



# AUTOMOTIVE PLASTICS NEWS

A PUBLICATION OF THE AUTOMOTIVE DIVISION OF THE SOCIETY OF PLASTICS ENGINEERS

JAN/FEB 2020  
VOL 49, ISSUE 2

49TH-ANNUAL



## AUTOMOTIVE INNOVATION AWARDS COMPETITION & GALA *HONORING THE BEST IN AUTOMOTIVE PLASTICS*

### **SPE® Automotive Division Honors the Most Recent and Innovative Uses of Plastics in Automotive Applications at the 49<sup>th</sup>-Annual Automotive Innovation Awards Competition**



The 49<sup>th</sup>-annual SPE Automotive Innovation Awards Competition and Gala was held on November 6th in Livonia, Michigan and is now behind us. This year's event drew over 70 nominations and 740 gala registrations making it the 2<sup>rd</sup> largest attendance in at least 10 years. First, I would like to thank our Innovation Award Program organizers, category captains and judges for their hard work and time to make this the high quality event that it has been and is expected to be. And I would also like to thank our sponsors and nominees that really make the entire event possible. It is always very difficult for the First Round and Blue Ribbon Judges to narrow down the list of quality submissions we receive each year to pick finalists and then category and the Grand Award winners.

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## MEETING SCHEDULE & SPECIAL EVENTS CALENDAR

### SPE Sponsor Appreciation Dinner

Fogo de Chão 6:00 - 8:00 p.m.  
Troy, MI USA January 22, 2020

**TPO Shanghai Abstracts Due** February 15, 2020

### SPE Auto. Div. Board Meeting

American Chemistry Council - Auto. Ctr. 5:30 - 7:30 p.m.  
Troy, MI USA February 17, 2020

**AutoEPCON Abstracts Due** February 28, 2020

### 5<sup>th</sup>-Annual TPO Shanghai

Sheraton Shanghai HongKou Hotel All Day  
Shanghai, China March 24 - 26, 2020

### ANTEC 2020

San Antonio, TX March 30 - April 2, 2020

**ACCE Abstracts Due** April 17, 2020

### SPE Auto. Div. Board Meeting

American Chemistry Council - Auto. Ctr. 5:30 - 7:30 p.m.  
Troy, MI USA April 20, 2020

### 15<sup>th</sup>-Annual AutoEPCON

Troy Marriott All Day  
Troy, MI USA April 28, 2020

### SPE Auto. Div. Board Meeting

American Chemistry Council - Auto. Ctr. 5:30 - 7:30 p.m.  
Troy, MI USA June 15, 2020

### SPE Auto. Div. Board Meeting

American Chemistry Council - Auto. Ctr. 5:30 - 7:30 p.m.  
Troy, MI USA August 17, 2020

### SPE Automotive Division Golf Outing

Fieldstone Golf Course All Day  
Auburn Hills, MI USA September 8, 2020

### 20<sup>th</sup>-Annual Automotive Composites Conference and Exhibition

Diamond Banquet and Conference Center All Day  
Novi, MI USA September 9 - 11, 2020

### SPE Auto. Div. Board Meeting

American Chemistry Council - Auto. Ctr. 5:30 - 7:30 p.m.  
Troy, MI USA October 19, 2020

### 50<sup>th</sup>-Annual Innovation Awards Gala

Burton Manor 4:30 - 11:00 p.m.  
Livonia, MI USA November 19, 2020

### SPE Auto. Div. Board Meeting

American Chemistry Council - Auto. Ctr. 5:30 - 7:30 p.m.  
Troy, MI USA December 7, 2020

Automotive Division Board of Directors meetings are open to all SPE members. All events are listed on our website at

<http://speautomotive.com>

Email Dave Helmer at

[auto-div-chair@speautomotive.com](mailto:auto-div-chair@speautomotive.com)

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# CHAIR'S WELCOME

DAVE HELMER, SPE AUTOMOTIVE DIVISION CHAIR



AUTOMOTIVE



Happy Holidays – I hope that you and your family enjoy a safe and enjoyable holiday season and hope we are all recharged to take on the challenges 2020 has to offer all of us.

In September, the SPE Automotive Division participated in several successful events.

In September, the Automotive Composites Conference and Exhibition (ACCE) continued its growth in number of attendees, sponsors, and presentation count. Thank you very much to all the volunteers and especially to Dr. Alper Kiziltas and Matt Carroll for co-chairing the event.

In November, the Innovation Awards Gala (IAG) honored plastic innovation across the automotive industry. Highlights of this year's IAG are spread throughout this newsletter but I wanted to highlight two. First, the Grand Award Winner went to the Composite Pickup Box on the new GMC Sierra. Second, we were all happy to honor Mike Whitens from Ford as 2019 Lifetime Achievement award winner. Jeff Helms and all volunteers did another wonderful job celebrating plastics in automotive.

A few more highlights for this year. For our education team, we are really doing a great job with board agreement to add a Fenton Middle School Robotics team sponsorship. Also, the board agreed to increase commitment of the Plastivan up to 25 visits. On the financial side, in prior years we had yearly accounting which was very hard to decipher what event made or lost money. Now we are getting a financial snapshot of each event bridging the financial calendar years – thank you to Bonnie Bennyhoff.

As 2019 is in the books, we have a busy first half of 2020. First, we will be holding a supplier appreciation dinner for all our great supplier who power the Automotive Division. Second, the 2019 TPO Shanghai Conference, now sponsored by Automotive Division, will be held March 24<sup>th</sup> to 26<sup>th</sup> at the Sheraton Shanghai HongKou Hotel. Third, ANTEC will be held in San Antonio Texas from March 30<sup>th</sup> to April 2<sup>nd</sup>. Fourth, the Auto Epcon conference showcasing engineering plastics in automotive will be held April 28<sup>th</sup> at the Troy Marriott.

As a wrap up to 2019 and look forward to 2020, I hope you found this informational. At any time, if you have ideas on how to make our section better or would like to volunteer, do not hesitate to contact me at [auto-div-chair@speautomotive.com](mailto:auto-div-chair@speautomotive.com).

Thank you,

*Dave Helmer*

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The difference between being a finalist and winning a category is the difference of a vote or two and, for this year, a multiple vote to get to a clear winner for our Grand Award. I think this shows how competitive the Automotive Innovation Awards Program is each year and should give satisfaction to all the nominees for a job well done with respect to commercializing innovative solutions in this industry. From across the 9 category winners, this year's Grand Award went to the Body Exterior Category Winner, the Composite Pickup Box on the 2020 General Motors Co. GMC Sierra LD FST pickup. We also awarded the GM Corvette team this year's Vehicle Engineering Team Award for the 2020 model year Chevrolet Corvette Stingray for extensive use of composites, both thermoplastic and thermoset. The Corvette submissions included nine innovative part nominations, two of which were category finalists and one, a category winner. And, we awarded this year's Lifetime Achievement Award to Mike Whitens, a long-time contributor to innovations in automotive design and engineering and supporter of the SPE Automotive Division. Congratulations to Mike on this recognition for his impact on automotive plastics and SPE over his 30 years at Ford Motor Company.

It is now time to begin the planning for the Golden Anniversary of the SPE Automotive Division Innovation Awards. The 50<sup>th</sup>-Annual SPE Automotive Division Innovation Awards program is now set for Thursday, November 19th at Burton Manor in Livonia, Michigan. The organizing committee will be challenged in finding an appropriate way to recognize the 50<sup>th</sup> year of our awards program and staying on time. If you attended our Awards Gala this year and have suggestions on what we can do better, please don't hesitate to let us know. Email your comments to: [feedback@speautomotive.com](mailto:feedback@speautomotive.com).

