HOTEL & TRANSPORTATION
A variety of hotels are available at different prices. Note that all hotel accommodations are handled for this event by the NPE Housing Team. Free shuttle bus service is available from NPE2015 designated hotels and the Convention Center Monday through Friday (March 23-27) starting at 7:30 a.m. Routes and map are available through the link below. The local airport is Orlando International (MCO); for travel information, including air travel, car rental as well as airport shuttle, visit: http://www.npe.org/general-information/travel-and-housing

REFUND & CANCELLATION POLICY
Refunds will be granted through February 27, 2015 less a $100 processing fee. No refunds granted after the February 27th deadline. Registration may be transferred to an alternate person if requested. For cancellations or transfer of registration, contact SPE Customer Relations: +1 203.775.0471

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Braskem
SUNDAY, MARCH 22

12:30pm-2:30pm: Leadership Awards & Luncheon | Room: S331CD
Join SPE as we recognize significant contributions made to the Society and the plastics industry. Honored at this event will be our top four awards as well as the SPE President’s Cup, HSM, Fellow, Pinnacle, Committee and other yearly awards. We will also include the President’s Pin Ceremony as our incoming President takes his post.

<table>
<thead>
<tr>
<th>International Award</th>
<th>Business Management Award</th>
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<tbody>
<tr>
<td>Richard Spontak</td>
<td>Charles Sholtis</td>
</tr>
<tr>
<td>North Carolina State University</td>
<td>Plastic Molding Technology Inc.</td>
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<tr>
<th>Education Award</th>
<th>Research/Engineering Technology Award</th>
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<tbody>
<tr>
<td>Sarah Morgan</td>
<td>Suresh Shah</td>
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<tr>
<td>University of Southern Mississippi</td>
<td>Delphi Corporation (Retired)</td>
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</tbody>
</table>

The four awards noted above will be presented at the Hall of Fame Reception and Ceremony on Sunday night in the Linda W. Chapin Theatre at the Orange County Convention Center. Further information is online at: [http://www.plasticsindustry.org/HallofFame2015](http://www.plasticsindustry.org/HallofFame2015).
$55 entry fee for guests.

5:00pm-6:00pm: Mission Possible – Student Focus Group | Room: S331AB
*Sponsored by the SPE Next Generation Advisory Board*

MONDAY, MARCH 23

8:30am-6:00pm: ANTEC® Student & Professional Poster Sessions | Room: S320 Pre-Function
This year in digital format – all posters will be presented by students and industry professionals on flat screens in tandem with the technical sessions.

9:00am-11:00am: Panel - 360° Leadership for Young Professionals | Room: S330E
Hear experiences of how other young professionals moved to management positions in the plastics field during this interactive session.

11:00am-12:30pm: Technical Plenary Session & SPE Annual Business Meeting
Room: S330ABCD
*The Role of Nanotechnology in Current and Future Space Missions*
Michael Meador, NASA’s Manager of Game Changing Development Program’s Nanotechnology Project & Chief of the NASA Glenn Polymers Branch

1:30pm-5:00pm: New Technology Forum | Room: S330AB
*Innovating Within a Global Compliance Environment*
Presented by speakers from UL, REACH (ECHA), PolyOne, FAA, FDA

1:30pm-6:00pm: Fundamentals in Plastics | Room: S320H
Presented by speakers from SPE’s Fellows, a learning session from direct experiences

2:30pm-4:30pm: Panel – Technical Entrepreneurship | Room: S330H
How do you research, finance, and market your business ideas?
TUESDAY, MARCH 24

9:00am-4:00pm: Plastics for Life™ | Room: S320 Pre-Function
View the display of winning parts submitted from other SPE parts competitions, and vote for People's Choice award!

10:00am-4:00pm: The Plastics Race | Room: S330F
Teams will race to the finish and vie for amazing while learning & responding to randomly generated questions in this new twist on the scavenger hunt. $20 entry-fee per person. **Sponsored by the SPE Next Generation Advisory Board**

11:30am-12:30pm: Special 3-D Plenary Session | Room: S330AB
*Injection Moulding Without a Mould: ARBURG Plastic Freeforming for Additive Manufacturing of One-of-a-Kind Parts and Small Batches*
Heinz Gaub, Managing Director Technology & Engineering, ARBURG

1:30pm-5:00pm: New Technology Forum | Room: S330AB
*3-D Printing With a Focus on Material Development*
Presented by speakers from Shapeways, Materialise, ARBURG, Oak Ridge, Teknor Apex

WEDNESDAY, MARCH 25

8:30am-12:00pm: Plastics University | Room: S331C
**Sponsored by the SPE Next Generation Advisory Board**

8:30am-12:00pm: New Technology Forum | Room: S330F
*Advances in Batteries and Super-Capacitors*
Presented by speakers from LBNL, University Missouri-Columbia, Exponent, Blue Spark Technologies, Wildcat Discovery Technologies

9:00am-4:00pm: Plastics for Life™ | Room: S320 Pre-Function
View the display of winning parts submitted from other SPE parts competitions, and vote for People's Choice award!

1:30pm-5:00pm: 3D Super Session – New Advances in Additive Manufacturing/3D Printing | Room: S319
Organized by the SPE Additive Manufacturing/3Dp Working Group

2:30pm-5:00pm: Student Speed Interview Session | Room: S331AB
**Sponsored by the SPE Next Generation Advisory Board**

3:00pm-4:00pm: Press Conference & Plastics for Life™ Parts Competition Awards | Room: S320 Pre-Function
Join us by the parts display as our CEO, Willem DeVos, gives up-to-the-minute announcements and we announce the winners to the 2015 Plastics for Life™ competition. At this time, we will also draw one entry from the People's Choice submissions for each of the two days for $100 AMEX cards. **Must be present to win.**
The National Nanotechnology Initiative was established in 2000 under an Executive Order by President Bill Clinton. Since its inception, NNI member agencies have invested a combined total of $20B in nanotechnology R&D, the development of user facilities and training and education. NASA was a founding member of the NNI and has a rich legacy of research in the development of nanoscale materials, nanoelectronics and nanotechnology based sensors. Nanoscale materials and devices have flown in space. Carbon nanotube augmented composites were used for electrostatic charge dissipation on engine covers and struts for the Juno mission. Aerogels have been used as thermal insulation for the batteries on Mars rovers and as a capture medium for comet dust particles in the Stardust mission. A carbon nanotube based “electronic nose” sensor was flown on the International Space Station in 2007 and demonstrated as a trace gas sensor. This presentation will provide an overview of the NNI and some of its accomplishments discuss future needs for nanotechnology in NASA missions and provide some examples of current nanotechnology R&D supported by NASA.

Michael A. Meador is the Director of the National Nanotechnology Coordination Office (NNCO) in the White House Office of Science and Technology, responsible for providing technical and executive leadership to the NNCO, assisting the co-chairs of the Nanoscale Science, Engineering and Technology Subcommittee (NSET) in meeting the individual nanotechnology goals of their agencies and the National Nanotechnology Initiative (NNI), and in promoting the goals of the NNI to the Executive Office of the President, advisory boards, industry, academia and other stakeholders.
Injection Moulding Without a Mould: ARBURG Plastic Freeforming for Additive Manufacturing of One-of-a-Kind Parts and Small Batches

Heinz Gaub, Managing Director Technology & Engineering, ARBURG

ARBURG has developed a new industrial additive manufacturing technology from the perspective of a machine manufacturer: ARBURG Plastic Freeforming (APF) and the freeformer. The system operates on the basis of standard plastic granulates without requiring a mould. Taking 3D CAD data as a starting point, one-off parts and small-volume batches can be efficiently manufactured in production quality.

As with injection moulding, the key to the patented process is the melting of standard plastic granulates. The liquid melt is then used to produce tiny droplets, building up the part layer-by-layer as is typical with additive manufacturing. The price of standard plastic granulates is comparatively low and a wide variety of materials are available (e.g. ABS, PC, PA and TPE). APF allows a homogeneous layered structure to be achieved, resulting in excellent mechanical part properties. Moreover, the freeformer can process two colours of the same material or even two materials in combination, e.g. in order to produce hard/soft combinations in one part. Special water-soluble support materials even make it possible to achieve highly complex part geometries including overlays and recesses not manufacturable otherwise.

Heinz Gaub studied mechanical engineering, specialising in production technology, at the Technical University of Berlin, as well as completing an MSc at the Massachusetts Institute of Technology (USA). He has since gained 15 years of experience in executive positions at medium-sized industrial companies, four years in management at the German Standardisation Institute (DIN) in Berlin, as well as providing consulting to holding companies as an independent industry expert. Since 2014 Heinz Gaub is Managing Director Technology & Engineering at ARBURG.
Advanced Energy SIG024
Yuanqing (Emily) He, SABIC

Alloys and Blends SIG010
Srinivas Siripurapu, General Cable

Applied Rheology SIG013
Teiqi Li, NOVA Chemicals

Automotive D31
Anthony Gasbarro, Marubeni Specialty Chemicals

Bioplastics SIG028
Abhishek Ambekar, Celanese

Blow Molding D30
George Hurden, Kautex Group & Ken Carter, John Deere

Color and Appearance D21
Austin Reid, Dupont & Bruce Mulholland, Celanese

Composites D39
James Griffing, Boeing

Decorating and Assembly D34
Dwayne Wasylyshyn, BlackBerry & Ken Holt, Dukane

Electrical and Electronic D24
Amod Ogale, CAEFF

Engineering Properties and Structure D26
Kaan Gunes, Eastman Chemical, Rishi Kumar, University of Akron & Thomas Ooman

Extrusion D22
Dan Smith, Maag Pumps & David Anzini, Zip-Pak

Failure Analysis and Prevention SIG002
Jennifer Hoffman, AirXpanders

Flexible Packaging D44
Paul Zerfas, Mondelez International

Fundamentals Forum
Len Czuba, Czuba Enterprises

Injection Molding D23
Ray McKee, Sonoco Products

Joining of Plastics and Composites SIG012
Sergio Amancio, Helmholtz-Zentrum Geesthacht

Marketing and Management SIG031
Bonnie Bachman, Missouri University of Science & Technology & Maggie Baumann

Medical Plastics D36
Pierre Moulinie, Bayer

Mold Making and Mold Design D35
Cyndi Kustush, Progressive Components
New Technology Forum
Roger Avakian, PolyOne

NGAB
Sergio Sanchez, Boeing

Non-Halogen Flame Retardants SIG030
Roger Avakian, PolyOne

Plastic Pipes and Fittings SIG021
Sarah Patterson, Plastic Pipe Institute

Plastics Educators SIG018
Brad Johnson, Penn State Erie

Plastics Environmental D40
Louis Reifschneider, Illinois State University

Plastics in Building and Construction SIG027
Tammy Yang, GAF, Frank Popola, & Mark Barger, The Dow Chemical Company

Polymer Analysis D33
Joel Lischefski, Teel Analytical Labs & Xue (Ida) Chen, The Dow Chemical Company

Polymer Modifiers and Additives D38
Baris Yalcin, 3M

Process Monitoring and Controls SIG016
Yi Yang, Zhejiang University

Product Design and Development D41
Mike Lacey, TRABTECH & Mark Maclean-Blevins, Maclean-Blevins and Associates

Rotational Molding D42
Denis Rodrigue, Universite Laval

Students
Brian Young, Penn State Erie

Thermoforming D25
Brian Winton, Lyle Industries

Thermoplastic Materials and Foams D29
Dale Grove, USSilica

Thermoset D28
Amit Chaudhary, The Dow Chemical Company

Vinyl Plastics D27
Emily McBride, Emerald Kalama Chemical & Kasper Van Veen, Vintex

ANTEC 2014-2015 TPC
Joseph Golva, PolyOne

ANTEC 2016 TPC
Donna Davis, ExxonMobil

ANTEC 2017 TPC
Edwin Tam, Teknor Apex

ANTEC TPC Mentor
Mark Spalding, The Dow Chemical Company
## M1 Bioplastics

**Bioplastics Session**
**Moderator: Doug Hirt**
**Room S319**

### 8:30
**SOY- AND BIOCHAR-BASED FERTILIZER**
2137259 | Jake Behrens, Iowa State University

### 9:00
**SYNTHESIS AND CHARACTERIZATION OF BIOPOLYESTERS FROM REFINED CRUDE GLYCEROL AND SUCCINIC ACID**
2086268 | Oscar Valerio, University of Guelph

### 9:30
**VEGETABLE-BASED COPOLYMERS BASED ON BLEND OF ACRYLATED EPOXIDIZED SOYBEAN OIL AND TUNG OIL**
2091712 | Samy Madbouly, Iowa State University

### 10:00
**BIoplastics for Solar Thermal Applications: Potential of Bio-Poly(Ethylene) and Poly(Trimethylene Terephthalate) for Swimming Pool Solar Collectors**
2090947 | Andrea Klein, Montanuniversitaet Leoben

## M2 Color and Appearance

**Colored Resin Topics**
**Moderator: Jack Ladsen**
**Room S330F**

### 8:30
**Introduction to Color Theory**
**Keynote** | Bruce Mulholland, Celanese

### 9:30
**Formulation Strategy to Achieve Highly Colorable and Weatherable ASA**
2139678 | Steve Blazey, A.Schulman, Inc.

### 10:00
**Colorant Solutions to Meet Global Packaging Regulations**
2098608 | Sharon Ehr, Uniform Color Company

## M3 Composites

**Thermoplastic Composites I**
**Moderator: Antoine Rios**
**Room S320A**

### 8:30
**Wall Thickness Distribution of Continuous Glass Fiber Reinforced Polyamide 6 Composite Parts Formed by Gas Pressure**
2089749 | Christian Gröschel, Institute of Polymer Technology

### 9:00
**Matrix Effects on Long Fiber Orientation Distributions Within Injection Molded End-Gated PLAQUES**
2095105 | Kevin Herrington, Virginia Tech

### 10:00
**Effects of Processing Parameters on Experimental Fiber Orientation of Glass Fiber-Reinforced Injection Molded Composites**
2134930 | Rebecca Minnick, Virginia Tech.
10:30
EFFECT OF VARIABLE FIBER ORIENTATION ON MATERIAL PROPERTIES IN EXTRUDED POLYMER COMPOSITES WITH MULTI-SCALE ADDITIVES
2136131 | Jason Nixon, University of Maryland, College Park

M4 Composites/Engineering Properties and Structure, Nanostructures, Properties, and Applications
Moderators: Nikhil Verghese & Daniel Liu
Room S320B

8:30
THE POTENTIAL FOR GRAPHENE NANOPLATELETS TO REINFORCE AND ADD MULTIFUNCTIONALITY TO POLYMERS AND COMPOSITES
KEYNOTE | Lawrence Drzal, Michigan State University

9:00
EFFECT OF INTERPHASE MODULATION AND ORIENTATION ON DIELECTRIC PROPERTIES OF PET/P(VDF-HFP) MULTILAYER FILMS
2093278 | Kezhen Yin, Case Western Reserve University

9:30
CHANGEABLE THERMAL MANAGEMENT FOR LED-LIGHTING
2094975 | Florian Mieth, University of Kassel

10:00
COMPOSITES FOR SHIELDING ELECTROMAGNETIC RADIATION
2096659 | Veronika Vogel, Robert Bosch GmbH

10:30
SYNTHESIS OF LIGNIN BASED CARBON PARTICLES AND THEIR PERFORMANCE AS FILLERS IN BIONANOCOMPOSITES
2086363 | Michael Snowdon, University of Guelph

8:30
EFFECTS OF CYCLOALKYL CARBOXYLIC ACID DERIVATIVES AS COADSORBENTS ON THE PHOTOVOLTAIC PERFORMANCE OF DYE-SENSITIZED SOLAR CELLS
2085145 | Hiroaki Matsuyoshi, Osaka Gas Co., Ltd.

