Moderator: Joel Lischefski

Determination of the compositions of fully biodegradable ternary blends with near-infrared spectroscopy
Ruhuang Chen, South China University of Technology
RAPID SPECTRAL MEASUREMENT OF THE MECHANICAL PROPERTIES OF
POLYPROPYLENE RECOVERED FROM SHREDDED END-OF-LIFE VEHICLES

Brian Riise, Director of Research and Development, MBA Polymers Inc.
Molecular weight analysis of polyethylenimine using dynamic light scattering and gel permeation chromatography with multi-angle light scattering detector

9:00 am - 9:30 am

Wen-Shiue Young, Dow Chemical
Surface mechanicals and microscopy methodologies for coating characterization

9:30 am - 10:00 am

Subhransu Mohapatra, Lead Scientist, SABIC

Bioplastics Session

White River I

Production of In Situ Microfibrillar Composites as a Novel Approach Towards Improved Bio-Based Polymeric Products

8:30 am - 11:00 am

Chul Park, Distinguished Professor, University of Toronto
Fabrication and Characterization of Bio-based PCM Microcapsules for Thermal Energy Storage

9:00 am - 9:30 am

Maryam Fashandi, York University

Bioplastics Session

EFFECT OF MINERALS ON RHEOLOGICAL AND THERMAL BEHAVIOR OF PLA/PMMA BLENDS

9:30 am - 10:00 am

Mauricio Gonzalez, Ph.D Student, Université de Sherbrooke
MECHANICAL PROPERTY AND FRACTURE ANALYSIS OF WOOD POWDER/PP COMPOSITE MOLDED BY INJECTION MOLDING

10:00 am - 10:30 am

Zhiyuan Zhang, Researcher, Daiwa Itagami
MODERN FABRICATION OF POLY(LACTIC ACID) NANOFIBERS BY COTTON CANDY METHOD

10:30 am - 11:00 am

Supaphorn Thumsorn, Researcher, Kyoto Institute of Technology

Automotive Division Session I

Room 101
Moderator: Suresh Shah

8:30 am - 9:30 am

Keynote: Recent Plastics Innovative Awards in Automotive Industry

Suresh Shah, Retired, Delphi

9:30 am - 10:00 am

Fabrication of Glass mat Thermoplastic composite by Needling Punching Process

10:00 am - 10:30 am

Yuying Dong, Student, Donghua University
Vehicle Lightweighting and Improved Crashworthiness – Plastic/Metal Hybrid Solutions for
10:30 am - 11:00 am

BIW

Amit Kulkarni, Sr. Manager, Technology & Innovation, Automotive, Sabic
Automotive glazing-Polymeric systems providing enhanced design freedom & functionality

Harindranath Sharma, SABIC