*Jeff Helms*

2019 SPE Automotive Innovation Awards Chair

See this year's SPE Automotive Innovation Awards Competition winners at <http://speautomotive.com/inno>.

Attn. Editors: Photos of all the parts nominated for this year's SPE Automotive Innovation Awards Competition (including these Category and Grand Award winners) are available via [Teri@intuitgroup.com](mailto:Teri@intuitgroup.com).

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## 2019 Lifetime Achievement Award Winner MIKE WHITENS



**Michael J. Whitens**, retired former Global Director for Ford's Vehicle and Enterprise Sciences at Ford's Research and Innovation Center, was named the 2019 Lifetime Achievement Award Winner. In his most recent role at Ford (2014–2018) he led the development of technology strategy and implementation in support of emerging areas including plastics/polymers, advanced plastics processing technologies, composites and material formulations with responsibility for over 500 researchers at three Ford Motor Company global facilities.

Whitens demonstrated expertise working on several advanced plastics processes including micro-cellular foaming, long-fiber thermoplastic (D-LFT) composites, natural fiber composites, carbon fiber composites, nano additive based composites, metal-plastics hybrid molding, co-injection molding, twin screw extrusion compounding, polyurethane foams and more. His work includes the development of several innovations for numerous automotive plastics applications, ranging from interiors and exteriors to under the hood and safety — including instrument panels, door panels, door modules, molded-in-color, seating, NVH foams, fuel systems components and more.

An automotive industry veteran with over 30 years of experience, Whitens has spent the majority of his career at Ford Motor Company in various body engineering disciplines. He also spent three years as the Mustang PVT (Platform Vehicle Team) manager, bringing the second-generation Bullitt and Mach 1 to life.

He is a recognized leader in the development of innovative technologies in the automotive field, with 35 patents in many areas of component innovation, new material development, safety, body interior, exterior and vehicle execution.

# 2019 GRAND AWARD & CATEGORY WINNER: BODY EXTERIOR



## Composite Pickup Box 2020 General Motors Co. GMC Sierra LD FST pickup

Tier Supplier / Processor:  
Continental Structural Plastics/Continental Structural Plastics

Material Supplier / Toolmaker:  
Teijin Ltd./Paragon D&E, Model Die & Mold, Inc., Altron Automation, & Legacy Industries

Material / Process:  
Sereebo A235Y carbon fiber-reinforced PA6 sheet / Compression Molding

This is industry's first pickup box in thermoplastic composite and carbon composite. It saved 62 lb/28 kg, provided best-in-class impact resistance/durability, the unpainted UV-stable material eliminated the need for a bedliner (saving another 40 lb/18 kg), and numerous customer features were molded in, including functional compartment dividers and motorcycle tire pockets. The ability to achieve a deeper draw during molding increased cargo capacity. Significant technical challenges were overcome due to use of novel materials, processes, coatings and joining methods. The box is fully recyclable and some scrap is reused on the vehicle.





## Category Winner: ADDITIVE MANUFACTURING



### Sunglass Bin 2020 Ford Motor Co. Ford Explorer SUV

Tier Supplier / Processor:  
**Methode Electronics, Inc. / Methode Electronics, Inc.**

Material Supplier / Toolmaker:  
**Celanese Corp. / RGM Tooling Consultants, Inc.**

Material / Process:  
**Celstran PP-GF20-02 LFT-PP /  
Injection Molding; 3D Printed H13 Steel**

Additive Manufacturing was used to produce a single tooling insert (lifter) that replaced 2 conventionally machined lifters to mold an injection molded sunglass stowage bin. That enabled design changes to produce a deeper pocket with a heavier undercut that still could be molded without hotspots, warpage, or demolding issues and without needing to switch to a more costly resin. The new deeper bin design also better meets customer requirements while reducing cycle time, molding scrap, tooling maintenance, and improving dimensional stability in the final part.

## Category Winner: AFTERMARKET AND LIMITED EDITION/SPECIALTY VEHICLES



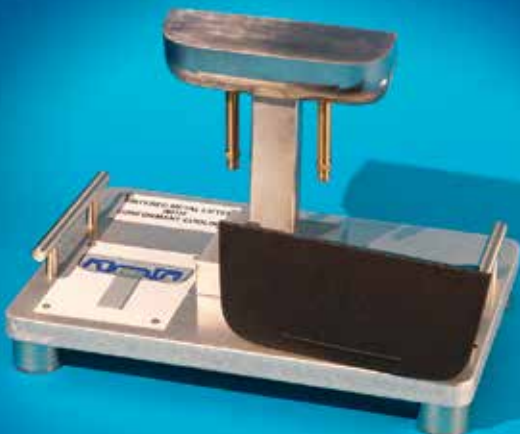
### Multiple Additively Manufactured Components 2020 Jaguar Land Rover Ltd. Jaguar XE SV Project 8 supercar

Tier Supplier / Processor:  
**HP Inc. / Jaguar Land Rover Ltd.**

Material Supplier / Toolmaker:  
**HP Inc., DyeMansion GmbH / N/A**

Material / Process:  
**HP High-reusability PA 12 /  
HP Multi Jet Fusion**

Additive manufacturing proved the most efficient and cost-effective method for producing 19 parts on this high-performance sedan whose total build volume will be limited to 300 cars. Both development and production parts were produced on the same printer platform, which eliminated significant tooling investment (est. at \$123,000 USD), as well as storage and maintenance costs. All 19 parts print at one time in a kit, and multiple kits can be produced at the same time. Additionally, parts offer better bonding adhesion than conventionally produced parts and passed paint adhesion tests.



Category Winner:  
**BODY INTERIOR**



Category Winner:  
**CHASSIS / HARDWARE**



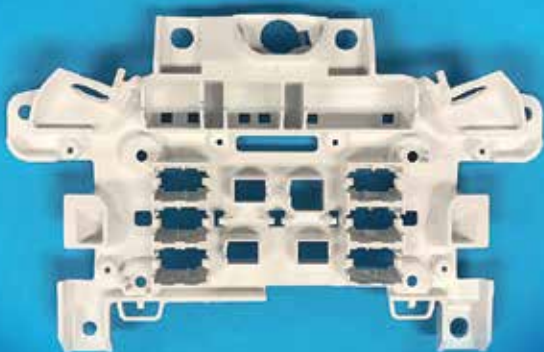
**Integrated Button Carrier Modular Strategy  
2020 Ford Motor Co.  
Explorer/Aviator/Corsair SUVs**

Tier Supplier / Processor:  
**Methode Electronics, Inc. / Methode Electronics, Inc.**

Material Supplier / Toolmaker:  
**The Materials Group / RGM Tooling Consultants, Inc.**

Material / Process:  
**Opticarb 8085SE PC/ABS /  
Injection Molding**

To reduce overhead console complexity, a new design was developed that integrated mechanical, lighting, electrical, and safety functions into a single modular button carrier injection molded from MIC PC/ABS. With all program variants, this reduced part count from 70 to 17/vehicle, achieved a \$7 USD cost savings/vehicle and \$1.42-million USD program savings for tooling and testing. No button binding issues have been seen, BSR was improved, and the headliner fit better. To date, 2 patents have been filed and one has been granted on this technology.