9:00
EFFECT OF INTERPHASE MODULATION AND ORIENTATION ON DIELECTRIC PROPERTIES OF PET/P(VDF-HFP) MULTILAYER FILMS
2093278 | Kezhen Yin, Case Western Reserve University

9:30
CHANGEABLE THERMAL MANAGEMENT FOR LED-LIGHTING
2094975 | Florian Mieth, University of Kassel

10:00
COMPOSITES FOR SHIELDING ELECTROMAGNETIC RADIATION
2096659 | Veronika Vogel, Robert Bosch GmbH

10:30
COEXTRUSION PROCESSING OF MULTILAYERED DIELECTRIC POLYMERIC FILMS
2097411 | Deepak Langhe PolymerPlus LLC

M6 Engineering Properties and Structure
Structure Properties
Moderators: Mridula (Babli) Kapur & Stephen Driscoll
Room S320C

8:30
DEVELOPMENTS IN THE PRODUCTION OF HIGH SURFACE AREA FIBERS AND NONWOVENS FOR FILTRATION
KEYNOTE | Benham Pourdeyhimi, NC State University
9:00
MODELLING HAZE AND TRANSMISSION OF TRANSPARENT FILLED SYSTEMS IN DEPENDENCE OF FILLER SURFACE AREA, REFRACTIVE INDEX DIFFERENCE AND WAVELENGTH
2095371 | Wolfgang Wildner, Institute of Polymer Technology

9:30
DEFORMATION MEASUREMENT, MODELING AND MORPHOLOGY STUDY FOR HDPE CAPS AND CLOSURES
2095382 | XiaoChuan Wang, NOVA Chemicals

10:30
MORPHOLOGY CONTROL AND STABILITY IN POLYMER ORGANIC PHOTOVOLTAICS
INVITED | Sarah Morgan, University of Southern Mississippi

M7 Extrusion
Mixing/Compounding
Moderator: Greg Campbell
Room S320E

8:30
A REVIEW OF SOME IMPORTANT MIXING PROCESSES FOR SINGLE-SCREW EXTRUDERS
2118661 | Gregory Campbell, Castle Research

9:30
THE EFFECTS OF PARTICLE TYPE, SIZE AND COMPOUNDING CONDITIONS ON THE UV DURABILITY OF THERMOPLASTIC ELASTOMERS
2098279 | Mark Wetzel, DuPont

10:00
COMBINATORIAL EFFECTS OF KNEADING ELEMENTS ON MIXING IN TWIN-SCREW COMPOUNDING
2139365 | Graeme Fukuda, University of Maryland

10:30
ABRASIVE WEAR AND SPEED RELATIONSHIP IN TECHNICAL COMPOUNDING
2097690 | Marulanda-Paz, Gonzalo, B&P Process Equipment and Systems

M8 Extrusion
General Extrusion I
Moderator: Karen Xiao
Room S320F

8:30
HEAT TRANSFER SIMULATION FOR A CONTINUOUS ANNEALING PROCESS OF PLASTIC SHEETS
2093615 | Wenyi Huang, The Dow Chemical Company

9:00
EXTRUSION SCREWS FOR THERMOPLASTIC COMPOSITES
2091126 | Timothy Womer, TWommer and Associates, LLC

9:30
ADVANCES IN 1D & 2D LAYER MULTIPLICATION COEXTRUSION FOR FILM AND NON-WOVEN FIBER APPLICATIONS
2089045 | Michael Ponting, PolymerPlus LLC

10:00
EFFECT OF RHEOLOGY ON THE MORPHOLOGY OF COEXTRUDED MICROCAPILLARY FILMS
2093628 | Wenyi Huang, The Dow Chemical Company

10:30
PROCESS OPTIMIZATION OF SINGLE-SCREW EXTRUSION SYSTEMS FOR POLYOLEFIN RESINS
2082799 | Mark Spalding, The Dow Chemical Company

M9 Injection Molding
Nanotechnology
Moderator: David Jusuma
Room S320G

8:30
ENHANCED GRAPHENE EXFOLIATION AND DISPERSION IN INJECTION MOLED POLYPROPYLENE NANOCOMPOSITES PROCESSED WITH SUPERCRITICAL FLUID
2139808 | Thomas Ellingham, UW-Madison
<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
<th>Institution</th>
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<tbody>
<tr>
<td>9:00</td>
<td>EFFECTS OF SHEAR AND EXTENSIONAL FLOWS ON THE ELECTRICAL PROPERTIES</td>
<td>Sidney Carson</td>
<td>Case Western Reserve University</td>
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<td>OF POLYCARBONATE/CARBON NANOTUBE COMPOSITES DURING INJECTION MOLDING</td>
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<td>9:30</td>
<td>INJECTION MOLDING OF NANO-FEATURES – A STUDY ON FILLING AND BIREFRINGENCE</td>
<td>Srini Vaddiraju</td>
<td>Corning Incorporated</td>
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<td>10:00</td>
<td>APPLICATION OF TAGUCHI METHOD ON WELDLINE STRENGTH OF NYLON6</td>
<td>Hsin-Shu Peng</td>
<td>Far East University</td>
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<td>NANOCOMPOSITES THIN WALL IN MOLD DECORATION MOLDED PARTS</td>
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<td>10:30</td>
<td>X-RAY NANOTOMOGRAPHY OF THE SKIN-CORE STRUCTURE OF INJECTION</td>
<td>Sudheer Bandla</td>
<td>Oklahoma State University</td>
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<td>MOLDED COMPOSITES</td>
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<td>11:00</td>
<td>PREPARATION AND CHARACTERIZATION OF CELLULOSE NANOFIBER REINFORCED</td>
<td>Jithin Joy</td>
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<td>POLY (BUTYLENE SUCCINATE) NANOCOMPOSITES</td>
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<td>8:30</td>
<td>CHEMORHEOLOGICAL BEHAVIORS OF A REACTIVE EPOXY-AMINE SYSTEM DURING</td>
<td>Xiaoping Guo</td>
<td>St Jude Medical Inc.</td>
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<td>ISOTHERMAL CURING</td>
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<td>9:00</td>
<td>INNOVATIONS IN HYBRID STRUCTURAL INSTANT ADHESIVE TECHNOLOGIES</td>
<td>Nicole Lavoie</td>
<td>Henkel Corporation</td>
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<td>9:30</td>
<td>CORE SURFACE TREATMENTS TO INVESTIGATE ADHESION OF THERMOPLASTIC</td>
<td>Nicole Hoekstra</td>
<td>Western Washington University</td>
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<td>COATINGS FOR AEROSPACE FASTENERS</td>
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<td>10:00</td>
<td>NEW HIGHLY FLEXIBLE CYANOACRYLATES: LOCTITE® 4902™ AND LOCTITE® 4903™</td>
<td>Michael Pomykala</td>
<td>Henkel Corporation</td>
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10:30
ADHESIVE TECHNOLOGY FOR BONDING DISSIMILAR MATERIALS DURING THE INJECTION MOLDING PROCESS
2138988 | Paul Wheeler, Lord Corporation

M12 Advanced Biomaterials
Challenges in Manufacture of Medical Devices
Moderator: Michael Wallick
Room S331B

8:30
TUNING THE MICRO-ARCHITECTURE OF POLYMER/BIOCERAMIC SCAFFOLDS FOR BONE TISSUE ENGINEERING
2094557 | Conor Flavin, Miami University

9:00
THE EFFECT OF HYDROXYAPATITE SURFACE ON OSTEO-DIFFERENTIATION OF HUMAN MESENCHYMAL STEM CELLS USING SERUM FREE MEDIA
2135958 | Edward Fewkes, Corning Inc.

9:30
STIMULI RESPONSIVE AND BIOMINERALIZED SCAFFOLD: AN IMPLANT FOR BONE-TISSUE ENGINEERING
2137047 | Nabanita Saha, Tomas Bata University

10:00
TO YOUR HEALTH: POLYMERS IN BIOLOGY AND MEDICINE
KEYNOTE | Maureen Reitman, Exponent

M13 NGAB Panel
360° Leadership for Young Professionals
Moderator: James Spikowski
Room S330E
Hear experiences of how other young professionals moved to higher positions in the plastics field

M14 Polymer Modifiers and Additives
Nucleation and Crystallization Additives
Moderators: Steve Amos & Baris Yalcin
Room S330H

8:30
THE USE OF NUCLEATORS AND CLARIFIERS IN POLYPROPYLENE
2094358 | Philip Jacoby, Jacoby Polymer Consulting

9:00
NUCLEATION OF POLYPROPYLENE: A NEW AND PRACTICAL APPROACH TO THE MEASUREMENT OF STIFFNESS / MODULUS PERFORMANCE
INVITED | Herrin Hood, Milliken

9:30
EFFECTS OF WOOD AND CELLULOSE FLOURS ON CRYSTALLIZATION BEHAVIORS OF POLY(3-HYDROXYBUTYRATE-CO-3-HYDROXYHEXANOATE)
2097203 | Takashi Kuboki, University of Western Ontario

10:00
NUCLEATION OF POLYPROPYLENE DURING HIGH SPEED PROCESSING
2094430 | Petar Doshev, Borealis GmbH

10:30
THERMAL AND RHEOLOGICAL ANALYSIS OF NUCLEATED LLDPE RESIN. DETERMINATION OF CRYSTALLIZATION KINETICS PARAMETERS
2094186 | Said Fellahi, SABIC

M16 Rotational Molding
Rotational Molding Session
Moderator: Denis Rodrigue
Room S331A

8:30
DEVELOPMENT OF OPEN CELL ACOUSTIC FOAMS USING ROTATIONAL MOLDING PROCESS
INVITED | Hani Naguib, University of Toronto
9:00
NEW SOLUTIONS FOR CHANGING NEEDS IN ROTOMOLDING
INVITED | Thomas Steele, Cytec Polymer Additives

9:30
DISCUSSING THE FEASIBILITY OF IMPLEMENTING ROTATIONAL FOAM MOLDING OPERATIONS BASED ON PHYSICAL BLOWING AGENTS
2097676 | Remon Pop-Iliev, University of Ontario Institute of Technology

10:00
HOW EFFICIENT IS DRY-BLENDING AND ROTOMOLDING TO PRODUCE WOOD-PLASTICS COMPOSITES COMPARED TO COMPRESSION MOLDING
2095319 | Denis Rodrigue, Université Laval

M17 Students
Students Session
Moderator: Brian Young
Room S329

8:30
INFLUENCE OF SOLUTION RHEOLOGY AND FRACTIONATION ON SURFACE PROPERTIES OF POLYSULFONE FILMS
2095997 | Katrina Knauer, The University of Southern Mississippi

9:00
THERMAL CONDUCTIVITY OF CARBON FIBER/CARBON NANOTUBE HYBRID-FILLED POLYMER COMPOSITES
2153675 | Haihong Wu

9:30
THERMAL, RHEOLOGICAL AND FOAMING PROPERTIES OF POLYLACTIDE REINFORCED WITH TALC
2096776 | An Huang, South China University of Technology

10:00
QUALITY IN PACKAGING
2137751 | David Davis, University of Wisconsin-Platteville

10:30
EXPLORING COCONUT SHELL REINFORCED POLYPROPYLENE IN OLEFIN BLENDS
AUTHORS: PATRICK HANEY MATTHEW MCGEE
2180765 | Matthew McGee, Penn State Behrend

M18 Thermoplastic Materials & Foams
Foams Modeling & Processing
Moderator: A. Chatterjee
Room S320D

8:30
MECHANISMS OF FOAMING-INDUCED THERMAL CONDUCTIVITY ENHANCEMENT IN POLYMER MATRIX COMPOSITE FOAMS
2096364 | Hao Ding, York University

9:00
HIGH ACCURACY METHODS FOR FOAM INJECTION-EXPANSION SIMULATION
2098059 | Laurence Ville, TRANSVALOR

9:30
NUMERICAL SIMULATION AND EXPERIMENTAL VERIFICATION IN CELL NUCLEATION AND GROWTH WITH CORE-BACK FOAM INJECTION MOLDING
2096395 | Li-Yang Chang, CORETECH System Co., Ltd.

10:00
VISUALIZATION OF CELL-GROWTH INDUCED FIBER ORIENTATION IN POLYMER COMPOSITE FOAMS
2139247 | Amir Ameli, University of Toronto

10:30
MODELLING THE RHEOLOGICAL BEHAVIOR OF BLOWING AGENT LADEN MELTS THAT SIMULATES THE FOAM INJECTION MOLDING PROCESS
2128971 | Daniel Sander, Institute of Plastics Processing
M19 Alloys and Blends
Morphology Development and Characterization of High Performance Polymer Blend Systems
Moderator: Sean Culligan
Room S330E

1:30
COMPATIBILIZED POLYETHERIMIDE AND POLYARYLENE SULFIDE BLENDS
2086056 | Raghavendra Maddikeri, SABIC

2:00
COMPATIBILIZING AND TOUGHENING OF AN IMMISCIBLE POLYPHENYLENE BLEND VIA REACTIVE MIXING
2093052 | Sayantan Roy, Baker Hughes Incorporated

2:30
ENVIRONMENTAL QUALIFICATION OF CABLES TO IEEE STANDARDS AND END-USER SPECIFICATIONS
2137153 | ELLIOT LEE, General Cable Corporation

3:00
DEVELOPMENT OF ELECTRICALLY CONDUCTIVE PVDF/PET SYSTEMS
2094352 | Frej Mighri, Laval University

3:30
THERMODYNAMICS OF TRANSCRystALLIZATION IN FIBRILLAR COMPOSITES OF POLYPROPYLENE CONTAINING POLYTETRAFLUOROETHYLENE FIBRILS
2139251 | Ali Rizvi, University of Toronto

M20 Applied Rheology
Rheometry and Application
Moderator: Donggang Yao
Room S331A

1:30
CAPILLARY RHEOMETRY TRANSIENT DATA ANALYSIS
2098288 | Amir Moshe, University of Massachusetts Lowell

2:00
A METHOD FOR DETERMINING THE SEVEN COEFFICIENTS OF THE CROSS-WLF EQUATION
2098977 | Wei Zheng, University of Wisconsin-Stout

2:30
DETERMINATION OF THE ZERO SHEAR VISCOSITY OF POLYETHYLENE
2096262 | Wen Lin, NOVA Chemicals

3:00
NUMERICAL SIMULATION OF EXPANDABLE POLYSTYRENE MICROSPHERE EXPANSION
2092864 | Yifeng Hong, Georgia Institute of Technology

4:00
ESTIMATE OF ASTM MELT FLOW RATES FROM OSCILLATORY SHEAR RHEOLOGY
2089400 | Ching-Tai Lue

M21 Color and Appearance
Colorant Topics
Moderator: Tom Rachal
Room S330F

1:30
SPECIFICATIONS AND TEST METHODS(A CAD CONTINUING EDUCATION PRESENTATION)
2097393 | Steve Goldstein, Clariant Corporation

2:00
X-RAY METHODS: EXAMPLES OF CONTRIBUTIONS TO THE HISTORY OF PIGMENTS
2092676 | Austin Reid, DuPont

2:30
PIGMENTS IN THE MODERN AGE
2138599 | Andrew Smith, The Shepherd Color Company

3:00
NOVEL EFFECT PIGMENTS FOR COOL PLASTICS
2095794 | Dietmar Mäder, Eckart GmbH
3:30 A WALK AROUND THE COLOR SPHERE: EFFECT OF TITANIUM DIOXIDE PARTICLE SIZE DISTRIBUTION ON COLOR OF PLASTICS
2093885 | Phil Niedenzu, DuPont

4:00 BLUE UNDERTONE ENHANCEMENT OF BLACK AND GREY PP INJECTION MOLDED PARTS FOR AUTOMOTIVE WITH ULTRAMARINE BLUES
2097848 | Nathan Karszes, Nubiola USA

4:30 COLOR TRANSFER FROM POINT A TO POINT B: A REVIEW AND EXAMINATION OF, CROCKING, RUB-OFF, BLEEDING, BLOOMING, BLUSHING, TRANSFER, MIGRATION, EXTRACTION, SUBLIMATION, EXUDATION, PLATE OUT, DIFFUSION AND ANY OTHER MEANS BY WHICH COLOR ENDS UP WHERE IT DOESN’T BELONG
2133420 | Jim Rediske, BASF Corporation

M22 Composites
Nanocomposites I
Moderators: Enamul Haque & Jason Lyons
Room S320A

1:30 ADVANCES IN SUPERCRITICAL FLUID PROCESSING OF CARBON NANOTUBES FOR APPLICATIONS IN MELT COMPOUNDED POLYMER NANOCOMPOSITES
2095740 | John Quigley, Virginia Tech

2:00 CHARACTERIZATION OF SOLUTION CAST EXFOLIATED GRAPHITE NANOPATELET / POLYLACTIC ACID NANOCOMPOSITE FILMS
2097551 | Erin Sullivan, Georgia Institute of Technology

2:30 PROCESSING AND CHARACTERIZATION OF EXFOLIATED GRAPHITE NANOPATELET AND CARBON NANOTUBE / POLYLACTIC ACID NANOCOMPOSITE FILMS
2128635 | Erin Sullivan, Georgia Institute of Technology

3:00 EFFECT OF PROCESS PARAMETERS ON ELECTRICAL CONDUCTIVITY OF INJECTION-MOLDED POLYPROPYLENE/ MWCNT FOAMS
2096360 | Amir Ameli, University of Toronto

3:30 NOVEL POROUS NANO-GRAPHENE/ POLYIMIDE COMPOSITE AS ELECTRODE MATERIAL
2137606 | Patricia Okafor, University of Cincinnati

4:00 PHASE MORPHOLOGY AND ELECTRICAL CONDUCTIVITY OF POLYPROPYLENE/POLYLACTIC ACID BLENDS FILLED WITH MULTI-WALLED CARBON NANOTUBEPHASE
2139469 | Yasamin Kazemi, University of Toronto

4:30 CARBON MONOXIDE REDUCED LOW-DEFECT GRAPHENE NANOCOMPOSITES WITH POLY(-STYRENE-B-BUTADIENE-B-STYRENE)
2096804 | Michael Czajka, RMIT
2:30
THERMOPLASTIC COMPOSITE LIGHTWEIGHT COMPONENTS READY FOR MASS PRODUCTION WITH NEW PROCESSES
2138978 | Marcus Schuck, HBW-Gubesch Thermoforming GmbH

3:00
LONG FIBER (GLASS) BREAKAGE IN CAPILLARY AND CONTRACTION FLOW
2095327 | Hongyu Chen, Virginia Tech.

