Final Program
June 1, 2017
The Sheraton Detroit Novi Hotel
Novi, Michigan USA

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Sponsors:
8:00 a.m.  Registration and Continental Breakfast

8:45 a.m.  Welcome and Opening Remarks -
Dr. Joel Kopinsky, Managing Director
The ITB Group (U.S.A.)

INNOVATIONS IN MATERIALS AND PROCESSES

9:00 a.m.  Future Trends for High Performance Materials for Existing and Alternative Propulsion Systems
Director Business Development
Toray Resin Company (U.S.A.)
Innovations and evolutions of automotive propulsion systems and components are leading to new designs and features. High performance materials are enabling high value solutions tailored to specific needs. This presentation will provide an overview of current materials and trends for propulsion systems. Activities for internal combustion engine, hybrid electric and electric vehicle as well as fuel cells using high performance materials will be highlighted.

9:30 a.m.  Ryton® XE PPS Alloys for Fluid Transport Tubing
Sales Development Manager
Solvay Specialty Polymers (U.S.A.)
The trend toward improved power density and efficiency has driven higher under-hood temperatures which therefore require components with more robust material solutions particularly in fluid transportation. Thermoplastic tubing and piping offers light weighting and cost reduction potential vs. metal, but material choices are limited as traditional engineering material options are challenged with respect to processability, thermal rating, and chemical resistance. PPS is a good example of a polymer with excellent temperature and chemical resistance properties whose properties have been difficult to harness in extrusion form. Ryton® XE, however, is a high performance material solution that has been developed and commercialized for demanding extrudable metal replacement applications such as for coolant transport and crankcase ventilation.

10:00 a.m.  High Performance Molding with the Technology and Innovation of Multitube and Multi-Process Plastic Injection Molds
General Manager
Georges Pernoud North America (U.S.A.)
Plastic injection mold innovations are critical for designing highly integrated, high value solutions for under-the-hood plastic components. The Georges Pernoud Group’s goals include eliminating the need for multiple tools, secondary operations and post-assembly. Proprietary innovations include multi-process molds and multitube molding. Additionally, a newly developed process injection molds serviceable Liquid Silicone Rubber (LSR) seals onto a mold’s primary part, with a minimal effect to the cycle time.

10:30 a.m.  Networking Break

11:15 a.m.  Meeting Future Trends and Challenges of Air Management Systems
Market Development Manager
DuPont Automotive (U.S.A.)
Replacement of metals by plastics is the most effective way to make a vehicle lighter while gaining easier processing, integration of functions and lower cost - but the challenge is to develop polymers that can perform in these hot and aggressive under-the-hood environments. Engine air management systems are considered that control the flow of high temperature air, aggressive gases and fluids under high pressure. Advanced plastics and elastomers that are rapidly replacing metals in many air management components will be discussed. Advantages of weight reduction up to 50 percent and cost reduction by 20 percent compared to metal counterparts, while providing outstanding heat and fluid aging resistance will be highlighted.

11:45 a.m.  Innovative Solutions for Engine Air Induction Applications
Automotive Engine System Product Manager
Roechling Automotive (Italy)
The development of modern-day air intake systems routinely involves the use of software to optimize acoustic and fluid dynamic performance. Air filtration has not received the same level of attention. For example, is it possible to predict the lifetime of a filter element? There is a clear trend with intake manifold design to integrate an indirect cooled charge air cooler within the intake manifold. What is driving this trend and how difficult is this to accomplish within the intake manifold? This presentation will provide answers to these questions.

12:15 p.m.  High Temperature Thermoplastic Copolyester for Hot Charge Air Ducts
Senior Application Development Engineer and Business Development Manager
DSM Engineering Plastics (U.S.A.)
This presentation will examine a novel, high temperature thermoplastic copolyester capable of dramatically higher continuous use temperature as compared to current, thermoplastic elastomeric materials on the market today. The performance attributes of the new material will also be discussed, as it may serve as a viable alternative to high temperature rubber for hot charge air ducts.

12:45 p.m.  Lunch

Exhibitors:
Ascend Performance Materials
BASF
DIC / Sun Chemical
2:00 p.m. The Next Steps in Simulating SLS Performance with Sinterline PA 6 Powder
New Business Development Manager
Solvay Performance Polyamides (U.S.A.)
Material technology for 3D printing has advanced past visual prototypes. Fully functional nylon prototype parts are now successfully being used in lieu of injection molded alternatives. Solvay has taken the next step to optimize the performance of 3D printed parts and partnered with e-Xstream, a Digimat Software solution provider. Now, the anisotropy of 3D printed parts can be accurately simulated and optimized for any application. This new collaboration expands the ability for more successful use in more applications. It allows for the precise accuracy that is needed in predictive modeling using SLS Sinterline PA 6 Powder.