**Rear-Differential Front Bracket  
2020 FCA NA LLC  
Jeep Cherokee SUV**

Tier Supplier / Processor:  
**Boge Rubber & Plastics / Boge Rubber & Plastics**

Material Supplier / Toolmaker:  
**BASF Corp. / N/A**

Material / Process:  
**Ultramid A3WG10CR 50% GR-PA 6/6 /  
Injection Molding**

A critical diecast and machined aluminum bracket was replaced by an injection molded bracket in 50% GR-PA 6/6 in this demanding rear differential module. The composite material was not only 30% lighter and saved \$1 USD/car direct costs vs. the benchmark aluminum, but its matrix provided 10x higher damping, improving NVH performance, and it fit current packaging space for this running change. The part passed all performance and durability requirements, eliminated corrosion issues, and will significantly reduce tooling costs over the life of the program.





Category Winner:  
**ENVIRONMENTAL**



**100% PCR Carbon Canister Housing**  
**2019 Ford Motor Co.**  
**Ford Mustang Sports Car**

Tier Supplier / Processor:  
**Delphi Technologies PLC /**  
**MGS Mfg. Group**

Material Supplier / Toolmaker:  
**Wellman Advanced Materials /**  
**MGS Mfg. Group**

Material / Process:  
**EcoLene PP8004-BK1 20% GR-PP /**  
**Melt Compounding & Injection Molding**

The PP backing from PCR carpeting is given another use life by being recycled back into the injection molded carbon canister housing for passenger cars. This is the first 100% PCR PP-based carbon cannister. By replacing virgin PP, the recycled resin reduces cost 25% with no sacrifice to processing or molded-part performance, but increases sustainability. It is currently being rolled out on more than 20 Ford programs globally.



Category Winner:  
**MATERIALS**



**Glass Wool-Reinforced Composites**  
**for Improved Scratch Resistance**  
**2017 Hyundai Motor Co.**  
**Hyundai Elantra sedan**

Tier Supplier / Processor:  
**Seoyon E-Wha / Seoyon E-Hwa**

Material Supplier / Toolmaker:  
**Daehacom Co., Ltd. / Seoyon E-Hwa**

Material / Process:  
**SW920 SA glass wool-reinforced PP /**  
**Injection Molding**

To improve both long-term scratch resistance and dimensional stability in injection molded PP interior trim panels, glass wool (crushed glass + sand produced from reclaimed/PIR building insulation) was used to replace talc, whiskers, and fiberglass. Because glass wool boosts mechanical properties vs. talc, filler content was reduced 5%, leading to lighter, less costly parts. Since it helps maintain surface finish longer, it should lower warranty claims. A unique process was developed to incorporate glass wool into the resin compound. Glass wool is difficult to dispose of, so this application gives it another use life.





Category Winner:  
**PROCESS / ASSEMBLY /  
ENABLING TECHNOLOGIES**



**Rear Bumper  
2020 General Motors Co.  
Chevrolet Corvette sports car**

Tier Supplier / Processor:  
**Shape Corp. / Shape Corp.**

Material Supplier / Toolmaker:  
**SGL Carbon SE, VectorPly Corp., Scott Bader Co. Ltd. /  
Thomas GmbH + Co. Technik + Innovation KG**

Material / Process:  
**Crestapol 1250 PUR-acrylate reinforced with CF /  
Radius-Pultrusion**

The auto industry's first pultruded curved bumper beam uses the unique radius-pultrusion process and equipment to achieve a hollow beam with central web in carbon fiber fabric-reinforced polyurethane/acrylate resin. The curved geometry was desired to better match rear styling and vehicle package space. The beam features an integral tow hook mounting and is assembled to the body-in-white (BIW), requiring excellent mechanicals at elevated temperature. The beam meets low-speed crash requirements while cutting mass by 4.9 lb/2.2 kg vs. a metal-inert gas (MIG) welded aluminum extrusion. 3D printing was used to produce mandrels to maintain the hollow interior.



Category Winner:  
**POWERTRAIN**



**Transmission Gear Shroud  
2017 Ford Motor Co.  
Ford F-150 pickup**

Tier Supplier / Processor:  
**Stackpole International / MacLean-Fogg, Engineered  
Plastics Company**

Material Supplier / Toolmaker:  
**DuPont Automotive / Gibson Automation**

Material / Process:  
**Hytrel 8238 TPC-ET / Injection Molding**

A new transmission gear shroud cover and base protect the drive gear so it rotates freely without needing to push through transmission fluid, lowering effort, improving pump efficiency, and increasing vehicle MPG and the effective life of the transmission fluid. Injection molded TPC-ET replaced earlier steel covers with rubber seals that were heavier, more complex and costly, and suffered from more variation. Very aggressive snap fits permanently join cover to base once the assembly is completed. The same material molded very-thin provides a ductile seal. Costs were reduced 22%, weight lowered 65%, and NVH was improved.



Category Winner:  
**VEHICLE TEAM  
ENGINEERING AWARD**



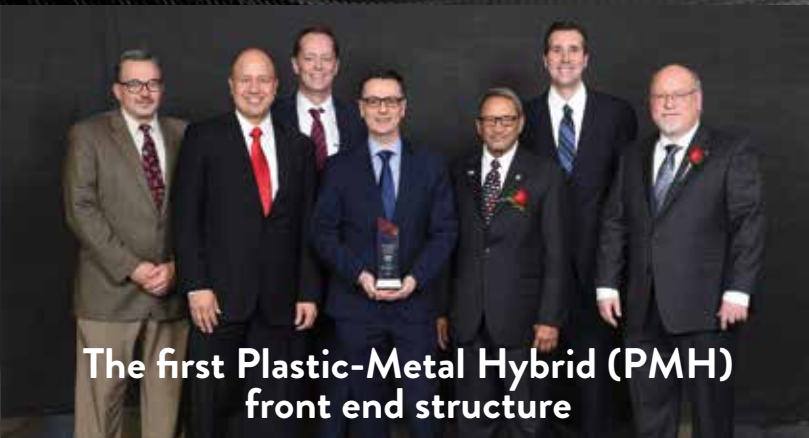
The composites-intensive 2020 model year (MY) Chevrolet Corvette Stingray sports car from General Motors Co. (Detroit) has been selected by a panel of industry experts as the winner of this year's Vehicle Engineering Team Award (VETA). The VETA award was created in 2004 to recognize the technical achievements of entire teams — comprised of automotive designers and engineers, tier integrators, materials suppliers, toolmakers, and others — whose work in research, design, engineering, and/or manufacturing has led to significant integration of polymeric materials on a notable vehicle. The team was honored by the Automotive Division of the Society of Plastics Engineers (SPE®) at the group's 49th annual SPE Automotive Innovation Awards Gala on November 6, 2019.

"It is an incredible honor for our team to win the VETA award. It is a wonderful recognition of 67 years of composites advancement. The 2020 Stingray is being hailed as a revolutionary car, due in no small part, to our state-of-the-art mixed material construction."

— Tadge Juechter,  
Chevrolet Corvette executive chief engineer

For more on this prestigious award, see page 14-15

Category Winner:  
**HALL OF FAME**



**The first Plastic-Metal Hybrid (PMH)  
front end structure**

**Ford Motor Company  
1999 C170 Ford Focus GOR**

The first Plastic-Metal Hybrid (PMH) front end structure, used on the 1999 C170 Ford Focus GOR from Ford Motor Company, was named the 2019 Hall of Fame winner. The plastic-metal front end structure, made with Durethan® BKV30H2.0 (30% glass filled PA6/heat stabilized) resin from LANXESS (formerly Bayer from 1999-2004) with a steel insert enabled a 40% weight reduction, 30% cost reduction, high function integration with reduced process steps, higher accuracy and quality, and higher load capacity compare to a 100% steel structure. To be considered for a Hall of Fame Award, an automotive plastic or composite component must have been in continuous service in some form for at least 15 years and broadly adopted in the automotive industry. This application certainly qualifies as there have been more than 70 applications and 70 million manufactured parts to date worldwide. The companies involved in developing the first PMH front end application include: OEM – Ford Motor Co.; System Supplier – **Visteon**; Molder/Processor – **Visteon**; Toolmaker – **Misslbeck**; and Material Supplier – **LANXESS** (formerly Bayer). Boris Koch is the inventor and designer of the PMH innovation with Bayer/ LANXESS and Dr. Hubert Goldbach is the inventor and designer for the PMH innovation with Bayer.