3:30
DIRECT FIBER FEEDING INJECTION MOLDING OF GLASS FIBER REINFORCED POLYCARBONATE/ABS POLYMER BLENDS COMPOSITES
2139166 | Ryo Takematsu, Kyoto Institute of Technology

4:00
MECHANICAL AND MORPHOLOGICAL PROPERTIES OF MICROCELLULAR POLYPROPYLENE SINGLE-POLYMER-COMPOSITES PREPARED BY MICROCELLULAR INJECTION MOLDING
2142496 | DONGJIE CHEN, Beijing Institute of Technology

4:30
HIGH STRAIN RATE TESTING OF GLASS FIBER REINFORCED PEEK
2069797 | Stuart Brown, Veryst Engineering

M24 Electrical and Electronic
Electrical and Electronic II
Moderator: Amod Ogale
Room S330G

1:30
A STUDY ON THE EFFECT OF TWIN-SCREW MELT BLENDED NANO-FILLERS ON POLYPROPYLENE NANOCOMPOSITE HYBRID ELECTRICAL AND MORPHOLOGICAL PROPERTIES FOR SUPERCAPACITOR APPLICATIONS
2097479 | HaoTian Harvey Shi, University of Toronto

M25 Engineering Properties and Structure
Polymer Stability and Failure Analysis
Moderators: Rajan Patel & Luyi Sun
Room S320C

2:00
FRACTURE TOUGHNESS STUDY OF CENTER CRACKED POLYPROPYLENE FILMS WITH TEMPERATURE EFFECT
2090303 | Arzu Hayirlioglu Topuzlu, Avery Dennison Corporation
2:30  
**FRACATURE BEHAVIOR OF PA6 RUBBER BLENDS INFLUENCED BY WATER ABSORPTION**  
2136071 | Johannes Heyn, University of Stuttgart

3:00  
**PREDICTION OF SHORT-TERM BEHAVIOR OF POLYAMIDE 6 BY USING THE STRAIN ENERGY EQUIVALENCE THEORY**  
2139786 | MOHAMED HADID, Université de Biskra

3:30  
**PREDICTION OF FAILURE IN FOAMS USING FINITE ELEMENT METHOD**  
2096220 | Prasad Dasappa, SABIC

4:00  
**NEW PHOSPHORUS BASED FLAME RETARDANTS: FOR THIN-WALLED APPLICATIONS**  
2094528 | Kyle Mitchell

4:30  
**MICRO-SCALE STUDY ON THE FLAMMABILITY OF POLYMERS**  
**KEYNOTE** | Hsinjin Yang, Pioneer Scientific Solutions

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**M26 Engineering Properties and Structure Material Processing, Fabrication, and Properties**  
Moderators: Hoang Pham & Josh Wong  
Room S319

1:30  
**THE FUTURE ROLE OF STRUCTURE-PROPERTY-PROCESS RELATIONSHIPS IN THE PLASTICS INDUSTRY**  
**KEYNOTE** | Musa Kamal, McGill University

2:00  
**TRIPLE SHAPE MEMORY MATERIALS FABRICATED BY FORCED ASSEMBLY MULTILAYER FILM COEXTRUSION TECHNOLOGY**  
2093372 | Shanzuo Ji, Case Western Reserve University

2:30  
**MICROSTRUCTURE AND PROPERTIES OF POLYAMIDE 12 PROCESSED BY SELECTIVE LASER SINTERING**  
2138981 | Binay Patel, Lehigh University

3:00  
**FEM MODELING OF RATE-DEPENDENT SCRATCH BEHAVIOR OF POLYMERS**  
2136534 | Mohammad Hossain, Texas A&M University

3:30  
**TRANSVERSAL MOLECULAR ORIENTATION OF ISOTACTIC POLYPROPYLENE AT CONVENTIONAL PROCESSING**  
2082033 | Masayuki Yamaguchi, Japan Advanced Institute of Science and Technology

4:00  
**FRACTOGRAPHIC EXAMINATION AND TENSILE PROPERTY EVALUATION OF 3D PRINTED ACRYLONITRILE BUTADIENE STYRENE (ABS)**  
2137235 | Corissa Lee, Exponent, Inc.
3:00
MELT TEMPERATURE MEASUREMENT IN COMPOUNDING
2098070 | Kenneth Russell, Optimized Compounds, LLC

3:30
PROCESS OPTIMIZATION – A NEW MODEL FOR CALCULATION OF THE AXIAL TEMPERATURE CURVE FOR TWIN-SCREW EXTRUDERS
2096653 | Tobias Herken, Kunststofftechnik Paderborn

4:00
DOWNSTREAM PIGMENT FEEDING FOR A TWINSCREW COMPOUNDING
2103090 | Rakshit Amba, SABIC

4:30
ADVANCED PREPARATION TECHNOLOGY OF ELECTRICALLY CONDUCTING COMPOSITES WITH MICROLAYER STRUCTURES
2093809 | Changjin Li, Beijing University of Chemical Technology

5:00
EXPERIMENTAL STUDY TO INVESTIGATE OPTIMAL PROCESS CONDITIONS FOR CONSISTENCY IN COLORATION OF A COMPOUNDED PLASTIC GRADE
2139631 | Ahmed Shahid, University of Ontario

M28 Extrusion
General Extrusion II
Moderator: Maria Noriega
Room S320F

1:30
INTERNATIONAL AWARD WINNER
Richard Spontak

2:30
CHARACTERIZING AN EXTRUSION PROCESS USING DESIGN OF EXPERIMENT (DOE)
2087485 | Kirk Cantor, Pennsylvania College of Technology

3:00
IMPROVEMENTS IN PROCESSING SEMI-CRYSTALLINE POLYMERS FOR THERMOFORMING SHEET IN MULTIPLE NIP SYSTEMS
2090713 | Peter Rieg, Battenfeld-Cincinnati Germany

3:30
PARAMETERIZATION AND VALIDATION OF DISCRETE ELEMENT SIMULATIONS REGARDING THE PRESSURE PROPAGATION IN PLASTIC PELLETS BULK
2081362 | Johann Lessmann, University of Paderborn

4:00
EFFECTS OF BARREL AND SCREW HEATING IN RUBBER EXTRUSION
2079061 | Sebastian Brockhaus, University of Paderborn

4:30
EXTRUSION PERFORMANCE FLUIDS - CRUCIAL IN MAINTAINING WATER-COOLED EXTRUDER EFFICIENCIES
2158006 | Peter Greenlimb, CHEMAGINEERING Corporation

5:00
EFFECT OF DEGREE OF CROSSLINKING ON ULTRASONIC DECROSSLINKING OF PEROXIDE CROSSLINKED HIGH DENSITY POLYETHYLENE
2124756 | Keyuan Huang, University of Akron

5:30
INTEGRATED WASTE HEAT UTILIZATION FOR EXTRUDER BARRELS BY INTERCONNECTION OF FLUID STREAMS
2139020 | Christoph Ketteler, University of Duisburg-Essen
1:30
AUTOMOTIVE DESIGN: AVOIDING PLASTIC DESIGN PITFALLS
Paul Tres, ETS Inc.

2:00
PAINTING PLASTICS: THE ROLE OF INTERFACIAL FACTORS ON COMPOSITE PERFORMANCE
Rose Ryntz, IAC

2:30
FLOW ACCELERATES INTERFACIAL REACTION IN COEXTRUSION AND COMPATIBILIZATION OF POLYMER BLENDS
Chris Macosko, University of Minnesota

3:00
PROGRESS IN SIMULATING SEMI-FLEXIBLE GLASS FIBER ORIENTATION DURING INJECTION MOLDING
Donald Baird, Virginia Polytechnic Institute and State University

3:30
CHALLENGES IN THE MODELING OF PLASTICS IN COMPUTER SIMULATION
Hubert Lobo, Datapoint Labs

4:00
CHALLENGES AND OPPORTUNITIES IN FUNCTIONAL NANOMATERIALS DESIGN
Sadhan Jana, University of Akron

4:30
ROBUST PLASTIC PARTS AND ASSEMBLIES DESIGN USING A HOLISTIC APPROACH
Vikram Bhargava, Motorola (Retired)

5:00
PAST, PRESENT AND FUTURE: INNOVATIONS THAT CONNECT MOLD BUILDERS, MOLDERS AND OEMS
Glenn Starkey, Progressive Components

5:30
SOME PERSPECTIVES ON INNOVATION
Raj Krishnaswamy, Braskem America

1:30
FIBER ORIENTATION IN INJECTION MOLDED LONG CARBON FIBER THERMOPLASTIC COMPOSITES
2139172 | Jin Wang, Autodesk

2:00
FLOW ANALYSIS OF INJECTION MOLDING WITH INSERTS OR CORES SUPPORTED BY RETRACTABLE PINS
2096842 | Alexander Bakharev, Autodesk

2:30
ADVANCED VISUALIZATION OF WELD LINES, PATHLINES AND SINK MARKS FOR INJECTION MOLDING
2096597 | David Astbury, Autodesk

3:00
NUMERICAL INVESTIGATION AND EXPERIMENTAL VALIDATION FOR WAX PATTERN FORMATION THROUGH INJECTION INVESTMENT CASTING
2096225 | Wen-Yen Chang, National Tsing-Hua University

3:30
SIMULATION AND VALIDATION OF MOLD FILLING WITH VELOCITY CONTROLLED VALVE GATES
2095376 | Zhongshuang Yuan, Autodesk, Inc.

4:00
A FRAMEWORK FOR VISCOSITY MODEL RESEARCH IN INJECTION MOLDING SIMULATION, INCLUDING PRESSURE AND FIBER ORIENTATION DEPENDENCE
2083671 | Franco Costa, Autodesk, Inc.
4:30
SCREW GEOMETRY DESIGN AND PERFOR-
MANCE EFFECTS ON FIBER BREAKAGE
STUDY
2096263 | Chao-Tsai (CT) Huang, CoreTech
System (Moldex3D) Co. Ltd.

M31 Joining of Plastics and Composites
Hybrid Structures
Moderator: Sergio Amancio
Room S331C

1:30
ULTRASONIC UPSETTING – A NEW METHOD
OF ULTRASONIC RIVETING TO JOIN HYBRID
MATERIAL COMBINATION
2097071 | Eric Brückner, Chemnitz University
of Technology

2:00
EXPERIMENTS WITH HOT TOOL JOINING OF
THERMOPLASTICS TO PERFORATED MILD
STEEL
2097235 | Olivia Prior, The Ohio State
University

2:30
COMBINED TIME-POSITION CONTROLLED
FRICITION RIVETING OF GLASS FIBER
REINFORCED POLYAMIDE 6 AND ALUMINUM
ALLOY 6056 HYBRID JOINTS
2097284 | Lucian Blaga, Helmholtz-Zentrum
Geesthacht

3:00
LINEAR VIBRATION WELDING UNDER
INDUSTRIAL CONDITIONS
2097383 | Sven Friedrich, Chemnitz University
of Technology

M32 Marketing and Management
Technical Entrepreneurship: How Do
You Research, Finance and Market
Your Business Ideas?
Moderator: Cyndi Kustush
Room S330H
2:30-4:30

M33 New Technology Forum
Innovating Within a Global Compliance
Environment
Moderator: Roger Avakian & Maggie
Baumann
Room S330AB

1:30-4:00
UNDERWRITERS LABORATORIES: OVER A
CENTURY OF INNOVATION SAFETY
Scott MacLeod, Underwriters Laboratories

HOW REACH AFFECTS PRODUCT
INNOVATION
Karl Heinz Spriestersbach, PINFA

AN INTRODUCTION TO GLOBAL
COMPLIANCE: WHAT YOU NEED TO KNOW
ABOUT NOTIFICATIONS AND EXEMPTIONS
Brian Zoretich, PolyOne

THE HISTORICAL FAA DEVELOPMENT OF
IMPROVED FLAMMABILITY TEST METHODS
FOR AIRCRAFT INTERIOR MATERIALS
Richard Lyon, FAA

REGULATORY RESEARCH FOR PROMOTING
INNOVATION IN BIOSENSING DEVICE
TECHNOLOGIES
Irada Isayeva, FDA

4:00-5:00 Panel Discussion – All Speakers

M34 Plastic Pipes and Fittings
Investigations of Materials and Test Methods
for Plastic Pipe Systems
Moderator: Don Duvall
Room S329

1:30
A PRIMER ON BIO-BASED PLASTICS AND
POTENTIAL IMPLICATIONS TO PLASTIC PIPE
KEYNOTE | Raj Krishnaswamy, Braskem

2:30
QUALIFICATION TESTING AND LONG-TERM
DURABILITY OF PLASTIC-LINED METALLIC
PIPE, FITTINGS AND FLANGES FOR
CORROSIVE APPLICATION
2063676 | Bryan Hauger, Bryan Hauger
Consulting, Inc.
3:00
INVESTIGATION OF GROOVED FEED SCREW DESIGNS FOR POLYETHYLENE PIPE EXTRUSION
2093070 | Vivek Rohatgi, Chevron Phillips Chemical Company

3:30
DEVELOPMENT OF RING TENSILE CREEP TEST METHOD FOR COMPOSITE PIPES
2096715 | Tomohiro Tanishita, Kyoto Institute of Technology

4:00
A FRACTURE MECHANICS APPROACH TO SERVICE LIFE PREDICTION OF HDPE FUSION JOINTS IN NUCLEAR APPLICATIONS
2139319 | Prabhat Krishnaswamy, Emc2

4:30
TESTING FUSED PVC WATER PIPE WITH THE ISO 13477 S4 METHOD FOR CRITICAL PRESSURE
2084475 | Tom Marti, UGSI

5:00
CHEVRON PHILLIPS CHEMICAL COMPANY BEST PAPER AWARD

M35 Polymer Analysis
Innovative Methods, Morphology and Optical Analysis
Moderator: Xue Chen
Room S331D

1:30
CHARACTERIZATION OF POLYMERS PENE- TRATED IN WOOD
KEYNOTE | Steve King, Dow Chemical Company

2:00
CLIENT FOCUSED POLYMER ANALYSIS
KEYNOTE | Mike Sepe

2:30
SURFACE QUALITY OF PARTS MANUFACTURED USING SELECTIVE LASER SINTERING
2139275 | Sean Petzold, University of Wisconsin-Madison

3:00
THE TESTING PROGRAM AT NIST ON FIBERS USED IN SOFT BODY ARMOR APPLICATIONS
2097361 | Walter McDonough, U.S. Department of Commerce - NIST

3:30
EFFECT OF BRIGHTNESS, COLOR AND TRANSPARENCY ON SCRATCH AND MAR VISIBILITY IN POLYMERS
2132561 | MAROUEN HAMDI, Texas A&M University

4:00
DEVELOPMENT OF SEALANTS FOR FLEXIBLE PACKAGING USING LIGHT MICROSCOPY
2096145 | Eddy Garcia-Meitin, The Dow Chemical Company

4:30
A NEW METHOD FOR THE CALCULATION OF THE SPHERULITE GROWTH IN SOLIDIFYING SEMI-CRYSTALLINE POLYMER MELTS
2091010 | Marcel Spekowius, Institute of Plastics Processing

5:00
SYNTHESIS AND CRYSTAL TRANSITION OF HBA/HNA COPOLYMER
2096989 | Rui Jiang, East China University of Science And Technology

M36 Thermoplastic Materials and Foams
Nanofoams and NanoFilled Foams
Moderator: Changchun Zeng
Room S320D

1:30
CONTINUOUS EXTRUSION OF NANOCELLULAR FOAM
2094414 | Stephane Costeux, The Dow Chemical Company

2:00
EVALUATION OF NITROGEN AS A CO-BLOWING AGENT IN NANOCELLULAR FOAM
2116832 | Anson Wong, The Dow Chemical Company
<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker(s)</th>
<th>Institution(s)</th>
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<tbody>
<tr>
<td>2:30</td>
<td>CONTROLLED FOAMING OF POLYSTYRENE/MWCNT BY CARBON DIOXIDE</td>
<td>Sai Wang, University of Toronto</td>
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<td>3:00</td>
<td>FROM NANO-STRUCTURED IPP FORMATION TO NANO-CELLULAR IPP FOAM</td>
<td>Mehdi Saniei, University of Toronto</td>
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<td>3:30</td>
<td>SOLID-STATE THERMOPLASTIC NANOFOAMS VIA A NOVEL LOW-TEMPERATURE SATURATION PATHWAY</td>
<td>Huimin Guo, University of Washington</td>
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<td>4:00</td>
<td>PREPARATION OF MICRO AND NANOCELLULAR TPU-GRAFENE NANOCOMPOSITE FOAM BY SUPERCritical CO2 FOAMING</td>
<td>Shu-Kai Yeh, National Taiwan University of Science and Technology</td>
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<td>4:30</td>
<td>THE EFFECT OF MICROSTRUCTURE ON THE MECHANICAL PROPERTIES OF THERMOPLASTIC POLYURETHANE/CLAY</td>
<td>Xinchao Wang, University of Wisconsin-Madison</td>
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<td>NANOCOMPOSITE FOAMS</td>
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<tr>
<td>9:30</td>
<td>USING MOLECULAR STRESS FUNCTION THEORY TO EVALUATE STRAIN HARDENING OF POLYETHYLENE</td>
<td>Tieq Li, NOVA Chemicals</td>
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<tr>
<td>10:00</td>
<td>DEVELOPMENT OF A RELAXATION MODEL FOR ANNEALING OF PLASTIC FILMS AND SHEETS</td>
<td>Wenyi Huang, The Dow Chemical Company</td>
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<td>10:30</td>
<td>RHEOLOGY OF COCONTINUOUS BLENDS OF IMMISCIBLE POLYMERS</td>
<td>Christopher Macosko</td>
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<td>INVITED</td>
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<td>8:30</td>
<td>BIODEGRADABLE LATEX PAPER COATINGS BASED ON POLYHYDROXYALKANOATES FOR IMPROVED MOISTURE RESISTANCE</td>
<td>Christopher Thellen, NSRDC</td>
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<td>9:00</td>
<td>CORN PROTEIN COMPOSITES FOR AGRICULTURAL PRODUCTS</td>
<td>Jake Behrens, Iowa State University</td>
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<td>9:30</td>
<td>THERMAL ANALYSIS OF POLYLACTIC ACID AND CORN ZEIN COMPOSITES</td>
<td>Sarah Cheney, US Army NSRDEC</td>
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<td>10:00</td>
<td>DURABILITY STUDIES OF BIODEGRADABLE POLYMERS UNDER ACCELERATED WEATHERING CONDITIONS</td>
<td>Rajendran Muthuraj, University of Guelph</td>
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<tr>
<td>10:30</td>
<td>DEVELOPMENT OF EGGSHELL POWDER MASTERBATCH FOR FOOD TRAYS</td>
<td>Yoshihisa Sumita, Hinode resin Industry Co., Ltd.</td>
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T3 Composites
Thermoset Composites
Moderator: Klaus Gleich
Room S320A

8:30
OVERCOMING THE BARRIERS TO WIDE-SPREAD ADOPTION OF ADVANCED COMPOSITES
KEYNOTE | Dale Brosius

9:30
EFFECT OF GLASS FIBER ON MECHANICAL PROPERTIES OF POLY(3-HYDROXYBUTYRATE-CO-3-HYDROXYHEXANOATE)
2097529 | Takashi Kuboki, University of Western Ontario

10:00
DEVELOPMENT OF AN AUTOMATED ADDITIVE PREFORMING TECHNOLOGY FOR RTM-PARTS
2115205 | Linus Fecher, Institute of Plastics Processing

T4 Composites
Thermoplastic Composites III
Moderator: Rich Caruso
Room S320B

8:30
PROCESSING OF CONDUCTIVE POLYMER COMPOSITE SHIELDING MATERIALS
2095832 | Mark Barger, Dow Chemical Company

9:00
BENEFITS OF SURFACE TREATMENTS & MIXED FILLER FORMULATIONS FOR THERMALLY CONDUCTIVE PLASTICS
2139018 | Chandra Raman, Momentive Performance Materials

9:30
COMPLIANT HIGH FRICTION SURFACES ON ICE MADE USING POLYMER-FIBER COMPOSITES
2098191 | Reza Rizvi, University Health Network

10:00
MODIFICATION OF INTERFACIAL BONDING OF HYBRID GLASS/CARBON FIBER POLYPROPYLENE COMPOSITE FABRICATED BY DIRECT FIBER FEEDING INJECTION MOLDING
2088778 | Putinun Uawongsuwan, Kyoto Institute of Technology

10:30
EVALUATION OF LONG-TERM PERFORMANCE OF GFRTF FOR HOT WATER SUPPLY
2096698 | Atsushi Takeda

T5 Engineering Properties and Structure
Structure Properties 2
Moderators: Mary Ann Jones & Michael Read
Room S320C

8:30
VIBRATIONAL SPECTROSCOPIC STUDIES OF POLYMER MICROSTRUCTURES
KEYNOTE | Shaw Ling Hsu, University of Massachusetts-Amherst

9:30
MODIFIED SOYBEAN OIL PLASTICIZER IN CARBON BLACK FILLED SBR
2136509 | Jiaxi Li, The University of Akron

10:00
A NEW PERSPECTIVE OF SURLYN® MODIFIED POLYAMIDES: EXPANDING THE ROLE OF SURLYN® FROM A MODIFIER TO A BLEND PARTNER FOR POLYAMIDES
2098340 | Richard Chou, DuPont Co.