2:30 p.m. How Reinforced Plastic Material Microstructures are Influencing Component Vibrational Behavior
Application Engineer
e-Xstream (U.S.A.)
Reinforced plastic materials are used today in the automotive industry to lighten the vehicle’s structure. In some cases, reinforced plastics can provide improved performance including NVH. As with stiffness and failure, the damping behavior of reinforced plastic materials is locally anisotropic, driven by the local fiber orientation throughout the component resulting from the injection process. It is proposed in this presentation to observe, through FEA-based multi-scale visco-elastic material model simulation studies, the microstructural parameters of SFRP and how these influence the final component’s NVH behavior, notably fiber orientations, fiber length and fiber volume fractions.

3:00 p.m. CAE Driven Development of CARB Approved Plastic Ejector in AIS Duct for Purging of Carbon Canister in Turbocharged Engines
Supervisor CAE Manufacturing and
CAE Product Development Engineer
Ford Motor Company (U.S.A.)
It is challenging to purge a carbon canister efficiently with GTDI engines due to the absence of an intake manifold vacuum. Hence, an ejector (also known as a jet-pump) is required to create the necessary vacuum for facilitating canister purging. Due to the durability issues associated with current ejector packaging (mounted inside vapor line), CARB has mandated OEMs to come up with a better location for the ejector. Ford is exploring an option to mount the ejector inside the clean side AIS duct. The presentation will highlight the CAE driven design process of the ejector.

3:30 p.m. Networking Break

4:00 p.m. Next Generation PPA is a Powertrain Game Changer
Business Development Manager, Powertrain
DSM Engineering Plastics (U.S.A.)
Weight reduction and rising engine temperatures are two of today’s chief automotive challenges. DSM’s latest solution helps engineer the incredible, by thinking beyond metal, and beyond its traditional alternatives. DSM’s solution is a next generation PPA and delivers the stiffness, strength and temperature resistance needed in tomorrow’s powertrain systems. This presentation will reveal the potential to create new thermoplastic applications all of which meet the extreme needs of automotive manufacturers and drivers.

4:30 p.m. Next Generation Plastics Compounds for Automotive Powertrain Applications
Vice President, R&D
Wellman Advanced Materials (U.S.A.)
The design, development and commercialization of highly engineered and value-added polyamide compounds using cost effective and 100% post-consumer recycled feed-streams will be presented. The business objective is to bring up their performance properties in par with the virgin-based counter-parts to serve global automotive industry. We briefly present ecological and environmental benefits of these novel and eco-friendly injection molding materials that offer significantly reduced greenhouse gas emissions.

5:00 p.m. Advantages of Aliphatic Polyketone in Automotive Powertrain Parts
President and CEO
Esprix Technologies (U.S.A.)
Aliphatic Polyketone (PK) engineering thermoplastic resins have excellent chemical resistance to hydrocarbons, hydraulic fluids and automotive fluids. This makes PK an excellent matrix material for structural composites to replace metals in automotive applications. PK can be compounded with glass and carbon fiber to improve stiffness and strength while retaining good impact resistance. In addition, electrical conductivity for ESD and thermal conductivity additives can be incorporated into the composites while retaining dimensional stability and mechanical properties for those demanding service applications. Recent advances in mechanical, electrical and thermal properties of these PK composites will be presented.

5:30 p.m. Closing Remarks and Cocktail Reception
Developing / Implementing Strategic Vision
- Creating sustainable value
- Identify appropriate activities - product / customer portfolio optimization
- Globalization strategy
- Technology selection

Technology Feasibility Analysis
- Voice of the customer
- Market trends
- Competitive environment
- Apparent value

Capitalizing on Legislative Trends
- Fuel consumption & GHG developments
- Safety
- Emissions (exhaust and evaporative)

Optimizing Customer Base & Product Portfolios
- Value proposition (what and how products are offered)
- Resource optimization
- Customer portfolio
- Identify threats & opportunities

Leveraging Opportunities in the Competitor and Supply Base Arenas
- Competitor analysis
- Supply base optimization
- Make and buy decisions
- Tier One or Two positioning (tiering strategy)

Creating New Relationships
- M & A - target identification, due diligence & implementation assistance
- Technology licensing
- Product partnering
- Consortiums

Conference Schedule
Plan now to participate in ITB’s upcoming automotive conferences. Opportunities to present, sponsor and/or exhibit are available.

- **Smart Automotive Surfaces** - October 11 and 12, 2017. Novi, Michigan, U.S.A.

For more information, please contact Bryan Eldredge, Program Manager at: beldredge@itbgroup.com or (1) 248-380-6310.