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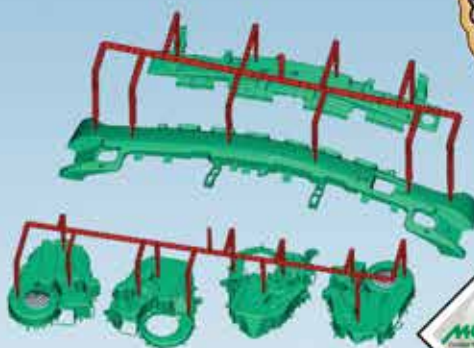
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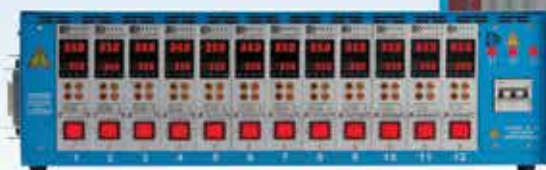
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## 2020 MY CORVETTE STINGRAY SPORTS CAR WINS SPE AUTOMOTIVE INNOVATION AWARDS COMPETITION'S VEHICLE ENGINEERING TEAM AWARD

The composites-intensive 2020 model year (MY) Chevrolet Corvette Stingray sports car from General Motors Co. (Detroit) has been selected by a panel of industry experts as the winner of this year's Vehicle Engineering Team Award (VETA). The team was honored by the Automotive Division of the Society of Plastics Engineers (SPE\*) at the group's 49th annual SPE Automotive Innovation Awards Gala on November 6, 2019. The VETA award was created in 2004 to recognize the technical achievements of entire teams — comprised of automotive designers and engineers, tier integrators, materials suppliers, toolmakers, and others — whose work in research, design, engineering, and/or manufacturing has led to significant integration of polymeric materials on a notable vehicle.

For 67 years, the iconic Corvette has been a composites-intensive sports car. Therefore, it is not surprising that the eighth generation Corvette features a host of innovative new composites technologies, many of which were nominated in other categories of SPE's 49<sup>th</sup> -Annual Automotive Innovation Awards Competition. Some of the notable applications on the vehicle include:

### BODY EXTERIOR NOMINATIONS

**Rear Bulkhead Window Frame** Made from a custom-blended unsaturated polyester/vinyl ester resin system using beryllium graphite fillers to deaden sound on the rear bulkhead window frame, the part meets twin thermal and acoustic challenges seen when moving to a mid-engine architecture on the new Corvette. This 2.2 specific gravity (SG), low-volatile organic compound (VOC), compression moldable sheet molding compound (SMC) eliminates the need for secondary stampings/baffles, die-cut foam, lofted fabrics, gaskets, and other sound deadeners, reducing costs while increasing interior package space and improving body sealing and noise/vibration/harshness (NVH).

**Rear Fascia Assembly** This is the first use of a low-density (1.2 SG), Class A SMC for a rear fascia on vehicles with high production volumes. Versus thermoplastic polyolefins (TPO) more commonly used on vehicle fascias, the SMC's superior thermal stability enables it to be used next to hot exhaust tips. Its higher mechanical performance allows for the design of a short rear overhang and larger spacings between attachments. The SMC also does a better job of spreading loads over a larger area in low-speed rear crashes. Brackets and rear-parking assist sensors were bonded to the SMC.

**Rear Surround Frame** A low-density (1.2 SG) toughened structural SMC with both carbon and glass fiber reinforcement enabled a large (64 x 69 x 24 inch/163 x 175 x 61 centimeter) rear-surround frame assembly to be compression molded for mass savings of 15% vs. previously used structural SMC and cost savings due to parts consolidation. The pigmented, low-VOC formulation survives engine-compartment heat, eliminated secondary attachments, increased interior packaging space, reduced NVH, provided better body structure and sealing performance, and improved rear-hatch visibility. The assembly is the dimensional foundation for all rear exterior/interior panels and provides the flexibility for multiple model variants from a single design.



# VEHICLE ENGINEERING TEAM AWARD

## CHASSIS & HARDWARE NOMINATIONS

**Precision Wheel-Balance System** A unique composite with high density (5.8 SG) has replaced traditional metallic wheel weights in steel, zinc, or lead. The extruded fluoropolymer contains 67% by volume post-industrial, corrosion-resistant steel alloy and can be recycled again. Supplied as a continuous tape, and with tailored magnetic properties, the weights can be precisely dispensed using a fully automated wheel-balance system in smaller increments for improved ride and less tire wear. The weights reduce assembly time up to 50%, lower costs approximately 10%, significantly reduce and simplify inventory, and offer a broader range of colors.

**Underbody Tunnel Structural Closeout** Liquid compression molding (LCM) was used to form a structural composite reinforced with two layers of carbon and three layers of glass fiber impregnated with a low-VOC vinyl ester matrix. The resulting composite closeout provides better body structure and chassis performance and contributes 10% or more torsional stiffness to this tunnel-dominated vehicle architecture, while reducing mass 4.2 pounds/1.9 kilograms and cost vs. aluminum. Secondary attachments also were eliminated, reducing labor, tooling, and capital expenditures.

## MATERIALS NOMINATION

**SMC/LMC Front & Rear Trunk Components** A lower density (0.9 SG), structural composite, which literally floats on water, was developed to replace standard low-density SMC (1.25 SG), injection molded composite, and multipiece metallic structures for the vehicle's rear and front trunks. Compared with metals, the new LCM material reduces mass approximately 10 pounds/4.5 kilograms and direct costs while offering the flexibility of two storage trunks, lower NVH, and higher parts-consolidation opportunities. The material/process combo, with a low-VOC unsaturated polyester/vinyl ester matrix, also made it possible to successfully mold both front and rear trunks with tall walls and deep-draw sides

## POWERTRAIN NOMINATION

**Rear Induction Duct** Made from a special toughened, low-density SMC (SG 0.95), which was developed to reduce noise as well as mass without needing resonators on rear induction ducts, these parts are the first to be fully integral to the body frame. The low-VOC, low-styrene polyester/vinyl ester SMC formulation reduces emissions while providing required mechanicals at approximate 5.2 pounds/2.4 kilograms mass savings plus delivered cost savings vs. alternative technologies. A unique duct design is required to funnel air from the rear air intake vents into the mid-mounted engine.

## PROCESS, ASSEMBLY & ENABLING TECHNOLOGY NOMINATIONS

**Rear Bumper** The auto industry's first pultruded curved bumper beam uses the unique radius-pultrusion process and equipment to achieve a hollow beam with central web in carbon fiber fabric-reinforced polyurethane/acrylate resin. The curved geometry was desired to better match rear styling and vehicle package space. The beam features an integral tow hook mounting and is assembled to the body-in-white (BIW). It travels through the electrophoretic coating (e-coat) process, so it must offer excellent mechanicals at elevated temperature. The beam meets low-speed crash requirements while cutting mass by 4.9 pounds/2.2 kilograms vs. a metal-inert gas (MIG) welded aluminum extrusion. 3D printing was used to produce mandrels to maintain the hollow interior. This part also won the Process Innovation-Production Part category at this past September's SPE Automotive Composites Conference & Exhibition (ACCE).