10:30
ENHANCED THERMAL CONDUCTIVITY OF POLYBUTYLENE TEREPTHALATE COMPOSITES USING 2D AND 3D HYBRID FILLERS
2139669 | Yanting Guo, York University
T6 Extrusion
Single-Screw Tutorials Honoring Frank Nissel
Moderator: Mark Spalding
Room S320E
8:30-11:00

8:30
BASIC FUNDAMENTALS OF THE MAJOR COMPONENTS OF A SINGLE SCREW EXTRUDER
INVITED | Kevin Slusarz, American Kuhne

9:00
EXTRUSION SCREWS FOR THERMOPLASTIC COMPONENTS – GENERAL DESIGN INFO AND MATERIALS OF CONSTRUCTION
INVITED | Tim Womer, Tim Womer and Associates

9:30
ANALYSIS OF SOME COMMON EXTRUSION AND COEXTRUSION PROBLEMS
INVITED | John Perdikoulias, Compuplast Canada Inc.

10:00
METERING CHANNEL FLOWS AND TROUBLESHOOTING SINGLE-SCREW EXTRUDERS
INVITED | Mark A. Spalding, The Dow Chemical Company

10:30
ENERGY EFFICIENCY IN SINGLE-SCREW EXTRUSION
INVITED | Maria Noriega, ICIPC

T7 Extrusion
Dies/Films
Moderator: Tony Neubauer
Room S320F

8:30
A PRACTICAL EXAMPLE OF FILM EXTRUSION PROCESS TROUBLESHOOTING AND FINE TUNING
2151887 | Olivier Catherine, Cloeren Incorporated

9:00
CONTINUOUS EXTRUSION OF LLDPE FILMS MODIFIED WITH HEXAGONAL BORON NITRIDE NANOPlatelets
2095243 | Ozgun Ozdemri, Clemson University

9:30
A NUMERICAL VERIFICATION AND EXPERIMENTAL VALIDATION OF THE MULTI-JET COOLING SYSTEM FOR THE BLOWN FILM APPLICATION
2118346 | Benedikt Neubert, University of Duisburg-Essen

10:00
OPTIMIZATION OF A PROFILE COEXTRUSION DIE USING A THREE-DIMENSIONAL FLOW SIMULATION SOFTWARE
2094397 | Mahesh Gupta, Michigan Tech University

10:30
UNDERSTANDING SPIRAL MANDREL DIES: LAYERING EFFECT AND GAUGE UNIFORMITY
2097255 | Hassan Eslami, Macro Engineering and Technology

T8 Injection Molding
Materials
Moderator: Pete Grelle
Room S320H

8:30
TUNING 3D TOPOGRAPHY ON BIOMIMETIC SURFACES BY MICROINJECTION COMPRESSION MOLDING
2096623 | Han-Xiong Huang, South China University of Technology

9:00
DIRECT ADHESION OF PLASTIC AND STAINLESS STEEL USING CONDUCTIVE HEATING IN THE INJECTION MOLDING PROCESS
2091183 | Julian Schild, Institute of Plastics Processing

9:30
MECHANICAL RESPONSE OF AGEING AND ANNEALING ON INJECTION MOLDED HIGH DENSITY POLYETHYLENE
2139635 | Reaj Ahmed, Niagara Bottling, LLC
10:00
POLYPROPYLENE IMPACT COPOLYMERS FOR IMPROVED TIGER-MARKING RESISTANCE IN LARGE PART INJECTION MOLDING
2095715 | Joel Carr, Braskem America

10:30
NEW MATERIALS FOR FLUID INJECTION TECHNIQUE – IMPROVED PROPERTIES WITH REACTIVE POLYURETHANES
2091251 | Christian Holz, Institute of Plastics Processing (IKV) in Industry and the Skilled Crafts at RWTH Aachen University

11:00
EFFECT OF SCREW GEOMETRY ON LONG GLASS FIBER BREAKAGE DURING INJECTION MOLDING
2135462 | Ruggero Giusti, University of Padua

11:30
INDUCTION HEATING SIMULATION FOR THE PLASTIC INJECTION MOLDING PROCESS
2096562 | Clinton Kietzmann, Autodesk Australia Pty., Ltd.

12:00
STUDY ON THE HEAT TRANSFER BEHAVIOR AND WARPAGE RESULT IN SMALL QUANTITY OF DIVERSE MOLDED PART DESIGNS WITH VARYING THERMAL PROPERTY MOLD INSERT CONTROL
2096050 | Kuan-Hua Lee, Chung Yuan Christian university

8:30
DESIGN FOR MOLDABILITY AND PROFITABILITY
KEYNOTE | John Bozzelli, Injection Molding Solutions

9:00
EFFECT OF POLYPROPYLENE CONTAMINATION ON WELD STRENGTH OF RECYCLED POLYAMIDE 6
2087928 | Hesam Ghasemi, Royal Military College of Canada

9:30
A CASE FOR ROUND ENERGY DIRECTOR*: UTILIZING ADVANCED CONTROL CAPABILITIES OF SERVO-DRIVEN ULTRASONIC WELDERS IN EVALUATING ROUND ENERGY DIRECTOR PERFORMANCE
2124209 | Alex Savitsky, Dukane Corporation
10:00
SPLIT PEEL SEAL SYSTEM FOR FLEXIBLE MEDICAL DEVICE PACKAGING
2129137 | Patrick Thomas, PRThomas Technologies. LLC

T11 Medical Plastics
Challenges in Manufacture of Medical Devices
Moderator: Austin Coffey
Room S331B

8:30
MEDICAL MOLDING TODAY, TOMORROW AND BEYOND
KEYNOTE | Mark Bonifacio

9:30
NEW FIELDS OF APPLICATIONS FOR THE DESIGN OF EXPERIMENTS (DOE) IN THE DEVELOPMENT PROCESS FOR MEDICAL PRODUCTS
2088714 | Andrea Mueller, University of Applied Sciences Schmalkalden

10:00
EFFECTS OF GAMMA STERILIZATION ON POLYETHYLENE
2090110 | Robert Klein, Stress Engineering Services

10:30
CONTROLLING THE ARCHITECTURE OF TISSUE ENGINEERING SCAFFOLDS IN EXTRUSION-BASED ADDITIVE MANUFACTURING: THE EFFECT OF EXTRUDATE SWELL
2094544 | Amy Yousefi, Miami University

11:00
NEW PEEL SEAL SYSTEM FOR FLEXIBLE MEDICAL DEVICE PACKAGING APPLICATIONS
2114900 | Patrick Thomas, PRThomas Technologies. LLC

T12 Plastics in Building and Construction
Plastics in Building and Construction Session
Moderators: Lei Rao & Roy Smith
Room S330E

8:30
THE SCIENCE, ECONOMICS, INNOVATION & CHALLENGES FOR THE USE OF FOAMS IN CONSTRUCTION, TODAY & TOMORROW
KEYNOTE | Alan Letton, Rubberlite

9:30
HEALTH PRODUCT DECLARATIONS-THE GOOD, THE BAD AND THE UGLY
KEYNOTE | Karthik Vaideeswaran

10:30
THE IMPACT OF ENGINEERING PLASTICS ON THE ADVANCEMENT OF SOLAR ENERGY IN THE UNITED STATES
2093429 | Matthew Parkinson and Anil Kumar, BASF

11:00
PVC PROPERTY MODIFICATION USING STYRENICS BASED MODIFIER SYSTEMS
2097127 | Mohammed Abboud, Styrolution America LLC

11:30
LOWER-COST, LIGHTER AND GREENER POLYPROPYLENE-BASED BIOCOMPOSITES FOR INDUSTRIAL APPLICATIONS
2103366 | Mihaela Mihai, National Research Council of Canada

T13 Polymer Analysis
Rheology and Kinetic
Moderator: Greg Kamykowski
Room S331D

9:00
THE QUEST FOR PERFECT POLYOLEFIN MOLECULAR STRUCTURE DETERMINATION
KEYNOTE | William deGroot, Dow Chemical Company
9:30
EVALUATING THE EFFICIENCY OF NUCLEATION AGENTS IN POLYPROPYLENE BY MEANS OF ISOTHERMAL CRYSTALLIZATION AND KINETIC MODELLING
2094793 | Andreas Spoerrer, NETZSCH Geraetebau GmbH

10:00
ANALYSIS OF THE RHEOLOGICAL BEHAVIOR OF EPDM RUBBER WITH BLOWING AGENT
2078502 | Nora Restrepo Zapata, Universidad Nacional de Colombia - Sede Medellin

10:30
RELATIONSHIP BETWEEN MOISTURE ABSORPTION, CRYSTALLIZATION AND RHEOLOGICAL PROPERTY OF RECYCLED PET FILLED PELLETS WITH TALC AND GLASS BEAD
2118142 | Supaphorn Thumsorn, Kyoto Institute of Technology

11:00
METHODOLOGY FOR VISCOELASTIC SIMULATION OF POLYMER GEARS MADE FROM PEEK USING ANSYS®
2139186 | Neil Doll, University of Wisconsin-Madison

11:30
EPoxy Silicate Composite Dielectric Characterization by TSDC Techniques
2139757 | Andres Garcia, University of North Texas

T14 Thermoforming
Thermoforming Session
Moderator: Mark Strachan
Room S330AB

8:30
THERMOFORMING BEYOND THE LIMITS
INVITED | Mark Strachan, First Quality Packaging Solutions

9:00
ON THE POTENTIAL OF STEREO DIGITAL IMAGE CORRELATION IN THERMOFORMING
2092557 | Bart Van Mieghem, KU Leuven, Technology Campus Diepenbeek

9:30
MODEL-BASED TEMPERATURE MEASUREMENT FOR THERMOFORMING APPLICATIONS
2096862 | Benjamin Neubig, University of Stuttgart

10:00
EFFECT OF RETORT ON THE PEEL STRENGTH OF RIGID PLASTIC CONTAINERS
2097123 | Rabeh Elleithy, Printpack

10:30
VALIDATION OF A NEW MATERIAL MODEL FOR THERMOFORMING AND BLOW MOLDING SIMULATION
2097783 | Hossam Metwally, Ansys Inc.

T15 Thermoplastic Materials and Foams
Thermoplastics Session
Moderator: Gary Wilkes
Room S320D

8:30
THERMOTROPIC LIQUID CRYSTALLINE POWDER
2097180 | Karthik Vaideeswaran

9:00
GEL SPINNING OF UHMWPE FIBERS WITH LOW MOLECULAR WEIGHT POLYBUTENE AS A NEW SPIN SOLVENT
2095976 | Xudong Fang, Georgia Institute of Technology

9:30
LOW-PERMEATION TOUGHENED POLYOXYMETHYLENE (POM) FOR INJECTION-MOLDED AND BLOW-MOLDED TANKS IN SMALL OFF-ROAD ENGINE (SORE) APPLICATIONS
2097438 | Sunghye Kim, Celanese

10:00
AGING OF PHYSICAL PROPERTIES IN Ionomers Modified with Fatty Acid Salts
2097735 | John Bishop, DuPont
10:30
CRYSTALLIZATION AND FOAMING BEHAVIOR OF POLYPROPYLENE WITH A CRYSTAL-NUCLEATING AGENT
2139200 | Raymond Chu, University of Toronto

T16 Vinyl Plastics/ Polymer Modifiers and Additives
Functional Polymer Modification
Moderator: Ray Pearson
Room S330CD

8:30
EXTENDING THE POTENTIAL OF POLYAMIDES: ENGINEERING SOLUTIONS DELIVERING ENHANCED HIGH TEMPERATURE PERFORMANCE AND MOLDABILITY
INVITED | James Mitchell, Solvay

9:00
BIO BASED ACTIVE BARRIER MATERIALS AND PACKAGE DEVELOPMENT
2094073 | Michael Miranda, University of Toledo

9:30
IMPROVING THE PHYSICAL PROPERTIES AND VERSATILITY OF PLA WITH PHA COPOLYMER BLENDS
2134570 | Michael Andrews, Metabolix

10:00
THE EFFECTS OF HIGH SOLVATING PLASTICIZERS ON THE VISCOSITY STABILITY OF POLYVINYL CHLORIDE PLASTISOLS
2122783 | Gina Macy, University of Oregon

10:30
FUNCTIONALIZATION OF SOY FATTY ACID ALKYL ESTERS AS BIOPLASTICIZERS
2139617 | Dharma Kodali, University of Minnesota

11:00
COMPARATIVE EVALUATION OF COMMERCIALY AVAILABLE NUCLEATING AGENTS IN POLYAMIDE 66 FORMULATIONS
2095731 | Anshuman Shrivastava, Delphi Packard

TUESDAY AFTERNOON SESSIONS

T17 Alloys and Blends
Design, Performance and Characterization of Engineering Polymer Blends
Moderator: Raj Maddikeri
Room S330E

1:30
QUALIFYING A RECYCLED MATERIAL WITH STRINGENT ENGINEERING PROPERTIES REQUIREMENTS USING SIX SIGMA
2096029 | Vikram Bhargava

2:30
BINARY AND TERNARY PET BLENDS
2091798 | Tariq Syed, SABIC

3:00
GLASS FILLED PBT BLENDS WITH HIGH BONDING STRENGTH FOR NANO MOLDING TECHNOLOGY
2126109 | Yuanqing He, SABIC

T18 Applied Rheology
Rheology of Composites
Moderators: Manojkumar Cellamuthu & Tieqi Li
Room S331A

1:30
NON-LINEAR RHEOLOGY IN SHEAR AND EXTENSIONAL FLOWS OF MALEATED PP-CLAY NANOCOMPOSITES
2081662 | Krishnamurthy Jayaraman, Michigan State University

2:00
LINEAR AND NONLINEAR RHEOLOGY OF POLY(BUTYLENE SUCCINATE)/FUMED SILICA NANOCOMPOSITES
2090189 | Xun Chen, University of Massachusetts, Lowell

2:30
RHEOLOGICAL CHARACTERIZATION OF HIGHLY FILLED COMPOSITE SYSTEMS FOR INJECTION MOLDING APPLICATIONS
2093517 | Kurt Koppi, Dow Chemical
3:00 MELT RHEOLOGY OF IN-SITU POLYMERIZED POLYAMIDE 6/CELLULOSE WHISKER NO-COMPOSITES
2098283 | Shahab Kashani Rahimi, University of Southern Mississippi

3:30 STRESS RELAXATION STUDY OF THE DEVELOPMENT OF MICROSTRUCTURES IN BLENDS OF ISOTACTIC POLYPROPYLENE, SORBITOL NUCLEATING AGENT AND SILSESQUIOXANE
2096594 | Jairo Perilla, National University of Colombia

4:00 EFFECT OF PARTICLE DISPERSION ON THE RHEOLOGICAL BEHAVIOR OF LLDPE/CACO3 COMPOSITES
2127990 | Wu Tong, University of Wisconsin-Madison

T19 Bioplastics
Bioplastics Session
Moderator: Stephan Laske
Room S319

1:30 EFFECT OF CATALYST ON COMPATIBILIZATION OF POLY(LACTIC ACID) / POLYAMIDE BLENDS
2139498 | JeongIn Gug, University of Massachusetts, Lowell

2:00 DEVELOPMENT OF GREEN POLYMER BLENDS MADE FROM CARBON DIOXIDE BASED POLYOL AND POLY (LACTIC ACID)
2136736 | Qirui Sun, University of Guelph

2:30 UNDERGRADUATE MODEL FOR BIOBASED PLASTICS
2139680 | Carol Barry, University of Massachusetts-Lowell