**Rear Service Doors** A one-part silicone thixotropic elastomeric foam was key to creating durable seals on rear service doors, permitting customer access to trunk space and the air-filter system. The high-temperature elastomer can handle engine-bay temperatures in excess of 392°F/200°C. Most other die-cut foams and gaskets would melt or break down under such temperatures. Additionally, the elastomer provides excellent durability and compression-set resistance to withstand repeated open/close cycles during normal use. After dispensing, the applied gasket material is heat treated (167°F/75°C for 10 min) to expand the foam, eliminating the cost and waste of die cutting foam/gaskets.

Previous winners of the award, which is given from time to time, include:

- 2004 MY Porsche Carrera GT supercar
- 2009 MY Ford Flex CUV
- 2010 MY Ford Taurus sedan
- 2011 MY Ford Explorer SUV
- 2011 MY Chrysler 200 & Dodge Avenger sedans
- 2013 MY SRT Viper supercar



5<sup>TH</sup> ANNUAL



# TPO SHANGHAI® 2020

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ABSTRACT DUE: FEBRUARY 15, 2020  
PRESENTATIONS DUE: MARCH 1, 2020

### ATTEND THE WORLD'S LEADING ENGINEERED POLYOLEFINS FORUM

Now in its fifth year, the show is the world's leading engineered polyolefins forum featuring 40+ technical presentations, keynote speakers, networking, receptions, & exhibits that highlight advances in polyolefin materials, processes, and applications technologies as well as a growing range of thermoplastic elastomers (TPEs) and thermoplastic vulcanizates (TPVs). This year's conference will be held **March 24-25, 2020**. **2020 Technical Sessions** include:

- MATERIALS DEVELOPMENT
- SURFACE ENHANCEMENTS
- INTERIOR APPLICATIONS
- LIGHTWEIGHTING TECHNOLOGIES
- PROCESS DEVELOPMENTS & SIMULATIONS
- SUSTAINABILITY & EMISSIONS

### PRESENT TO A LARGE GROUP OF DECISION MAKERS IN ENGINEERED POLYOLEFINS

THE SPE TPO Engineered Polyolefins Conference typically draws over 300 attendees from 12 countries on 4 continents who are vitally interested in learning about the latest in rigid and elastomeric TPO as well as TPE and TPV technologies. Fully a third of conference attendees work for a transportation OEM, and nearly 20% work for a tier integrator. Few conferences of any size can provide this type of networking opportunity or put you before such an engaged, global audience interested in hearing the latest olefin advances. Interested in presenting your latest research?

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Many sponsorship packages are available. Companies interested in showcasing their products and/or services at the SPE Auto TPO Conference should contact [TPOpapers@auto-tpo.com](mailto:TPOpapers@auto-tpo.com).

### FOR MORE INFORMATION

Conference  
Chair:

Dr. Sassan Tarahomi

+1. 201.887.7635

[sassan@shanghaiitpo.com](mailto:sassan@shanghaiitpo.com)

Technical  
Program Chair:

Dr. Norm Kakarala

+1. 248.840.6747

[norm@shanghaiitpo.com](mailto:norm@shanghaiitpo.com)

Sponsorship  
& Registration:

Karen Rhodes-Parker

+1.248.244.8993 Ext 3

[karen@shanghaiitpo.com](mailto:karen@shanghaiitpo.com)



# SOCIAL REPORT

TERI CHOUNARD, SPE AUTOMOTIVE DIVISION SOCIAL CHAIR



AUTOMOTIVE

## Thank You SPE Automotive Div. Program Sponsors!



Your sponsorship support of our educational programs, that nurture growth in the automotive plastics industry, is greatly appreciated. Please join us for an evening of fun and celebration honoring you, and your company, and reviewing the programs and scholarships your support enables. It's been a great year and we look forward to celebrating with you!

Please join the SPE Automotive Div. for a Happy New Year celebration highlighting the benefits your support provided in 2019 and learn about new benefits we are offering with sponsorship in 2020.

**Wednesday, January 22, 2020, 6 pm to 8 pm**

**Fogo de Chão Brazilian Steakhouse,  
301 W. Big Beaver Rd., Troy, MI 48084**

Space is limited so please register ASAP via email to [Teri@intuitgroup.com](mailto:Teri@intuitgroup.com).



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SPE is comprised of 22,500+ members, all from diverse backgrounds and careers — ANTEC® is no different. Managers, engineers, R&D scientists, technicians, sales & marketing associates, executives, and academics are all invited to enhance their career in plastics through this networking and knowledge sharing event.





# EDUCATION REPORT

ALPER KIZILTAS, SPE AUTOMOTIVE DIVISION VICE CHAIR



AUTOMOTIVE



The SPE Automotive Division is one of PlastiVan®'s biggest supporters, sponsoring 25 visits for the 2019-2020 school year. PlastiVan's mission is

to change the perception of plastics one classroom at a time. You can find out more about the program at [www.plastivan.org](http://www.plastivan.org). In the 2019 calendar year the Division sponsored 18 visits at 4 high schools, 7 junior high/middle schools, 1 elementary school, and 2 events in Jackson and Bloomfield Hills. Over 2,500 students were impacted by your generosity with over 700 from Title I schools. These schools often lack the resources to offer enrichment STEM programming. You are making a difference. Thank you!



*SPE Student members teach elementary students about recycling PET water bottles during a PlastiVan visit.*



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### CONGRATULATIONS

to the finalists and to those who partner with us to bring unique solutions to the Automotive Industry!





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Auto Epcon is looking for presentations on engineering plastic materials for lightweighting, solutions for electrification technologies, additive manufacturing, metal replacement, new materials, and more.

**Abstract submission deadline:  
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Submit now at  
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# REGISTRATION IS OPEN!

The SPE Detroit Section, the SPE Automotive Division, and the SPE Injection Molding Division are pleased to announce the fourteenth annual Automotive Engineering Plastics Conference and Exhibition (Auto EPCON) on April 28, 2020 at the Detroit Marriott Troy located in Troy, MI.

**There is no more effective event to meet, network, and learn with the most influential engineers and scientists involved in specifying, designing, and recommending engineering plastics.**

***Sponsorship and exhibitor opportunities are also available!***

More information:  
[4spe.org/AutoEpcon](https://4spe.org/AutoEpcon)



# TREASURER'S REPORT

BONNIE BENNYHOFF, SPE  
AUTOMOTIVE DIVISION TREASURER



AS OF  
DECEMBER 17, 2019,  
THE DIVISION'S  
ACCOUNT  
BALANCES WERE:

Checking:	\$499,167.61
Savings:	\$ 27,483.80
Total:	\$526,651.41

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**AUTOMOTIVE COMPOSITES  
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Novi, Michigan • September 9-11, 2020  
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WORLD'S LEADING AUTOMOTIVE COMPOSITES FORUM

# DRIVING INNOVATIVE TRANSPORTATION



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## SPE® ACCE (AUTOMOTIVE COMPOSITES CONFERENCE & EXPO) ANNOUNCES CALL FOR PAPERS, EXHIBITORS & SPONSORS FOR 2020 EVENT

The SPE Automotive Composites Conference & Expo (ACCE) team is announcing its Call for Papers, Exhibitors & Sponsors for their 20th annual event September 9 - 11, 2020 at the Suburban Collection Showplace in Novi, Mich. in the Detroit suburbs. "Driving the Future of Innovative Transportation," is the theme for the 20th anniversary event emphasizing polymer composites as the leading technology driving innovation in automotive electrification, mobility and autonomy. The ACCE features technical sessions, panel discussions, keynotes, and exhibits highlighting advances in materials, processes, and equipment for both thermoset and thermoplastic composites in a wide variety of transportation applications. Networking breakfasts, lunches, and receptions enhance the value of the event that attracts over 900 attendees worldwide. The Automotive and Composites Divisions of the Society of Plastics Engineers (SPE®) jointly produce the ACCE to educate the industry about the benefits of composites in transportation applications.