3:00 NOVEL POLY (LACTIC ACID) FOAMS: MICRO TO SUB-MICRON SIZE TRANSITION
2082495 | Praphulla Tiwary, Queen's University

3:30 ISOTHERMAL CRYSTALLIZATION BEHAVIOR OF POLY(LACTIC ACID)/CELLULOSE NANOFIBER COMPOSITES WITH PRESENCE OF CO2
2139329 | WeiDan Ding, University of Toronto

4:00 MICROWAVE SYNTHESIS OF POLY (GLYCEROL SEBACATE)
2098085 | Gildas Coativy, University of Guelph

T20 Composites
Nanocomposites II
Moderators: Tim Johnson & Creig Bowland
Room S320A

1:30 PET/ORGANOCLAY NANO COMPOSITES SYNTHESIZED BY SOLVENT BLENDING WITH SONICATION
2077469 | Karnik Tarverdi, Brunel University London

2:00 IMPROVEMENT OF MECHANICAL BEHAVIOR OF POLYPROPYLENE NANO COMPOSITES VARYING NANOCLAYS AND COMPATIBILIZERS
2096776 | Markus Battisti, Montanuniversitaet Leoben

2:30 EFFECT OF ADDED PLASTICIZER ON MOISTURE DIFFUSION THROUGH POLYLACTIC ACID/CLAY NANO COMPOSITES
2097410 | Man Chio Tang, West Virginia University

3:00 IMPROVING THE DISPERSION OF IONIC LIQUID-MODIFIED MONTMORILLONITE IN POLY(ETHYLENE TEREPTHALATE)
2091723 | Kazem Majzadeh, University of Toledo

3:30 PROPERTIES OF CROS SLINKED POLYURETHANE-CLAY NANO COMPOSITES
2139442 | Shirley Peng, University of Cincinnati
4:00
COMPARISON OF COMPOUNDING APPROACHES FOR WOOD-DERIVED CELLULOSE NANOCRYSTALS AND POLYAMIDE 6
2091648 | Craig Clemons, USDA Forest Products Laboratory

4:30
CRYSTAL MORPHOLOGY OF BIODEGRADABLE POLY(LACTIC ACID)/GRAPHENE OXIDE NANOCOMPOSITES AND THE ISOTHERMAL CRYSTALLIZATION KINETICS RESEARCH
2094835 | Lihong Geng, South China University of Technology

1:30
CHARACTERIZATION OF CARBONIZED ELECTROSPUN LIGNIN FIBERS
2097980 | Vida Poursorkhabi, University of Guelph

2:00
EFFECTS OF ACCELERATED AGING ON THE FLAMMABILITY OF POLYPROPYLENE BASED BIOCOMPOSITES
2098080 | Emmanuel Ogunsona, University of Guelph

2:30
STUDY THE EFFECT OF HBN FIBRE CONTENT AND ASPECT RATIO ON PLA BASED COMPOSITE THERMAL CONDUCTIVITY
2097423 | Shahriar Ghaffari Mosanenzadeh, University of Toronto

3:00
INFLUENCES OF WOOD PARTICLE SHAPE AND SURFACE MODIFICATION OF WOOD ON WOOD/PP COMPOSITES
2096544 | HU Xu, Kyoto Institute of Technology

T22 Decorating and Assembly
Advanced Processes and Materials for Decoration and Assembly of Plastics
Moderators: Ken Holt & Dwayne Wasylyshyn
Room S330CD

1:30
BENEFITS AND LIMITATIONS OF ULTRASONIC FILM SEALING
2091987 | Bill Aurand, MS Plastic Welders, LLC

2:00
A CASE FOR ROUND ENERGY DIRECTOR*: UTILIZING ADVANCED CONTROL CAPABILITIES OF SERVO-DRIVEN ULTRASONIC WELDERS IN EVALUATING ROUND ENERGY DIRECTOR PERFORMANCE
2093438 | Alex Savitsky, Dukane Corporation

2:30
MEETING GLOBAL CHALLENGES WITH MICRO SOLUTIONS: THE ROLE OF PLASMA SURFACE TREATMENT IN THE FUTURE OF PLASTICS
2096323 | Paul Mills, Plasmatreat North America

3:00
INNOVATIONS IN HYBRID STRUCTURAL INSTANT ADHESIVE TECHNOLOGIES
2096011 | Nicole Lavoie, Henkel Corporation

3:30
NEW HIGHLY FLEXIBLE CYANOACYRLATES: LOCTITE® 4902™ AND LOCTITE® 4903™
2098224 | Michael Pomykala, Henkel

4:00
CONTENT BRIDGE VALUE CREATION - HOW IN-MOLD LABELING AND SMART PHONE CONNECTIVITY CAN ADD VALUE TO PLASTIC PRODUCTS
2150933 | Robert Travis, InkWorks Printing LLC

4:30
WHEN PERMANENT REALLY MEANS PERMANENT. IMIG, THE NEW HEAT FUSED GRAPHIC FOR POLYETHYLENE, POLYPROPYLENE AND OTHER OLEFIN RESINS
2098527 | Jason Brownell, iMIG Systems
1:30
USING MULTIPLE MORPHOLOGICAL METHODS TO UNDERSTAND THE PROCESSING/STRUCTURE/PROPERTY/BEHAVIOR OF OLEFINIC MICROPOROUS BATTERY SEPARATOR MEMBRANES
KEYNOTE | Garth Wilkes, Virginia Tech

2:00
IN-SITU SAXS STUDY OF PHASE SEGREGATION AND MORPHOLOGY OF STYRENIC BLOCK COPOLYMERS
2091946 | Hristo Hristov, Kimberly-Clark Corporation

2:30
CREEP BEHAVIOR OF POLYMER BLENDS AND LONG TERM PREDICTION
2093102 | Ying Shi, A.Schulman, Inc.

3:00
HIGH TEMPERATURE AIR CHANNEL TESTING OF THERMALLY BONDED PVC GEOMEMBRANE SEAMS
2139690 | Timothy Stark, University of Illinois at Urbana-Champaign

3:30
A NEW EVALUATION METHOD OF O-RING RUBBER SEALS BY COMPRESSIVE LOAD TEST
2135344 | Yuya Yokohama, Kyoto Institute of Technology

4:00
ISOHERMAL CRYSTALLIZATION OF ISOTACTIC POLYPROPYLENES: EXPERIMENTS AND SIMULATION
2097463 | Lin Jiang, University of Wisconsin-Madison

1:30
COMPUTER MODELING OF TWIN-SCREW COMPOUNDING USING ONE-DIMENSIONAL PROCESS SIMULATION
Adam Dreblatt, Century

2:00
TWIN SCREW EXTRUDER AND CONTINUOUS MIXER RATE LIMITATIONS
Tony Neubauer, Materials Processing Consultants

2:30
THE INDUSTRIAL ASPECTS OF REACTIVE EXTRUSION
Michael Read, Dow

3:00
TOP TIPS FOR EFFECTIVE VACUUM DEGASSING ON TWIN-SCREW EXTRUDERS
Hu Yong Xu, Leistritz

3:30
SCALE-UP, THE BUMP IN THE ROAD BETWEEN DEVELOPMENT AND COMMERCIALIZATION
Paul Andersen, Coperion

4:00
PANEL - ASK THE EXPERTS | Q & A SESSION

T25 Failure Analysis and Prevention & Injection Molding, Understanding and Preventing Failures of Injection Molded Plastics
Moderator: Paul Gramman
Room S320G

1:30
A STUDY OF TWO PROCESSING INDUCED PART FAILURES
2143131 | Jose Perez, Element New Berlin
2:00
VERIFICATION OF A STRUCTURAL ANALYSIS OF FIBER REINFORCED THERMOPLASTICS WITH WELD LINE
2095454 | Sebastian Kammer, Darmstadt University of Applied Science

2:30
USE OF COMMON SIX SIGMA TOOLS FOR SYSTEMATIC ANALYSIS AND SOLUTIONS TO PLASTIC PART FAILURE

3:00
PANEL DISCUSSION WITH 4 INVITED EXPERTS
Mike Sepe, Jeff Jansen, Vikram Bhargava, Suhas Kulkarni

T26 Flexible Packaging
Barrier, Sealing and Package/ Food Interactions
Moderator: Tom Dunn
Room S330G

1:30
PEELABLE SEAL FILMS WITH ENHANCED MOISTURE BARRIER PROPERTIES FOR FLEXIBLE PACKAGING APPLICATIONS
2112106 | Dan Falla, Nova Chemical

2:00
PLASTIC PACKAGING MODELING: INTERACTIONS WITH FOOD. MODEL AND METHOD TO ESTIMATE THE SHELF LIFE OF OXYGEN-SENSITIVE FOOD PRODUCTS
2095266 | Iván López, ICIPC

2:30
LLDPE-EVOH HIGH BARRIER BLEND FILMS FABRICATED BY MULTIPLICATION EXTRUSION
2091394 | GUOJUN ZHANG, A.Schulman, Inc.

3:00
INFLUENCE OF A SUBSTRATE BIAS ON THE ADHESION OF SILICON ORGANIC PECVD-FILMS ON POLYPROPYLENE
2096772 | Henrik Behm, Institute of Plastics Processing

3:30
CATALYTIC TECHNOLOGY AND CONTROLLED CHEMICAL RELEASE FOR POST-HARVEST PRESERVATION OF FRUITS AND VEGETABLES
2155440 | Rajan Raje, Nlchem Solutions

4:00
STUDY OF SEALED PARTS OF FLUORINE FILM BY LASER ADVANCED WELDING OF PLASTICS METHOD
2089696 | Kazushi Yamada, Kyoto Institute of Technology

4:30
PACKAGING AND FOOD INTERACTIONS MODELING: VALIDATION FOR COMPLIANCE WITH SPECIFIC MIGRATION REGULATIONS
2095475 | Juan Estefan, ICIPC

T27 Injection Molding
Processing I
Moderator: Susan Montgomery
Room S320H

1:30
INVESTIGATION OF APPLYING GAS COUNTER PRESSURE (GCP) TECHNOLOGY IN IMPROVING METAL INJECTION MOLDING FLOW CHARACTERISTICS AND MOLDED PART’S QUALITY
2096053 | Kuan-Hua Lee, Chung Yuan Christian university

2:00
REBUILDING SCREWS FOR INJECTION MOLDING PROCESSES
2075148 | Mark Spalding, The Dow Chemical Company

2:30
EXPERIMENTAL RESULTS OF MELT MODULATION PACKING PARAMETERS CONTROL ON COLD-RUNNER INJECTION MOLDING FINAL PRODUCT QUALITY
2139568 | Majed Alsarheed, Lehigh University

3:00
INFLUENCES OF MELT ROTATION TECHNOLOGY ON POLYMERIC MATERIAL INJECTION MOLDING PROCESS AND FINAL PRODUCTS PROPERTIES
2139164 | Qi Li, Lehigh University
3:30 EFFECT OF MINIATURISATION AND PROCESS INDUCED CRYSTALLISATION ON MECHANICAL PROPERTIES OF MICROINJECTION MOULDINGS
2097082 | Nan Zhang, University College Dublin

4:00 POST SHRINKAGE EFFECT ON THICK OPTICAL LENS DEVELOPMENT
2096293 | Heng-Tseng Liao, CoreTech System Co., Ltd.

T28 Marketing and Management
Sustainability and Innovation - Dedicated to the Memory of Roger F. Jones
Moderators: Bonnie Bachman & Maggie Baumann
Room S329

1:00 ROGER F. JONES, IN MEMORIUM
Margaret Baumann

1:15 COMMERCIALIZATION OF NEW TECHNOLOGY- LONG GLASS COMPOSITES
Steve Bowen, Plasticomp

2:00 ANALYSIS AND CASE STUDIES – PERSPECTIVES FROM THE SUSTAINABILITY SURVEY
Bonnie Bachman/Margaret Baumann

2:30 SUSTAINABILITY AND CORPORATE BEST PRACTICES – THE SECOND TRIANNUAL SURVEY OF THE PLASTICS INDUSTRY
Margaret Baumann, Bonnie Bachman, Shristy Bashyal

3:00 PATHS TO INNOVATION IN THE PLASTICS INDUSTRY
Robert Eller, Robert Eller Associates

3:30 NEW ADVANCES IN LOW SMOKE ZERO HALOGEN CABLES
Srinivas Siripurapu, General Cable Corporation

4:00 THE TRIVOLUTION COMPOUNDER – NEXT GENERATION TECHNOLOGY SUPPORTING SUSTAINABLE OPERATIONS – A CASE STUDY
Michael Lazorchak, B&P Process Equipment

4:30 SUSTAINABILITY AS A WAY OF LIFE
Kimberly Williamson, Techmer PM

5:00 PANEL DISCUSSION AND WRAP UP

T29 New Technology Forum
3-D Printing with a Focus on Material Development
Moderator: Jack Dispenza
Room S330AB
1:30-4:30

OPEN DOORS WITH 3D PRINTING
Peter Weijmarshausen, Shapeways

BRING GREAT THINGS TO LIFE WITH AM!
Bryan Crutchfield, Materialise
ARBURG PLASTIC FREEFORMING (AKF)

NEW INDUSTRIAL ADDITIVE PROCESS
Dr. O. Kessling, ARBURG

BREAKING BARRIERS IN ADDITIVE MANUFACTURING
Lonnie Love, Oak Ridge

HIGH HEAT AND HIGH IMPACT POLY(LACTIC ACID) COMPOUNDS FOR ADDITIVE MFG./3D PRINTING
Edwin Tam, Teknor Apex

4:30-5:00 PANEL DISCUSSION – ALL SPEAKERS
T30 Polymer Analysis
Thermal and Aging Analysis
Moderator: Joel Lischefski
Room S331D

1:30
VISUALISATION OF DEGRADED PARTS 
BY APPLYING FT-IR IMAGING AND EDS 
ANALYSIS
2094854 | Kazushi Yamada, Kyoto Institute of Technology

2:00
EVALUATION OF SHELF LIFE OF RESIN
2065896 | Shantanu Shivdekar, Boston Scientific

2:30
THERMAL HISTORY EFFECT OF PTFE
2081366 | Scott Eastman, United Technologies Research Center

3:00
AGING BEHAVIOR OF POLYAMIDE 12 DURING 
SELECTIVE LASER MELTING PROCESS – 
INFLUENCE ON MECHANICAL PROPERTIES
2089786 | Katrin Wudy, Institute of Polymer Technology

3:30
CONTROLLED DRUG DELIVERY OF A HY-
DROPHILIC DRUG MODEL FROM A FIBROUS E
LASTOMERIC COMPOSTIE WITH SHAPE 
MEMORY PROPERTIES
2117530 | Melodie Lawton, Syracuse University

4:00
ANISOTROPIC THERMAL CONDUCTION IN 
POLYMERIC MATERIALS
2139507 | David Venerus, Illinois Institute of Technology

4:30
A NEW DSC THERMOPILE SENSOR FOR 
COMBINED HEAT FLUX AND POWER COM-
PENSATED MEASUREMENTS
2081498 | Claus Linseis, Linseis, Inc.

T31 Polymer Modifiers and Additives
Functional Fillers for Plastics
Moderator: Samim Alam
Room S330H

1:30
EXCITING FUNCTIONAL FILLERS 
INVITED | Chris Dearmitt

2:00
FUNCTIONAL FILLERS AND ADDITIVES FOR 
PLASTICS
2139895 | Steve Amos, 3M Company

2:30
REDUCED ADHESION STRIPPABLE 
INSULATION SHIELDS USING NANO-SCALE 
MINERAL FillERS FOR TRXLPE INSULATED 
MEDIUM VOLTAGE POWER CABLES
2087837 | Sean Culligan, General Cable Corporation

3:00
A STUDY OF GLASS SPHERES 
INCORPORATED INTO EXTRUDED 
POLYETHYLENE FILMS
2206379 | Nichola Iorio, US Army Natock 
Soldier Research

3:30
ADVANCED LIGHTWEIGHTING STRATEGIES 
WITH HOLLOW MICROSPHERES AND COL-
LATERAL BENEFITS 
INVITED | JP Wiese, Asahi Kasei Plastics