The 2020 ACCE will be co-chaired by 2018 and 2019 ACCE co-chair Dr. Alper Kiziltas, lead research scientist, Ford Motor Company, SPE Automotive Div. vice-chair & education committee chair and Dr. Xiaosong Huang, lab group manager of Polymer Composite Systems in GM Global Research & Development, General Motors Company. "The 2020 ACCE

will be the best one ever celebrating 20 years of educating the industry about the design versatility, structural strength and lightweighting performance benefits of composite material technologies for advancing innovative automotive applications," said Kiziltas. "I am very proud to co-chair ACCE because our company benefits by learning about the new technologies presented and incorporating them into our vehicles to reduce mass, enhance styling and improve performance," said Huang.

**THE 2020 ACCE TECHNICAL PROGRAM** will include 80 - 100 papers/presentations on industry advances (30 min. each) organized into the following categories: Thermoplastic Composites; Thermoset Composites; Modelling; Additive Manufacturing & 3D Printing; Enabling Technologies; Sustainable Composites; Bonding, Joining & Finishing; Carbon Composites; and Business Trends/Technology Solutions. Paper abstracts are due April 15th, 2020 and final papers or non-commercial presentations are due June 15th, 2020. Authors who submit full papers (not presentations) in the proper format will be considered for the conference's Best Paper Awards, which are presented during the event's opening ceremony. A template for papers can be downloaded from the SPE ACCE website online via <http://speautomotive.com/acce-forms>. Abstracts can be submitted online via <http://SubmitACCEpapers.com>.



**DR. ALPER KIZILTAS**



**DR. XIAOSONG HUANG**



**DR. DAVID JACK**



**DR. LEONARDO SIMON**





The technical program will be co-chaired by returning 2018 and 2019 co-chairs Dr. Leonardo Simon, professor, Chemical Engineering at Waterloo University and Dr. David Jack, associate professor, Mechanical Engineering at Baylor University. “Our students benefit annually by learning about composite technology advancements as well as the scholarship opportunities,” said Simon. “The ACCE is the premier technical composites educational event of the year – there is nothing else like it,” noted Simon.

**EXHIBIT AND OTHER SPONSORSHIPS** offer companies the opportunity to support the event and promote their products and services to a very targeted and interested audience. Exhibit options include 20 ft. x 10 ft. Premier Plus, 15 ft. x 10 ft. Premier, and 10 ft. x 10 ft. Associate sponsorships all including an 8 ft. skirted table-top, electrical drop, carpet, waste basket and high speed WiFi. Other non-exhibit sponsorship options offering opportunities for corporate exposure include Breakfast, Lunch, Coffee Break and Reception sponsorships. Student Program Scholarship sponsorships are also available. All sponsorships include passes to the event including access to all technical sessions and daily networking breakfasts, lunches, coffee breaks and cocktail receptions. Sponsorship also includes advertising in the ACCE program guide, logo featured on signage throughout the venue and posted to the SPE ACCE website with a link to your website. Companies interested in supporting the event with sponsorship and showcasing their products and services should contact Teri Chouinard at [teri@intuitgroup.com](mailto:teri@intuitgroup.com) and go to [www.speautomotive.com/acce-conference](http://www.speautomotive.com/acce-conference) for more information.

**THE MISSION OF SPE** is to promote scientific and engineering knowledge relating to plastics worldwide and to educate industry, academia, and the public about these advances. SPE’s Automotive Division is active in educating, promoting, recognizing, and communicating technical accomplishments in all phases of plastics and plastic-based composite developments in the global transportation industry. The SPE Composites Division is dedicated to the growth of composites in multiple industries. Topic areas for both divisions include applications, materials, processing, equipment, tooling, design, and development.

For more information see <http://speautomotive.com> and <https://composites.4spe.org>. For more information on the Society of Plastics Engineers, see [www.4spe.org](http://www.4spe.org).

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**AUTOMOTIVE COMPOSITES CONFERENCE & EXHIBITION**  
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The SPE Automotive Composites Conference & Expo (ACCE) team is celebrating 20 years of advancing transportation by educating the industry to the benefits of innovative composites technologies. Join us in honoring this major industry milestone by attending, presenting, exhibiting and/or sponsoring the 20<sup>th</sup> ACCE Sept. 9-11, 2020 at the Suburban Collection Showplace in Novi, Mich. in the Detroit suburbs. "Driving Innovative Transportation," is the theme for the 20<sup>th</sup> anniversary event emphasizing polymer composites as the leading technology driving innovation in automotive electrification, mobility and autonomy. The ACCE features technical sessions, panel discussions, keynotes, and exhibits highlighting advances in materials, processes, and equipment for both thermoset and thermoplastic composites in a wide variety of transportation applications. Networking breakfasts, lunches, and receptions enhance the value of the event that attracts over 900 attendees worldwide.

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**EXHIBIT / SPONSORSHIP OPPORTUNITIES OFFER GREAT VALUE** A variety of sponsorship packages are available. Companies interested in supporting the event with sponsorship and showcasing their products and services should contact Teri Chouinard at [teri@intuitgroup.com](mailto:teri@intuitgroup.com) or 248.701.8003 and go to [www.speautomotive.com/acce-conference](http://www.speautomotive.com/acce-conference) for more information.

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## PRESENT TO A LARGE GROUP OF DECISION MAKERS IN ENGINEERED POLYOLEFINS

The SPE TPO *Automotive Engineered Polyolefins Conference* typically draws over 900 attendees from 20 countries on 4 continents who are vitally interested in learning about the latest in rigid and elastomeric TPO as well as TPE and TPV technologies. Fully a third of conference attendees work for a transportation OEM, and nearly 20% work for a tier integrator. Few conferences of any size can provide this type of networking opportunity or put you before such an engaged, global audience interested in hearing the latest olefin advances. Interested in presenting your latest research? Abstracts are due **April 10, 2020** and Papers/Presentations on **July 10, 2020**. Email abstracts/papers to [TPOpapers@auto-tpo.com](mailto:TPOpapers@auto-tpo.com).

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## 1. WELCOME, ANTI-TRUST, & CONFLICT OF INTEREST STATEMENT (B. LANDES)

## 2. APPROVAL OF AGENDA (B. LANDES)

The agenda was approved as published.

## 3. ROLL CALL (J. LYONS)

With 53 Councilors, 9 of which are proxies in attendance, a quorum was established to conduct business.

## 4. APPROVAL OF MINUTES (J. LYONS)

VP Lyons motions to approve the minutes from Council held on September 20, 2019 and **approved**.