4:00
INFLUENCE OF CELLULOSIC FILLER CONTENT 
AND MORPHOLOGY ON THE DRYING AND 
PROCESSING OF POLYLACTIDE ACID (PLA) 
COMPOSITES
2089808 | Tobias Koplin, Hochschule 
Hannover-University of Applied Sciences and Arts
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<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
<th>Location</th>
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<tbody>
<tr>
<td>1:30</td>
<td>NEW HYDROGENATED STYRENIC BLOCK COPOLYMERS FOR COMPOUNDING SOLUTIONS</td>
<td>Yonghua Zhou, Kraton Polymers LLC</td>
<td>Room S331B</td>
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<td>2:00</td>
<td>POLYSTYRENE-b-POLY (ETHYLENE-co-BUTYLENE)-b-POLYSTYRENE/ZINC OXIDE BLOCK COPOLYMER NANOCOMPOSITES: RHEOLOGICAL AND DIELECTRIC PROPERTIES</td>
<td>Emna Helal, Ecole de Technologie Supérieure</td>
<td>Room S331B</td>
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<tr>
<td>2:30</td>
<td>A NEW STYRENIC BLOCK COPOLYMER DESIGNED FOR POLYOLEFIN-LIKE PROCESSING FOR COMPOUNDING, FILMS AND FIBERS</td>
<td>Mark Berard, TSRC Dexco</td>
<td>Room S331B</td>
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<td>3:00</td>
<td>HIGHLY FILLED THERMOPLASTIC ELASTOMER COMPOUNDS MADE WITH OLEFIN BLOCK COPOLYMERS</td>
<td>Jeff Munro, The Dow Chemical Company</td>
<td>Room S331B</td>
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<td>3:30</td>
<td>RUBBER DE-VULCANISATION USING A PLANETARY EXTRUDER</td>
<td>Michael Batton, Entex GmbH</td>
<td>Room S331B</td>
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<td>4:00</td>
<td>CHEMICAL RESISTANT TPE MATERIAL WITH ADHESION TO ENGINEERING PLASTICS</td>
<td>Florian Vetter, Kraiburg TPE GmbH &amp; Co. KG</td>
<td>Room S331B</td>
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<td>4:30</td>
<td>INJECTION OVERMOLDING PERFORMANCE OF THERMOPLASTIC POLYESTER ELASTOMERS (TPC-ET)</td>
<td>Mukul Kaushik, Celanese</td>
<td>Room S331B</td>
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<td>5:00</td>
<td>RHEO-KINETIC STUDY OF A MODEL TPU SYSTEM FOR REACTIVE EXTRUSION</td>
<td>Jesse Gadley, Case Western Reserve University</td>
<td>Room S331B</td>
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<td>5:30</td>
<td>RHEOLOGICAL BEHAVIOUR AND STRUCTURAL DEVELOPMENT OF THERMOPLASTIC POLYURETHANE ANNEALED AT HIGH TEMPERATURE</td>
<td>Joao Maia, Case Western Reserve University</td>
<td>Room S331B</td>
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<tr>
<th>Time</th>
<th>Title</th>
<th>Presenter</th>
<th>Location</th>
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<tr>
<td>1:30</td>
<td>LAYER INTEGRITY IN POLYETHYLENE BASED MULTILAYER FILM/FOAMS AND THEIR PROPERTIES</td>
<td>Md Arifur Rahman, Case Western Reserve University</td>
<td>Room S332D</td>
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<td>2:00</td>
<td>IN-SITU MEASUREMENT OF INTERNAL MOLD PRESSURE ON CHEMICAL FOAMING PROCESS</td>
<td>Junichiro Tateishi, ASICS Corp.</td>
<td>Room S332D</td>
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<td>2:30</td>
<td>CORRELATION BETWEEN FOAM EXTRUSION PROCESS PARAMETERS, MECHANICAL PROPERTIES AND PHARMACEUTICAL DOWNSTREAM PROCESSING</td>
<td>Graciela Terife, Merck &amp; Co., Inc.</td>
<td>Room S332D</td>
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<td>3:00</td>
<td>MECHANISM OF BUBBLE NUCLEATION AND GROWTH IN HIGH-PRESSURE FOAM INJECTION MOLDING USING GAS-COUNTER PRESSURE</td>
<td>Vahid Shaayegan, University of Toronto</td>
<td>Room S332D</td>
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<td>3:30</td>
<td>PIEZOELECTRIC FOAMS BASED ON CYCLIC OLEFIN COPOLYMER</td>
<td>Changchun Zeng, Florida State University</td>
<td>Room S332D</td>
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</tbody>
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4:00
THE INFLUENCE OF RHEOLOGICAL PROPERTIES OF THE MATERIAL FORMULATION ON THE CELL SIZE AND CELL DENSITY OF PHYSICALLY FOAMED POLYETHYLENE
2096555 | Matthias Walluch, Polymer Competence Center Leoben

4:30
EFFECT OF FLUORINATED HYPERBRANCHED POLYMER ON THE MORPHOLOGY OF PS AND PMMA FOAMS
2098588 | Masataka Sugimoto, Yamagata University

WEDNESDAY MORNING SESSIONS

W1 Alloys and Blends
Design, Performance and Characterization of Sustainable Polymer Blends
Moderator: Emily He
Room S330E

8:30
EXPLORATION OF SURFACE INTERACTIONS OF POLYMER BLENDED BIOCONJUGATES
2093204 | Vicki Flaris, Bronx Community College

9:00
STUDIES ON THE BLENDING OF ABS/PLA FOR CREATION OF A NEW GREEN ENGINEERING POLYMER
2097296 | Ryan Vadori, University of Guelph

9:30
CHARACTERIZATION OF TERNARY BLENDS OF POLY(LACTIC ACID), POLY(BUTYLENE ADIPATE-COTEREPHTHALATE) AND POLY-PROPYLENE
2098078 | Arturo Rodriguez, University of Guelph

10:00
FLOW BEHAVIOR OF THERMOPLASTIC STARCH-BLENDS
2094726 | Matthias Musialek, Institut für Kunststofftechnik

10:30
ENHANCED FOAMING ABILITY THROUGH MICROSTRUCTURE CONTROL OF POLYMER BLENDS
2139232 | Ali Rizvi, University of Toronto

W2 Applied Rheology
Melt Fracture and LCB
Moderator: Tieqi Li & Qian Qin
Room S331A

8:30
RHEOLOGICAL CHARACTERIZATION ON THERMAL STABILITY AND FLOW INSTABILITY OF ETHYLENE-TETRAFLUOROETHYLENE COPOLYMER
2090872 | Seigo Kotera, Asahi Glass Co.ltd.

9:00
STUDY ON WORM MELT FRACTURE OF BLOW MOLDING PROCESS USING CAPILLARY RHEOMETER
2128897 | Yongwoo Inn, Chevron Phillips Chemical

9:30
LONG CHAIN BRANCHING OF POLYPROPYLENE VIA UV RADIATION: EFFECT OF COAGENT AND OTHER RADIATION VARIABLES ON CONTINUOUS MODIFICATION
2180120 | Costas Tzoganakis, University of Waterloo

10:00
PRODUCING LONG CHAIN BRANCHED POLYMERS FROM LINEAR POLYOLEFINS
2095251 | Edward Phillips, Edward M. Philips, Polyolefin Specialist

W3 Bioplastics
Bioplastics Session
Moderator: Shilpa Manjure
Room S319

8:30
THERMAL ANALYSIS OF SOY FLOUR ELASTOMER COMPOSITES
2139486 | Kendra Allen, Iowa State University
9:00 BIOADHESIVE FROM LIGNIN AND DRIED DISTILLERS’ GRAINS WITH SOLUBLES (DDGS)  
2098011 | Tao Wang, University of Guelph

9:30 CELLULOSE ACETATE AS A TUNABLE BIO-BASED ENGINEERED MATERIAL  
2095590 | Karthik Vaideeswaran, Celanese

10:00 EVALUATION OF MECHANICAL PROPERTIES OF CELLULOSE COMPOSITES  
2138259 | Nishimura Hiroyuki

W4 Composites and Engineering  
Properties & Structure, Nanostructures, Properties, and Applications  
Moderator: Nikhil Verghese & David Jackson  
Room S320B

8:30 HOW IS ELECTRICAL PERCOLATION ACHIEVED IN NANO DOPED MATERIALS? DIRECTION TOWARDS MORE EFFICIENT DOPING  
KEYNOTE | Gilles Lubineau, KAUST

9:30 EFFECT OF ULTRASONIC TREATMENT ON ELECTRICAL AND RHEOLOGICAL PERCOLATION THRESHOLD OF POLYCARBONATE-CARBON NANOTUBES COMPOSITES  
2096152 | Xiang Gao, The University of Akron

10:00 PREPARATION AND TUBE SHORTENING EFFECTS OF MULTI-WALLED CARBON NANOTUBES ON ELECTRICAL AND MECHANICAL PROPERTIES OF POLYCARBONATE/MWCNT COMPOSITES  
2083164 | John Zapata, University of Oklahoma

10:30 IMPACTS OF DIFFERENT MECHANISMS ON CARBON NANOTUBES/POLYMER NANO-COMPOSITES’ PIEZORESISTIVITY  
2086485 | Weiqing Fang, Lassonde School of Engineering, York University

W5 Composites  
Composites Analysis I  
Moderator: Ryan Amundson  
Room S320A

8:30 PROGRESS IN ASSESSING FIBER ORIENTATION AND FLEXIBILITY WITH INCREASED FIBER LENGTHS  
2081390 | Mark Cieslinski, Virginia Polytechnic Institute and State University

9:00 FIBER ORIENTATION PREDICTION OF LONG FIBER-REINFORCED THERMOPLASTICS: OPTIMIZATION OF MODEL PARAMETERS  
2114449 | Jens van Haag, Institute of Plastics Processing (IKV) at RWTH Aachen University

9:30 FIBER ORIENTATION MEASUREMENTS USING A NOVEL IMAGE PROCESSING ALGORITHM FOR MICRO-COMPUTED TOMOGRAPHY SCANS  
2093954 | Sebastian Goris, University of Wisconsin-Madison

10:00 NONLINEAR STRUCTURAL ANALYSIS OF SHORT FIBER FILLED INJECTION MOLDED PARTS  
2082896 | Don Robbins, Autodesk, Inc.

10:30 ULTRASONIC INSPECTION OF ARTIFICIALLY-DEFECTED GFRP  
2106891 | Kohta Tsubaki, Kyoto Institute of Technology

W6 Failure Analysis and Prevention & Plastic Pipes and Fittings  
Plastic Pipes in Building and Construction  
Moderator: Jennifer Hoffman  
Room S329

8:30 FAILURE ANALYSIS OF CROSS-LINKED POLYETHYLENE PIPE IN RESIDENTIAL PLUMBING AND HEATING SYSTEMS  
2098087 | Phillip Sharff, Simpson Gumpertz & Heger Inc.
9:00
THE EFFECT OF LOCALIZED HEATING ON POLYETHYLENE TUBING
2139583 | Robert Farina, Exponent, Inc.

9:30
EVALUATION OF PLASTIC PIPES FOR HOT WATER SUPPLY AND HEATING
2088668 | Hiroyuki Nishimura, Kyoto Institute of Technology

10:00
DEGRADATION ANALYSIS FOR POLYETHYLENE OF RAISED TEMPERATURE RESISTANCE AFTER LONG-TERM HOT WATER IMMERSSION AND HOT AIR EXPOSURE TESTS
2136134 | HIDEKAZU HONMA, KRI, Inc.

W7 Flexible Packaging
Film Properties, New Materials and New Technologies
Moderator: Dan Falla
Room S330G

9:00
IMPACT PUNCTURE RESISTANCE OF MULTILAYER FLEXIBLE FOOD PACKAGES
2097982 | Barry Morris, DuPont

9:30
HIGH PERFORMANCE PP/PE MULTILAYER FILMS ENABLED BY PP BASED OBC
2095915 | Yushan Hu, The Dow Chemical Company

10:00
CORRELATING THE MELTING OF SEMI-CRYSTALLINE POLYMERS TO THE SHRINK WRAPPING PROCESS IN SHRINK-FILM PACKAGING APPLICATIONS
2136611 | Bernard Obi, The Dow Chemical Company

10:30
UNDERSTANDING BLOWN POLYETHYLENE FILM DART STRENGTH VARIABILITY
2093332 | Paul OConnell, Dow Chemical

11:00
PREDICTING PHYSICAL AND OPTICAL PROPERTIES OF CO-EXTRUDED BLOWN FILMS USING DESIGN OF EXPERIMENT BASED MODEL
2092906 | Nitin Borse, Nova Chemical

11:30
LASER IMAGEABLE POLYMERIC FILM
2139387 | Patrick Thomas, PRThomas Technologies. LLC

W8 Injection Molding
Tutorial Session I
Moderator: Jeremy Dworshak
Room S320G

8:30
THE PLASTICATING UNIT FOR INJECTION MOLDING; A NEED FOR A WORLD STANDARD SCREW AND METHOD FOR EVALUATION
Michael Durina

9:30
MOLD COOLING; IT’S 95% OF YOUR CYCLE TIME. HOW TO COOL/HEAT A MOLD
John Bozzelli

10:30
SIZING UP YOUR RUNNER SYSTEM
David Hoffman

11:30
PROCESS SETUP & OPTIMIZATION TECHNIQUES FOR INJECTION MOLDING
Umberto Catignani

W9 Injection Molding
Processing II
Moderator: Jack Dispenza
Room S320H

8:30
TIGHT TOLERANCE PREDICTION OF PART DIMENSIONS
2096819 | David Kazmer, University of Massachusetts, Lowell
9:00  EXPERIMENTAL ANALYSIS OF FIBERS ORIENTATION AND MECHANICAL PROPERTIES IN INJECTION MOLDING OF THERMOPLASTIC REINFORCED MATERIALS BY RHCM
2139571 | Luca Crema, University of Padua

9:30  THE REAL-TIME DETERMINATION ALGORITHM OF MOLD TEMPERATURE STABILIZATION
2094938 | Byungohk Rhee, Ajou University

10:00  WARPAGE CONTROL OF THIN-WALLED PARTS USING LOCAL MOLD TEMPERATURE SETTING IN INJECTION MOLDING
2065558 | Ming-Shyan Huang, National Kaohsiung First University of Science and Technology

10:30  EFFECTS OF GAS COUNTER PRESSURE AND DYNAMIC MOLD TEMPERATURE CONTROL ON THE MECHANICAL/FOAMING/SURFACE ROUGHNESS PROPERTIES OF MICROCELLULAR INJECTION MOLDED PP PARTS
2084316 | Shyh-shin Hwang, Chien-hsin University of Science and Technology

11:00  MODELING AND SIMULATION OF INTERNAL CIRCULATION TWO-PLATEN INJECTION MOLDING MACHINE BASED ON AMESIM
2142987 | Lu Yang, Beijing Institute of Technology

8:30  DEGRADATION OF MICROCELLULAR PLGA-PEG COPOLYMER FOR USE IN A DRUG DELIVERY SYSTEM FOR THE URINARY BLADDER
2091483 | Daniel Kaltbeitzel, Institute for Plastics Processing (IKV) at RWTH Aachen University

9:00  MECHANICAL BEHAVIOR AND STRUCTURE VARIATION OF PCL/HA COMPOSITE UNDER DIFFERENT STRAIN AND STRAIN RATES
2115093 | Haibin Zhao, Shandong University

9:30  STERILIZATION EFFECTS ON HARD-SOFT COMBINED POLYMERS FOR MEDICAL APPLICATION
2093455 | Vera Seitz, Institute of Medical and Polymer Engineering

10:00  TUNING THERMAL PROPERTY OF A THERMOPLASTIC POLYCARBONATE-BASED POLYURETHANE BY MEANS OF POST-EXTRUSION, SOLID STATE ANNEALING
2132242 | Xiaoping Guo, St Jude Medical Inc.

10:30  COMPREHENSIVE STERILIZATION STUDY OF MULTIPLE POLYSTYRENE GRADES AND OTHER POLYMERS
2133345 | Laren Shoup, Americas Stryeneics

11:00  FIBRINOGEN PROTEIN BINDING EVALUATION OF EASTMAN TRITAN™ COPOLYESTERS AND OTHER POLYMERS FOR MEDICAL APPLICATIONS
2139231 | Yubiao Liu, Eastman Chemical Company

11:30  STRESS-RELAXATION OF POLYCARBONATE RESINS
2098134 | Pierre Moulinie, Bayer Material-Science, LLC

8:30  TREATMENT OF MOLD COMPONENTS: A GUIDE TO PROVEN ADVANTAGES
2137714 | Ken Rumore, Progressive Components
9:00
MOLD DESIGN FOR REDUCTION OF OFFLINE ASSEMBLY & SECONDARY OPERATIONS
2115451 | Tim Peterson, Industrial Molds Group

9:30
FUNDAMENTALS OF OPTIMIZED MOLD COOLING SYSTEM DESIGN FOR INJECTION MOLDS
2097930 | Brenda Clark, HASCO America, Inc.

10:00
USE OF PRE-HARDENED TOOL STEEL GIVES FASTER MOLD MANUFACTURING
2125675 | Per Hansson, SSAB

10:30
MOLD UNDERCUT SOLUTIONS - DATA DRIVEN ADVANTAGES
2137734 | Kevin Kelly, Progressive Components

11:00
3D VOLUME SHRINKAGE COMPESATION METHOD IN INJECTION MOLD DESIGN OPTIMIZATION
2096337 | Chen-Han Tseng, CoreTech System (Moldex3D) Co., Ltd.

11:30
PROCESS PLANNING OF MOLD COMPONENTS WITH FEATURE RECOGNITION AND GROUP TECHNOLOGY
2087435 | Yu-Wei Chen, Chung Yuan Christian University

8:30
A FORMULATOR’S PERSPECTIVE ON MEETING NEEDS IN THE PLASTICS MARKETPLACE
INVITED | Roger Avakian, PolyOne Corporation

9:00
COMPOUNDING POLYMERS ON A TWIN SCREW EXTRUDER
INVITED | Alex Utracki, Coperion Corporation

9:30
DESIGNING WITH PLASTICS
INVITED | Eric Larson, Art of Mass Production

10:00
OPTIMIZING SHEET EXTRUSION CONDITIONS
INVITED | Tim Womer, TWWomer & Associates

10:30
INJECTION MOLDING: CONSIDERATIONS FOR SMALL AND LARGE-SCALE PROCESSING
INVITED | Sidney Carson, PolyOne Corporation

11:00
TBD (TOPIC: 3D PRINTING)
INVITED | Kevin Carr, MasterGraphics

11:30
FAILURE PREVENTION IN PLASTIC PARTS AND ASSEMBLIES USING A HOLISTIC APPROACH
INVITED | Vikram Bhargava, Motorola (Retired)

12:00
NETWORKING SESSION

W12 NGAB Plastics University
NGAB Plastics University
Moderator: Jane Spikowski
Room S331C

9:00-11:30
PLASTIC AND COMPOSITE MATERIALS FOR RECHARGEABLE LITHIUM-ION BATTERIES
Gao Liu, LBNL,
ALL-POLYMER FLEXIBLE ENERGY STORAGE DEVICES
Jian (Javen) Lin, University of Missouri Columbia
EXPLORING THE UNIQUE CHALLENGES FOR PLASTICS IN LITHIUM-ION BATTERY PACKS
Kevin White, Exponent
NEW AND INNOVATIVE SOLUTIONS ENABLED BY BLUE SPARK TECHNOLOGIES (THIN ZN BATTERIES)
Jon Eager, Blue Spark Technologies
SOLID STATE BATTERY FORMULATIONS: OPPORTUNITY FOR POLYMER COMPOSITES
Dee Strand, Wildcat Discovery Technologies

11:30-12:00
PANEL DISCUSSION – ALL SPEAKERS

W14 Polymer Modifiers & Additives/ Vinyl Applied Functional Polymers & Application
Moderator: Wei Zhao
Room S330H

8:30
DEVELOPMENT OF CROSSLINKED POLYETHYYLENE BY USING A NEW SILANE COCKTAIL
2090459 | Samim Alam, Momentive Performance Materials Inc.

9:00
PERFORMANCE OF A NOVEL OXIDATIVELY STABLE SLIP AGENT IN POLYOLEFINS
2066422 | Adam Maltby, Croda

9:30
VINYL RECYCLING
Richard Krock, Vinyl Institute

10:00
A COMPARISON OF PVC/PLASTICIZER INTERACTION PARAMETER AND PLASTISOL PROCESSING CHARACTERISTICS WITH HIGH SOLVATING PLASTICIZERS AND PLASICER BLENDS
2123804 | Mikaela Hall, University of Oregon

10:30
TORQUE RHEOMETER TO PREDICT THE PROCESSABILITY OF RIGID PVC POWDER COMPOUNDS IN TWIN SCREW EXTRUDERS
Randy Brown, Kydex, LLC

11:00
HIGH TEMPERATURE AIR CHANNEL TESTING OF THERMALLY BONDED PVC GEOMEMBRANE SEAMS
2139690 | Timothy Stark, University of Illinois at Urbana-Champaign

11:30
THIRTY-YEAR DURABILITY OF A 20-MIL PVC GEOMEMBRANE
2139704 | Timothy Stark, University of Illinois at Urbana-Champaign

W15 Process Monitoring and Controls
Process Monitoring and Controls Session
Moderator: Yi Yang
Room S331D

8:30
COMBINED X-RAY AND OPTICAL PELLET INSPECTION FOR SMALLEST IMPURITY DETECTION DURING PLASTIC PELLET PRODUCTION AND PROCESSING
2097156 | Christian Frank, SIKORA AG

9:00
INLINE DETECTION OF MATERIAL STORAGE EFFECTS ON PROCESSING BEHAVIOR OF RUBBER COMPOUNDS
2099167 | Michael Fasching, Polymer Competence Center Leoben

9:30
A FAST AND EFFECTIVE 2D REGULATORY CONTROL FOR INJECTION MOLDING PROCESS
2139017 | Yang Bo, Zhejiang University

10:00
PARTICLE MOTION MAY CHARGE YOU UP AND SHUT YOU DOWN
2139467 | Eric Ziskend, LexMar Global Inc.

W16 Product Design and Development
Product Design and Development Session I
Moderator: Al McGovern
Room S320E

8:30
PART DESIGNERS’ BEST ALLY – AN AUTOMATED DESIGN CHECKER
2095528 | Vikram Bhargava

9:00
3D THICKNESS MAPPING BY MICRO-COMPUTED TOMOGRAPHY AIDING DESIGN
2095901 | Masoud Allahkarami, Oklahoma State University
9:30 PLASTICS MOLDING STRATEGIES FOR UNCERTAIN PRODUCTION VOLUMES
2096790 | David Kazmer, University of Massachusetts Lowell

10:00 THERMALLY CONDUCTIVE POLYCARBONATE FOR ELECTRONICS
2139668 | Nicolas Sunderland, Bayer MaterialScience

10:30 OPTIMIZING PLASTIC PART DESIGNS FOR METAL REPLACEMENT USING ADVANCED CAE METHODS
Invited | Kurt Danielson, Solvay

11:00 IN-DEPTH STUDY FOR THE DIFFERENT PHYSICAL MECHANISM BETWEEN OVER-MOLDING AND CO-INJECTION MOLDING
2094614 | Che-Ping Lin, CoreTech System Co., Ltd.

11:30 OPTIMIZATION OF POLYAMIDE BLENDS FOR AUTOMOTIVE INTERIOR APPLICATIONS UTILIZING MIXTURE-PROCESS VARIABLE EXPERIMENTAL DESIGNS
2139653 | Jayson Humble, A. Schulman Inc.

W18 Automotive Innovations in Automotive Plastics Moderators: Anthony Gasbarro & Suresh Shah Room S320B

1:30 SELECTED FAILURE MODES IN AUTOMOTIVE PLASTIC PARTS
2135762 | Matthew Carroll, General Motors

2:00 AN EFFECTIVE MATERIAL CONCEPT FOR A NEW GENERATION OF BATTERY SUPPORTS WITHIN PREMIUM CLASS CARS
2092601 | Werner Posch, Dräxlmaier Group

2:30 EFFECT OF THIN WALLING AND FOAMING ON TPO PART PERFORMANCE
2139428 | Jason Fincher, Advanced Composites

3:00 LOW GLOSS PC/ASA BLENDS FOR AUTOMOTIVE INTERIOR APPLICATIONS
2091850 | Bin Sun, SABIC

3:30 DEVELOPMENTS OF BIO FILLER IN POLYOLEFIN BLENDS
KEYNOTE | Pierre Donaldson, Flint Hills Resources
4:00 BIOCOMPOSITES AND BIOBLENDS BASED ON ENGINEERING THERMOPLASTICS FOR AUTOMOTIVE APPLICATIONS
2103033 | MIHAELA MIHAI, National Research Council of Canada

W19 Blow Molding
Blow Molding Session
Moderators: Kenneth Carter & George Hurden
Room S330E

1:30 BENEFITS OF CONFORMAL COOLING IN IMPROVING BLOW MOLDED CONTAINER PERFORMANCE
2075961 | Sumit Mukherjee, Plastic Technologies, Inc.

2:00 FOAMCORE BLOW MOLDED STRUCTURAL COMPONENTS FOR TRANSPORTATION APPLICATIONS
2143645 | Steven Sopher, JSP

2:30 LIGHT WEIGHTING IN BLOW MOLDING USING NEW MUCELL TECHNOLOGY
2135257 | Simon Dominey, Mucell Extrusion

3:00 OPTIMIZE THE MECHANICAL PROPERTIES OF BLOW MOLDED THERMOTROPIC LIQUID CRYSTALLINE POLYMERS FOR HYDROGEN STORAGE APPLICATIONS
2097075 | Chen Qian, Virginia Polytechnic Institute and State University

3:30 EXTRUDATE SWELL OF HDPE MELTS WITH APPLICATION TO MANUFACTURING OF THE NEW GENERATION FUEL SYSTEM (NGFS’)
2102126 | Ehsan Behzadfar, The University of British Columbia

4:00 EXTRUDATE SWELL OF HIGH-DENSITY POLYETHYLENE USING INTEGRAL AND DIFFERENTIAL CONSTITUTIVE EQUATIONS
2102351 | Vinod Kumar Konaganti, The University of British Columbia

W20 Composites
Composites Analysis II
Moderators: Uday Vaidya & Ross Jones
Room S320A

1:30 MODELING OF TENSION-COMPRESSION ASYMMETRY IN FIBER-FILLED ENGINEERING THERMOPLASTIC MATERIALS USING LS-DYNA
2094203 | Subhransu Mohapatra, SABIC

2:00 NON-DESTRUCTIVE MONITORING OF DAMAGE IN CFRP USING ULTRASONIC BIREFRINGENCE
2132912 | Peter Fey, Institut für Kunststofftechnik, University of Stuttgart

2:30 MICROSTRUCTURAL ANALYSIS OF MULTI-SCALE POLYMER COMPOSITES USING OPTICAL MICROSCOPY AND ENTROPIC MEASURES
2136105 | Jason Nixon, University of Maryland, College Park

3:00 DRAPING SIMULATION OF THERMOPLASTIC PREPREGS WITH SPECIAL FOCUS ON THE NON-LINEAR BENDING STIFFNESS
2139169 | Patrick Mabry, University of Wisconsin-Madison

3:30 UNIAXIAL STRAIN EFFECTS ON THE PERCOLATION THRESHOLD OF FIBERS IN POLYMER COMPOSITES: A MONTE CARLO SIMULATION
2139273 | Amir Ameli, University of Toronto

4:00 MECHANISTIC MODEL SIMULATION OF A COMPRESSION MOLDING PROCESS: FIBER ORIENTATION AND FIBER-MATRIX SEPARATION
2139581 | Camilo Perez, University of Wisconsin
W21 Engineering Properties and Structure
Structure Properties 3
Moderators: Himanshu Asthana & Chaitra Mahesha
Room S320C

1:30
STRUCTURE PROPERTY OF ENGINEERED BIOMATERIALS
KEYNOTE | Tony Brennan, University of Florida

2:00
TIME TEMPERATURE SUPERPOSITION PRINCIPLE FOR PREDICTING LONG-TERM RESPONSE OF FIQUE-FIBER REINFORCED POLYETHYLENE- ALUMINUM COMPOSITES
2137608 | Miguel Hidalgo, Universidad Autónoma de Occidente

2:30
HIGH PERFORMANCE CELLULOSICS FOR DEMANDING MEDICAL DEVICE APPLICATIONS
2097888 | Lea Paslay, Eastman Chemical Company

3:00
PRECISE INJECTION MOLDING OF THERMOPLASTICS ELASTOMERS -EVALUATION OF SURFACE REPLICATION AND METAL ADHESION
2093766 | Hiroshi Ito, Yamagata University

W22 Failure Analysis and Prevention
Non-Destructive Testing and Failure Analysis Case Studies
Moderator: Jennifer Hoffman
Room S329

1:30
FAST THERMAL TOMOGRAPHY FOR NON-DESTRUCTIVE TESTING OF PLASTIC COMPONENTS
2096610 | Stefan Kremling, SKZ - German Plastics Center

2:00
COMPUTED TOMOGRAPHY X-RAY IMAGING - A NOVEL TECHNIQUE FOR NON-DESTRUCTIVE EXAMINATION OF PLASTIC PRODUCTS
2097163 | Anand Shah, Engineering Systems Inc.

2:30
NON-DESTRUCTIVE INSPECTION OF PLASTIC COMPONENTS WITH TERAHERTZ TIME DOMAIN SPECTROSCOPY
2096575 | Stefan Kremling, SKZ - German Plastics Center

3:00
FAILURE ANALYSIS OF COPOLYESTER CLAMPS
2139557 | Tommy Washington, Element Materials Technology

3:30
FAILURE ANALYSIS OF A FRACTURED POLYAMIDE 6 SHOCK ABSORBER HOUSING
2091603 | Brian Ralston, Cambridge Polymer Group

4:00
FAILURE ANALYSIS OF A GLASS FILLED PHENOLIC RESIN POWER STEERING PUMP PULLEY
2095423 | Michael Hayes, Engineering Systems Inc.

4:45
Best Paper Award Presentation

W23 Injection Molding
Tutorial Session II
Moderator: Adam Kramschuster
Room S320G

1:30
THE UTILITY OF PROPERTY DATA SHEETS FOR PLASTIC MATERIALS
Mike Sepe

2:30
THERMOPLASTIC ELASTOMERS OVERVIEW
Mike Walter

3:30
PREVENT FAILURE BY UNDERSTANDING WHY PLASTIC PARTS CRACK
Jeff Jansen
**W24 Injection Molding**
Emerging Technologies
Moderator: Tom Turng
Room S320H

1:30
A METHOD FOR CREATING INTERNAL GEOMETRIES IN INJECTION MOLDED PARTS USING WATER SOLUBLE POLYVINYL ALCOHOL (PVOH) INSERTS
2098302 | Jason McNulty, UW-Madison

2:00
STUDY ON THE RELATIONSHIP BETWEEN THE DEGREE OF CRYSTALLINITY AND THE ULTRASONIC VELOCITY FOR POLY(LACTIC ACID) (PLA) PARTS
2137529 | Peng Zhao, Zhejiang University

2:30
CAE VERIFICATION ON GAS-COUNTER PRESSURE MECHANISM IN GAS-ASSISTED INJECTION MOLDING
2132883 | Yan-Mao Huang, Chung Yuan Christian University

3:00
DYNAMIC BEHAVIOR OF CORE-MATERIAL PENETRATION IN MULTI-CAVITY CO-INJECTION MOLDING
2096345 | Chao-Tsai Huang, CoreTech System (Moldex3D) Co. Ltd

3:30
NUMERICAL SIMULATION AND EXPERIMENTATION OF WATER-ASSISTED CO-INJECTION MOLDING OF A NON-CIRCULAR TUBE
2093687 | TANGQING KUANG, East China Jiaotong University

4:00
MANUFACTURING OF FIBRE-REINFORCED, ELASTOMERIC PARTS USING THE INJECTION MOULDING PROCESS
2092606 | Ulf Recht, Institute of Plastics Processing at RWTH Aachen University (IKV)

4:30
SYSTEMATIC DETERMINATION OF PARAMETER INFLUENCES ON WALL THICKNESS DISTRIBUTION FOR THE NEW SPECIAL INJECTION MOLDING PROCESS DIRECT GITBLOW
2084413 | Stefan Seidel, University of Paderborn

**W25 Non-Halogenated Flame Retardants**
Super Session of Invited Speakers
Moderator: Roger Avakian
Room S330H

1:30
DISCUSSION OF FR TRENDS; FOCUS ON STRUCTURES, KEVLAR®/NOMEX®
INVITED | Ley Richardson, Dupont

2:00
MULTI-FUNCTIONAL DEOXYBENZOIN-BASED EPOXY RESINS
INVITED | Megan Syzndler, UMASS-Amherst

2:30
THE HISTORICAL FAA DEVELOPMENT OF IMPROVED FLAMMABILITY TEST METHODS FOR AIRCRAFT INTERIOR MATERIALS
INVITED | Richard Lyon, FAA

3:00
NOVEL FIRE-RESISTANT RENEWABLE MATERIALS DERIVED FROM FRESHWATER ALGAE
INVITED | Dr. Wnek, Case WRU/(GreenWave)

3:30
INFLUENCING FLAME RETARDANT USE – PRODUCT STANDARDS AND INDIRECT REGULATORY REQUIREMENTS
INVITED | Sabic

**W26 Plastics Environmental**
Plastics Environmental Session
Moderator: Louis Reifschneider
Room S330G

1:00
PLASTICS RECOVERED FROM SHREDDED END-OF-LIFE VEHICLES
2096211 | Brian Riise, MBA Polymers Inc.
1:30  PLASTICS RECOVERED FROM SHREDDED WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT  
2136056 | Brian Riise, MBA Polymers Inc.

2:00  IMPLEMENTATION OF POST CONSUMER RECYCLED PLASTIC IN ELECTRONIC PRODUCTS  
2096346 | James Drummond, Lexmark International Inc.

2:30  INTELLIGENT LABELS AS A BASIS FOR AUTO-SORTING OF PLASTIC PACKAGING  
2139650 | Edward Kosior, Nextek Ltd.

3:00  MECHANICAL PROPERTY ENHANCEMENT IN RECYCLED HIGH-DENSITY POLYETHYLENE (RHDPE) VIA SOLID-STATE PULVERIZATION METHODS  
2097805 | Katsuyuki Wakabayashi, Bucknell University

3:30  APPLICATIONS FOR RECYCLED POTS, TUBS AND TRAYS  
2139608 | Jonathan Mitchell, Nextek

W27 Product Design and Development Session II  
Product Design & Development Session II  
Moderator: Mark MacLean-Blevins  
Room S320E

1:30  INVESTIGATION OF THE INFLUENCE OF COLOR ON PLASTIC PRODUCT FAILURE  
2064691 | Paul Tres, ETS Inc.

2:00  CO-EXTRUSION OF CONTINUOUS FIBER COMPOSITES WITH HIGH MECHANICAL PROPERTIES  
2094429 | Jia Wang, Case Western Reserve University

2:30  FILTRATION MEDIA USING A MELT-BASED PROCESSING TECHNIQUE  
2094408 | Jia Wang, Case Western Reserve University

3:00  A NOVEL METHOD TO MAKE HIGHLY CRYSTALLINE PET ARTICLES BY POWDER COMPACTION  
2091015 | Zahir Bashir, SABIC

3:30  IMPORTANCE OF PROCESSING AND FIBER ORIENTATION FOR REALISTIC PERFORMANCE PREDICTION WITH FIBER REINFORCED THERMOPLASTICS  
2105334 | Recep Yaldiz, SABIC

W28 Thermoset Session  
Thermoset Session  
Moderator: Amit Chaudhary  
Room S320F

1:30  THE EFFECT OF CROSSLINKS ON THE MECHANICAL PROPERTIES OF ELASTOMERS: EXPERIMENTAL CHARACTERIZATION AND MODELING  
2091255 | Philipp Bruns, Institute for Plastics Processing (IKV)

2:00  BIO BASED ALIPHATIC EPOXY CLAY NANO-COMPOSITES  
2095579 | Andres Rigail-Cedeño, University of Massachusetts, Lowell

2:30  A NEW CMR-FREE POLYAMIDE IMIDE RESIN  
2139733 | Limor Ben Asher, FUJIFILM Hunt

3:00  INFLUENCE OF POST-CURING ON THE CHEMICAL STRUCTURE OF PHENOLIC MOLDING COMPOUNDS  
2096612 | Sascha Englich, Chemnitz University of Technology
3:30
INFLUENCE OF MATERIAL BATCH AND MOISTURE CONTENT ON THE PROCESSING BEHAVIOR AND DIMENSIONAL STABILITY OF PHENOLIC MOLDING COMPOUNDS
2096973 | Torsten Maenz, Robert Bosch GmbH

4:00
THROUGH 3D SIMULATION TO STUDY RESIN TRANSFER MOLDING (RTM) PROCESS WITH SANDWICH STRUCTURE AND GRAVITY EFFECTS
2096532 | Tsu-Min Ho, CoreTech System (Moldex3D) Co., Ltd.