## 5. PRESIDENT'S OPENING REMARKS (B. LANDES)

President Landes emphasized that this Council meeting is a celebration of coming together. He thanked us for sacrificing time with our families and hobbies to join together to advance the mission of SPE. President Landes noted that this is our first meeting in our new HQ, which may just be a building to some, but to our Society it is the Foundation. He reiterated that we are here to advance knowledge and networking within the Plastics Industry and that we can do this more effectively when we are working together. At the end of the day, we may disagree with one another, but we must maintain the respect that we have for one another as together we can change the world

## 6. FINANCIAL UPDATE (J. DWORSHAK)

VP Dworshak started by thanking those that are part of the Finance Committee before explaining their charge, including review of the monthly statements and other financial topics that arise. Year to date (September), we are running a deficit operationally which is being offset by a strong investment portfolio, making us favorable to budget year to date. The results are ahead of budget due to diligence in controlling expenses as revenue is slightly lagging. **The 2020 budget was presented showing an operation deficit of \$492k.** VP Dworshak noted that we continue to see declining membership, lower event revenue and higher expenses. **We are surviving but not thriving and we have been negative operationally every year since 2013 (with the exception of 2018).** VP Dworshak challenged Council as to what we can do as a whole to put SPE in a better financial position.

There were questions regarding investments and how they should not be the savior and everyone agrees. This begs the fact that we MUST drive top line growth of the Society.

There were other questions about membership renewal and VP Dworshak teed up the fact that the Finance Committee is exploring putting everyone in the Society on the same renewal schedule so that membership dues could be budgeted more effectively.

Councilor Baumann suggested that we explore training as a form of revenue and Councilor Young proposed having SPE vet and recommend training that could be listed on the website that perhaps

we could take a cut of the revenue. Councilor Gupta brought up the training that used to exist at ANTEC and asked if something similar could be revived in the future.

## 7. CEO UPDATE (P. FARREY)

CEO Farrey discussed his trip to K and how he met with the chair of a European Division and asked him why they never show up to Council and the reply was difficult to stomach...that we are arguing about the same issues that we did years ago and that the answers will still be the same. There is clearly a disconnect in the communication channel between staff/EB/Council that needs to be addressed.

CEO Farrey reminded everyone that every Councilor's name is on the 990 that is submitted to the IRS every year. He noted that we just saw and accepted a \$500k deficit budget and that no one asking a question about it is extremely disheartening. It is our (all of Council's) responsibility to help identify and more importantly implement solutions to this problem. We can do anything but we can't do everything so let's work together to find solutions.

CEO Farrey then introduced the new HQ building and the history behind it and mentioned that we will be touring it shortly. He commented that over 10 years, the new HQ will only cost \$10k more and we finally have a building that is in line with the history and pedigree of SPE. He went on to talk about the success at K and upgrades to our software programs including event apps and paper submissions.

CEO Farrey then discussed the HQ Services update. He noted that this is one of the most difficult problems that he has had to tackle in his professional career. **He reminded Council that the intent of this task force was to replace the existing 12% HQ service fee.** Somewhere along the line, Chapters began receiving services for discounted rates and in some case free, despite HQ incurring a significant cost. The intent of this program was NOT to create a profit center and NOT to achieve full cost recovery. CEO Farrey thanked the team and reviewed the targeted timeline the team was working against. The original proposal was 3 pre-determine packages that Chapters could choose from with some ala carte options available upon request. When this proposal was presented to the task force, it was rejected because often times the Chapters needed something between the three options. Based on this feedback, CEO Farrey then delivered a second revision to the task force which is being reviewed prior to being presented to Council.

CEO Farrey finished with an update on Plastics for Life. The program commenced in 2014, recognizing plastics products that protect life, enhance the quality of life, and/or sustains life. The winners of the Chapter Awards will advance to ANTEC for a final, global competition. To date, only 5 Chapters have competitions in place and staff has a goal of 12 (2 outside of the US) to hold annual competitions. The ask is for a Task Force (Councilors Czuba and Brosius) to be created to standardize the competition and define the criteria for becoming a champion.



# COUNCILOR'S REPORT

## CONTINUED



General Q&A focused mainly around ANTEC and the desire to improve the quality of the product being delivered.

### 8. GOVERNANCE TASK FORCE PHASE 2 PRESENTATION (B. MULHOLLAND)

VP Mulholland summarized some of the comments that were mentioned on the Chain to set the stage for the task force's work in addition to data that suggests that a smaller governing body is ideal for a Society of our size.

VP Mulholland expanded on the earlier comments by CEO Farrey related to the duties of office for a governing body (Duty of Care, Duty of Loyalty and Duty of Obedience) and how this puts the members of Council in a potential predicament/conflict in their roles. He went on to suggest that decision making becomes sluggish due to the size of our 90 person governing board and the body's time is better spent discussing strategy rather than governance. VP Mulholland reviewed the charge of the original governance task force and the results that came from that work.

After an hour of lively discussion, CEO Farrey suggested that we stop trying to provide solutions and first agree that there was a problem that needed to be addressed. With this, CEO Farrey suggested that we continue to discuss our thoughts over dinner and drinks but for the time being, we need to break to walk upstairs to participate in the historic ribbon cutting ceremony for the new SPE headquarters.

### 9. COUNCIL: RECESS TO RECONVENE AT 9:00AM (B. LANDES)

President Landes **motions** to adjourn until Friday, November 15, 2019 at 9:00AM. Motion is **seconded** and **passes** unanimously.

### 10. GOVERNANCE TASK FORCE PHASE 2 CONTINUED (B. MULHOLLAND) - FRIDAY, NOV. 15, 2019 AT 9:00AM

VP Mulholland began by recapping yesterday's conversation including our fiduciary responsibility to SPE and the results of the show of hands which unanimously concluded that the current structure needed to be "tweaked".

He then went on to lay out the goals for today which include: 1) the ideal number of Councilors, 2) how to assure that Council retains some level of control to prevent the governing body from going rogue and 3) the role of Council moving forward.

After considerable discussion trying to get to the heart of the matter at hand, Councilor Brosius addressed Council and stated that **there needs to be a level of trust between Council and the Executive Board and any feelings of old that pre-date CEO De Vos need to be forgotten.** He described how his level of involvement over the years has never wavered yet he continues to see a drop in membership and attendance at events. He emphasized the level of competition for members' attention from a host of other sources. He stressed the

importance of Council focusing on strategic initiatives to reverse this trend less on governance, which slows the organization down tremendously.

He stated that Council needs to set the vision of SPE and let the Executive Board execute that vision.

**Councilor Haake motioned that the composition of the Executive Board remains the same and becomes the governing body of the Society per Bylaw 8.1.1 and other related bylaws as long as safeguards remain in place that enables Council the ability to reverse any bylaw change made by the Executive Board with a 2/3rd vote. Motion is seconded by Councilor Marginson. The motion passes with two oppositions (Councilors DeLuca and Wyer) and one abstention (Councilor Tarahomi).**

### 11. COUNCIL COMMITTEE OF THE WHOLE RECAP (B. KAPUR)

Councilor Kapur summarized yesterday's conversation related to Sustainability and stressed that it is important to drive further and come up with actionable items. In addition, there needs to be more sharing of best practices of what is working in the area of Sustainability with all interested parties.

The second topic discussed the struggle for sections to effectively cover their entire areas and bring in new membership in today's ever changing world. Some best practices were shared from sections that are reaching out to local universities and involving them in their Boards while other sections mentioned that they have more open meetings without obligations to lure people in, allowing them to discover the value by themselves.

Councilor Tarahomi came back to the podium and asked for volunteers to make his proposals actionable. Several volunteers were identified and they will work directly with Councilor Tarahomi and other respective leaders

### 12. ANTEC UPDATE (P. FARREY)

CEO Farrey updated that ANTEC is well underway and it will be held in beautiful, not-snowing San Antonio. Per Council's suggestion, pre-conference workshops are back on the schedule on Sunday from 1-4PM before the awards reception that night. Due to several requests, student posters are back at ANTEC and will be held in conjunction with the awards ceremony. **On Monday, the conference will officially start with the general structure of keynotes in the morning, lunch (free) in the exhibit hall and traditional ANTEC papers in the afternoon.**

CEO Farrey presented the conference fees for ANTEC and encouraged all Councilors to register early. He pointed out that Board Members have a slight cost increase from last year that is offsetting the addition of free meals and extra receptions that they will enjoy. The cost of each attendee for staff is \$600 without marketing, G&A, etc.