4:30
STUDY OF THE KINETICS OF CURING ON BIOBASED EPOXY RESIN IN THE PRESENCE OF BIOBASED HARDENER
2118700 | Ghodsieh Mashouf Roudsari, University of Guelph

W29 Additive Mfg/3Dp Working Group
Recent Advances In Additive Manufacturing/3D
Moderator: Edwin Tam
Room S319
1:30-5:00

1:30
EDUCATION PRESENTATION: CLEARING THE AIR ABOUT 3D PRINTING EMISSIONS
Steve Wright, Eastman

2:30
MODELING OF LARGE SCALE FUSED DEPOSITION MODELING WITH REINFORCED PLASTICS
Vlastimil Kunc, Oak Ridge

3:30
COMPARISON OF FLAME RETARDANCY PERFORMANCE: INJECTION MOLDING VERSUS 3D PRINTING
Jason Zhu, PolyOne

4:00
FATIGUE PERFORMANCE OF FUSED DEPOSITION MODELING STYLE 3D PRINTING VS INJECTION MOLDED ULTEM 9085
Jane Spikowski, Polyone

W30 Marketing and Management
Marketing and Management Session
Moderator: Bin Sun
Room S320C

9:00
LESSONS LEARNED: AN ENTREPRENEUR USING STAGE-GATE® TO GUIDE A PROJECT
2124851 | Maurice Sadowsky, MJSTI Corp.

9:30
MARKETING AND PRODUCT DEVELOPMENT STRATEGIES IN THE CHEMICAL INDUSTRY USING DARK DATA & DATA SCIENCES
2230313 | Bala Ambravan, GadflyZone Inc.

10:00
PANEL DISCUSSION

W31 Polymer Modifiers and Additives
Impact/Toughness Modification
Moderator: Joseph Fay
S330F

1:30
USING ZEMAC® COPOLYMERS TO REDUCE COSTS IN NYLON COMPOUNDS WHILE MEETING EXACTING CUSTOMER PERFORMANCE SPECIFICATIONS
2076523 | Ashok Adur, Vertellus Specialties Inc.

2:00
NOVEL IMPACT MODIFIER ALTERNATIVE FOR GLASS FIBER REINFORCED POLYMERS
2093311 | Semra Senturk-Ozer, Polymer Dynamix, LLC

2:30
ON THE USE OF SELF-ASSEMBLING BLOCK COPOLYMERS TO TOUGHEN AN AROMATIC AMINE-CURED EPOXY
2139587 | Ray Pearson, Lehigh University

3:00
TOUGHENING HOLLOW GLASS MICROSPHERE FILLED LOW DENSITY NYLON COMPOUNDS
2139626 | Baris Yalcin and Mark Williams, 3M
UNDERGRADUATE POSTERS

FABRICATION AND ANALYSIS OF LED FACE-LIT ACRYLIC LETTERS
2182046 | Michael Durand, University of Wisconsin-Stout

FABRICATION AND TESTING OF BIO-ABSORBABLE POLYLACTIC ACID BONE SCREW
2180534 | Abigail Rich, University of Wisconsin-Stout

SPOT COOLING WITH LIQUID CARBON DIOXIDE WITH IN-MOLD LABELING
2180939 | Stacey Johnson, Pennsylvania State University

BIO-BOR MATERIAL COMPOSITES
2181415 | Abigail Gilmore, Pennsylvania State University

A METHOD FOR CREATING INTERNAL GEOMETRIES IN INJECTION MOLED PARTS USING WATER SOLUBLE POLYVINYL ALCOHOL (PVOH) INSERTS
2181443 | Cyrus Thompson, University of Wisconsin-Madison

STRUCTURE AND PROCESSING EFFECTS OF A REBUILDABLE TERNARY BLEND COMPOSED OF POLYOLEFIN ELASTOMER, POLYETHYLENE OXIDE, AND SILICA PARTICLES
2181440 | Joshua Barbara, Pennsylvania State University

DESIGN AND CONSTRUCTION OF EXTRUSION CAPILLARY RHEOMETER
2181764 | Tyler Naatz, University of Wisconsin-Stout

EXPLORING COCONUT SHELL REINFORCED POLYPROPYLENE IN OLEFIN BLENDS
2231205 | Patrick Haney, Pennsylvania State University

NOVEL FILLER SYSTEMS TO ENHANCE BARRIER PROPERTIES FOR ROTATIONAL MOLED PARTS
2223779 | Kyle Schwenker, Pittsburg State University

RECYCLING OF PE & PP REGRIND UTILIZING TITANATE BASED COMPATIBLIZERS
2231254 | Kyle Ptak, University of Massachusetts, Lowell

REDUCING DENSITY OF A WOOD FLOUR COMPOSITE
2231023 | Jacob Fry, Pennsylvania College of Technology

SEVEN COEFFICIENTS FOR INJECTION MOLDING SIMULATION SOFTWARE
2223081 | Kristina Zmuda, University of Wisconsin-Stout

SYSTEMATIC CHARACTERIZATION OF A WIRE-HEATER DURING EXTRUSION COATING PROCESS
2231270 | Maria Palacios, University of Massachusetts, Lowell

WEAR AND THERMAL CONDUCTIVITY OF PEEK/BN COMPOSITES
2231195 | Rebecca Wheeler, Pennsylvania State University

GRADUATE POSTERS

EFFECT OF SCREW GEOMETRIES ON FIBER LENGTH AND DISPERSION OF FRTP IN INJECTION MOLDING
2180804 | So Shimokusuzono

THERMAL EXPANSION AND CYCLING EFFECTS ON POSS-EPOXY THERMOSET COMPOSITES
2089163 | Jessica Piness
CHARACTERIZATION OF CARBONIZED ELECTROSPUN LIGNIN FIBERS
2181893 | Vida Poursorkhabi, University of Guelph

THE MECHANICAL, THERMAL AND BARRIER PERFORMANCE OF THE ADDITIVE-MODIFIED POLY LACTIDE (PLA)/POLYPROPYLENE CARBONATE (PPC) BLEND CAST FILMS
2182062 | Qirui Sun, University of Guelph

EFFECTS ON THE FLAMMABILITY OF POLYPROPYLENE BASED BIOCOMPOSITES UNDER ACCELERATED AGING CONDITIONS
2181901 | Emmanuel Ogunsona, University of Guelph

STUDY OF THE KINETICS OF CURING ON BIOBASED EPOXY RESIN IN THE PRESENCE OF BIOBASED HARDENER
2118700 | Ghodsieh Mashouf Roudsari, University of Guelph

PROPERTIES OF BIOCHAR AS A BIOBASED FILLER FOR POLYMER COMPOSITES
2181898 | Ehsan Behazin, University of Guelph

THE EFFECT OF PROCESSING ON INJECTION MOLDED POLY(LACTIC ACID)/ACRYLONITRILE BUTADIENE STYRENE BLENDS
2181896 | Ryan Vadori, University of Guelph

SYNTHESIS AND CHARACTERIZATION OF BIOPOLYESTERS FROM REFINED CRUDE GLYCEROL AND SUCCINIC ACID
2181041 | Oscar Valerio, University of Guelph

DURABILITY STUDIES OF BIODEGRADABLE POLYMERS UNDER SIMULATED ENVIRONMENTAL CONDITIONS
2140053 | Rajendran Muthuraj, University of Guelph

INVESTIGATING OPERATING CONDITIONS AND MECHANICAL PERFORMANCE OF CO-INJECTED POLYLACTIC ACID AND POLYCAPROLACTONE
2140051 | Nicholas Hotz, University of Guelph

ANALYZING THE PERFORMANCE OF A LIGNIN-BASED ALTERNATIVE TO CARBON BLACK IN BIONANOCOMPOSITES
2181899 | Michael Snowdon, University of Guelph

IN-PLANE THERMAL CONDUCTIVITY OF GRAPHITE NANOPATELET MODIFIED LLDPE FILMS
2097989 | Ozgun Ozdemir

GEL SPINNING OF UHMWPE FIBERS WITH LOW MOLECULAR WEIGHT POLYBUTENE AS A NEW SPIN SOLVENT
2147579 | Xudong Fan, Georgia Tech

THERMAL ANALYSIS OF POLYURETHANE REACTION BEHAVIOR FOR PLASTIC-BONDED EXPLOSIVES
2091293 | Jong Han Choi

TOUGHENING BIODEGRADABLE POLY(LACTIC ACID)/THERMOPLASTIC POLYURETHANE BLENDS VIA REACTIVE EXTRUSION WITH MDI
2139224 | Han-Xiong Huang

ALTERNATING MULTILAYERED POLYPROPYLENE/POLY(ETHYLENE-CO-OCTENE) SHEETS WITH ENHANCED LOW TEMPERATURE IMPACT TOUGHNESS
2139890 | Han-Xiong Huang

ANTIMICROBIAL ASSESSMENT OF CORE-SHELL NANOFIBER SCAFFOLD IN APPLICATIONS OF WOUND HEALING
2182344 | Sepideh Niknezhad

BONDING STRENGTH IMPROVEMENT FOR FIBER METAL LAMINATE (FML)
2137820 | Pritesh Sudhakar Yeole

IMPROVED MECHANICAL PROPERTIES OF CUO NANOSTRUCTURED WOVEN CARBON FIBER COMPOSITE
2146199 | Kyungil Kong, UNIST

MECHANICAL AND FOAMING BEHAVIORS OF PLA TOUGHENED BY SILICON RUBBERMECHANICAL AND FOAMING BEHAVIORS OF PLA TOUGHENED BY SILICON RUBBER
2160416 | Huan Li, Qingdao University of Science and Engineering
THERMOSETTING RESIN COMPOSITIONS BASED ON BIO-DERIVED PHENOLS AND SUGARS
2179437 | Kenneth Samuel Ogueri, University of Massachusetts, Lowell

UNRAVELING THE MECHANISM OF THERMAL AND THERMO-OXIDATIVE DEGRADATION OF TANNIC ACID
2187291 | Zhiyu Xia, University of Massachusetts, Lowell

DEVULCANIZATION OF WASTE EPDM RUBBER FROM CARS USING AN ULTRASONIC TWIN-SCREW EXTRUDER
2126501 | Hui Dong, University of Akron

DESTRUCTIVE FIBER ORIENTATION ANALYSIS METHOD OF INJECTION MOLDED THERMOPLASTICS USING SCANNING ELECTRON MICROSCOPY
2230150 | Carlton Metcalf-Doetsch, Baylor University

BISMALEIMIDE AND BORON NITRIDE COMPOSITES: THERMAL CONDUCTIVITY AND DIELECTRIC STRENGTH CHARACTERIZATION FOR DIE ATTACH ADHESIVES
2231401 | Nathan Warner, University of North Texas

CORROSION RESISTANCE OF CLAY/HYBRID SILANIZED EPOXY ESTER COMPOSITES PREPARED BY IN-SITU SOLUTION POLYMERIZATION PROCESS
2182539 | Yujie Zhang, University of Cincinnati

DEVULCANIZATION OF WASTE EPDM RUBBER FROM POST INDUSTRIAL SCRAP USING AN ULTRASONIC TWIN-SCREW EXTRUDER: EFFECT OF SCREW DESIGN
2230420 | Hui Dong, University of Akron

FABRICATION OF BIOPATIBLE POLY (BUTYLENE ADIPATE-CO-TEREPHTHALATE) PBAT COATING FOR BIOMEDICAL APPLICATIONS
2231580 | Syed Hussain Rizvi, University of North Texas

FLOW INSTABILITIES OF HIGHLY ENTANGLED THERMOPLASTIC POLYMERS
2221358 | Yanfei Li, Texas Tech University

GRAPHENE DISPERSION FOR POLYMER PRECURSORS
2231001 | Vahid Shabafrooz, Oklahoma State University

HIGH PERFORMANCE POLYMER NANO- COMPOSITES: ROLE OF THE MIXED SOLID NANOFLULLERS
2231337 | Xi Zhang, University of Tennessee-Knoxville

MECHANICAL AND THERMAL PROPERTIES OF COAXIAL ELECTROSPUN FIBERS MESH OF PCL-PBAT
2231559 | Syed Hussain Rizvi, University of North Texas

NON-LINEAR BEHAVIOR OF SILK FIBROIN ELECTROGELS’ ELECTRICAL PROPERTIES
2141759 | Eliad Cohen, University of Massachusetts, Lowell

REAL-TIME CHARACTERIZATION OF PHYSICAL CHANGES IN POLYMER FILM FORMATION: AMPHIPHILIC MEDICAL FILMS
2228107 | Gustavo Guzman, University of Akron

ULTRASONIC TREATMENT OF PP/CNT COMPOSITES DURING TWIN-SCREW EXTRUSION: EFFECT OF SCREW CONFIGURATION
2231576 | Jing Zhong, University of Akron

UNRAVELING THE MECHANISM OF THERMAL AND THERMO-OXIDATIVE DEGRADATION OF TANNIC ACID
2182791 | Zhiyu Xia, University of Massachusetts, Lowell
PROFESSIONAL POSTERS

POLYMER MODIFIERS AND ADDITIVES

ALKYLATION OF NANOCELLULOSE FOR THE IMPROVEMENT OF DISPERSION IN THE POLYMER MATRIX
2096649 | Seong Hun Kim, Hanyang University

ADVANCED POLYMER MATERIALS SYNTHESIZED BY NEW LIVING RADICAL POLYMERIZATION METHOD (TERP)
2092586 | Hiroyuki Ishitobi, Otsuka Chemical Co., Ltd.

FAILURE ANALYSIS AND PREVENTION

COMPARATIVE STUDY ON NON-DESTRUCTIVE TESTING METHODS FOR PLASTICS INDUSTRY
2096622 | Stefan Kremling, SKZ - German Plastics Center

NON-DESTRUCTIVE TESTING OF POLYMER COMPONENTS USING ALL-ELECTRONIC TERAHERTZ SYSTEMS
2096598 | Stefan Kremling, SKZ - German Plastics Center

ENGINEERING PROPERTIES AND STRUCTURE

SURFACE MODIFICATION OF NANO SILCA FOR ORGANIC/INORGANIC HYBRID UV CURABLE ACRYLATE HARD COATING
2096661 | Ho Jong Kang, Dankook University

STUDY ON INTERPHASE TRANSFER OF THE LIQUID TACKIFIER BETWEEN IMMISCIBLE RUBBER PAIR
2075802 | Nawaphorn Kuhakongkiat, Japan Advanced Institute of Science and Technology

ULTRASONIC TREATMENT OF PP/CNT COMPOSITES DURING TWIN-SCREW EXTRUSION: EFFECT OF SCREW CONFIGURATION
2098053 | Jing Zhong, University of Akron

ALLOYS AND BLENDS

THE INFLUENCE OF PROCESSING CONDITIONS ON THE CRYSTALLIZATION BEHAVIOR OF POLYPROPYLENE MODIFIED BY IONOMERS
2096342 | Gaopin Yang, East China University of Science and Technology

ELECTRICAL & ELECTRONIC

BISMALEIMIDE AND BORON NITRIDE COMPOSITES: THERMAL CONDUCTIVITY AND DIELECTRIC STRENGTH CHARACTERIZATION
2139181 | Nathan Warner, University of North Texas

DEVELOPING THREE-DIMENSIONAL CARBON SCAFFOLD ANODES FROM POLYACRYLONITRILE FOR MICROBIAL FUEL CELLS
2139226 | Han-Xiong Huang, South China University of Technology

PRODUCT DESIGN & DEVELOPMENT

IMPORTANCE OF FEED SYSTEM AND GATE SIZING DURING THE DEVELOPMENT PHASE OF AN INJECTION MOLDED PART - DRAIN PAN FOR HVAC APPLICATION
2128055 | Thirumal Mariappan, Ingersoll Rand

FLEXIBLE PACKAGING

A DSC METHOD TO DETERMINE TEMPERATURE UNIFORMITY IN BOPA ANNEALING OVEN AT TRANSVERSE DIRECTION
2090922 | Jianfeng Huang, Honeywell Technology Solution-China

REVIEW ON MICRO-/NANO-LAYER ENHANCED BARRIER TECHNOLOGY
2094087 | Patrick Lee, University of Vermont

THE EFFECT OF PBAT ON THE PHYSICAL PROPERTIES OF PLLA MULTILAYER STRUCTURE FILM
2096755 | Sung Wook Hwang, Korea Institute of Industrial Technology
THERMOSET

INVESTIGATION ON ORIENTATION AND DISTRIBUTION OF METAL FIBER IN EPOXY SUBSTRATE CONTROLLED BY ELECTROMAGNETIC
2096531 | Kuan-Hua Lee, Chung Yuan Christian University

BASIC STUDY OF THERMOSETTING INJECTION COMPOSITES
2097167 | Taketaro Kobayashi, Kobayashi Industry Co., LTD

CURING KINETIC AND VISCOSITY BEHAVIOR OF LIQUID SILICONE RUBBER FOR REACTION INJECTION MOLDING ANALYSIS
2139723 | Donghan Kim, Ajou University

COMPOSITES

THERMAL CONDUCTIVITY OF CARBON FIBER/CARBON NANOTUBE HYBRID-FILLED POLYMER COMPOSITES
2095096 | Haihong Wu, Henan University of Technology

BIOPLASTICS

MECHANICAL AND THERMAL PROPERTIES OF COAXIAL ELECTRSPUN FIBERS MESH OF PCL-PBAT
2139185 | Syed Hussain Rizvi, University of North Texas

FABRICATION OF BIOCOMPATIBLE POLY (BUTYLENE ADIPATE-CO-TEREPHTHALATE) PBAT COATING FOR BIOMEDICAL APPLICATIONS
2139308 | Syed Hussain Rizvi, University of North Texas