# COUNCILOR'S REPORT CONTINUED

## 13. STUDENT CENTRIC EVENT UPDATE (J. GOMEZ)

President-Elect Gomez talked about the experience that students have at ANTEC and he questioned whether it was living up to their expectations and providing the maximum value. As such, he wants to develop a student centric event, potentially held at HQ, which may include the following:

- A) Poster/presentation session for student
- B) A chance for companies to present themselves
- C) Speed interviews

President-Elect Gomez captured other Councilor feedback via a brainstorming exercise that he will publish on the Chain for further comment.

## 14. VP MARKETING AND COMMUNICATIONS UPDATE (C. CARLIN)

VP Carlin reminded the board of membership calls to do something as it relates to sustainability. As a result of this charge, more people are getting involved as evidenced by the surge in activity on the Chain as it relates to sustainability. VP Carlin informed Council of President Landes' efforts with the Alliance to End Plastics Waste and how discussion is ongoing to leverage SPE's ability to provide un-biased, data-driven knowledge sharing.

Additionally, VP Carlin formed a global team passionate to the efforts of Sustainability to draft a positioning statement for SPE. As such, they recommended:

"SPE, the leading society for global plastics professionals, is fully committed to environmental stewardship and sustainability through three major areas of focus: 1) the continued research and development of plastic materials, technologies, and products that minimize negative impacts on the environment while remaining fit for purpose: 2) a dedication to objective and data-driven education programs for governments, NGO's, academia as well as public and private stakeholders: 3) the creation of local, regional, and international networking events to promote the exchange of best practices across the entire plastics value chain."

## 15. VP DIVISIONS UPDATE (J. LYONS)

VP Lyons took care of some housekeeping issues and **motioned** for Council to approve a charter to the Building and Infrastructure Division-in-formation. There was a question related to what they do and Councilor Gupta talked about pipes, siding, tanks and anything related to the building and construction industry. As there is overlap with several existing Divisions, they are focusing on joint sessions to enhance member value through collaboration.

## 16. VP SECTIONS UPDATE REPORT (T. HAAKE)

He **motioned** that the following sections be moved to provisional status: Israel, Korea, New York, Kansas City, Smokey Mountain and Tennessee Valley and that the following sections move from provisional to abandoned: Toledo and Great Salt Lake and that Council approve the establishment of the Lakehead University Student Chapter. The motion was **seconded** and **passed** unanimously.

Councilor Haake strongly encouraged all Councilor's to present the findings of Council meetings to their constituents as there is word circulating that this is not always the case. Additionally, Councilor Czuba asked for President Landes to re-instate time for Sections and Divisions to meet at Council. President Landes responded that with less governance moving forward, this could easily become a reality.

## 17. SPE FOUNDATION UPDATE (E. VITALE)

Eve talked about the primary focused of the Foundation which includes: scholarships, grants, Hopkits and PlastiVan®. She noted that there is a 30% increase in scholarship applications across more than 20 universities. The 2019 scholarship winners came from a variety of schools and 50 were given totally \$113,250?

The statistics for PlastiVan were highlighted, showing favorable growth across the board. Director Vitale showed an increase of 18.2% for students served, 10.1% for schools involved, 19.0% for visits and 17.2% for sponsors. PlastiVan is introducing wonder to young students and changing the perception of plastics one class room at a time. In talking to students, you have to make it about them..."what do I give up if I give up plastics", which opens their eyes quite a bit. Additionally, they ask questions related to innovations, salaries and impact on their everyday lives.

Director Vitale is asking for help in donations from our respective chapters and companies. There will be a Giving Tuesday campaign and she asked for everyone to consider joining her in this effort. Additionally, she is requesting Ambassadors to promote this in their areas. When discussing this aspect, there were questions related to resources that are available, particularly videos and cheat sheets that enable a scientist to change their angle of approach to make more of an impact within the classroom. Additionally, there was a suggestion to create a list of references/resources/goodies that could either be shipped or downloaded by interested parties. Doing so, it potentially lessens the burden placed on an extremely small staff without impacting the reach of the services provided.

## 18. OLD BUSINESS / NEW BUSINESS (B. LANDES)

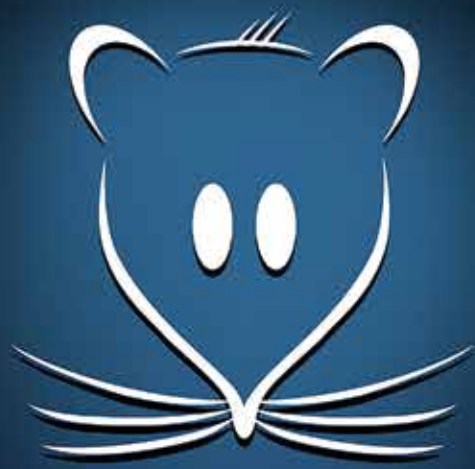
For old business, there was a question related to the mentorship program and CEO Farrey said the champion of the program resigned and staff is looking for a volunteer to help evaluate and move the program forward.

For new business, there was a suggestion to evaluate having Council after ANTEC and staff will look into it and see what is possible for future ANTEC's.

## 19. ADJOURNMENT FOR NEXT MEETING (B. LANDES)

Present Landes **motioned** for adjournment at 12:17PM and noted our next meeting will be held in San Antonio on March 28-29th, 2020. The motion was **seconded** and **passed** unanimously.





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## MOBILITY, TRADE POLICY, AND ADVANCES IN AUTOMOTIVE TECHNOLOGY: KEY TRENDS THAT DRIVE THE FUTURE OF THE AUTOMOTIVE INDUSTRY



A shift from transportation to mobility, a new global political landscape, and advances in automotive technology are the three trends that drive the future of the automotive industry, as presented by Ms. Fream, President and CEO of OESA on their 2019 fourth quarter newsletter. In particular, the recent changes in trade policy are increasing the risk to the investment and sourcing decisions made well in advance of new vehicle launches. In addition, multiple automakers have recently announced billion dollars of investments in electric vehicle platforms. Europe and China are moving fast with aggressive schedules, however, the adoption rate remains uncertain.

The Original Equipment Suppliers Association (OESA) published their 2019 fourth quarter newsletter edition. Brian Daugherty (CTO MEMA) reported, “Future U.S. fuel economy standards are becoming more complicated and uncertain”. The National Highway Traffic Safety Administration (NHTSA) announced that many automakers selling vehicles in the U.S. fell short to meet the fuel economy standards before credits in 2017 and 2018. Moreover, the legal battle between California, 22 other states and the Federal government adds further uncertainty to the fuel economy requirements after revoking California’s exemption to set state standards separate from national regulations established by the EPA and NHTSA. Advanced engine technologies and system innovations, such as turbocharging, engine downsizing, and advanced transmissions, will continue to provide solutions to automotive manufacturers for improving ICE’s efficiency.

The 2019 Los Angeles Auto Show presented multiple new vehicle introductions, redesigned versions and concept cars following the same trend as the 2019 Frankfurt auto show: electrification. The LA auto show is one of the largest in the U.S. for the introduction of new vehicles; this year the focus was on the SUV market including battery-electric and plug-in

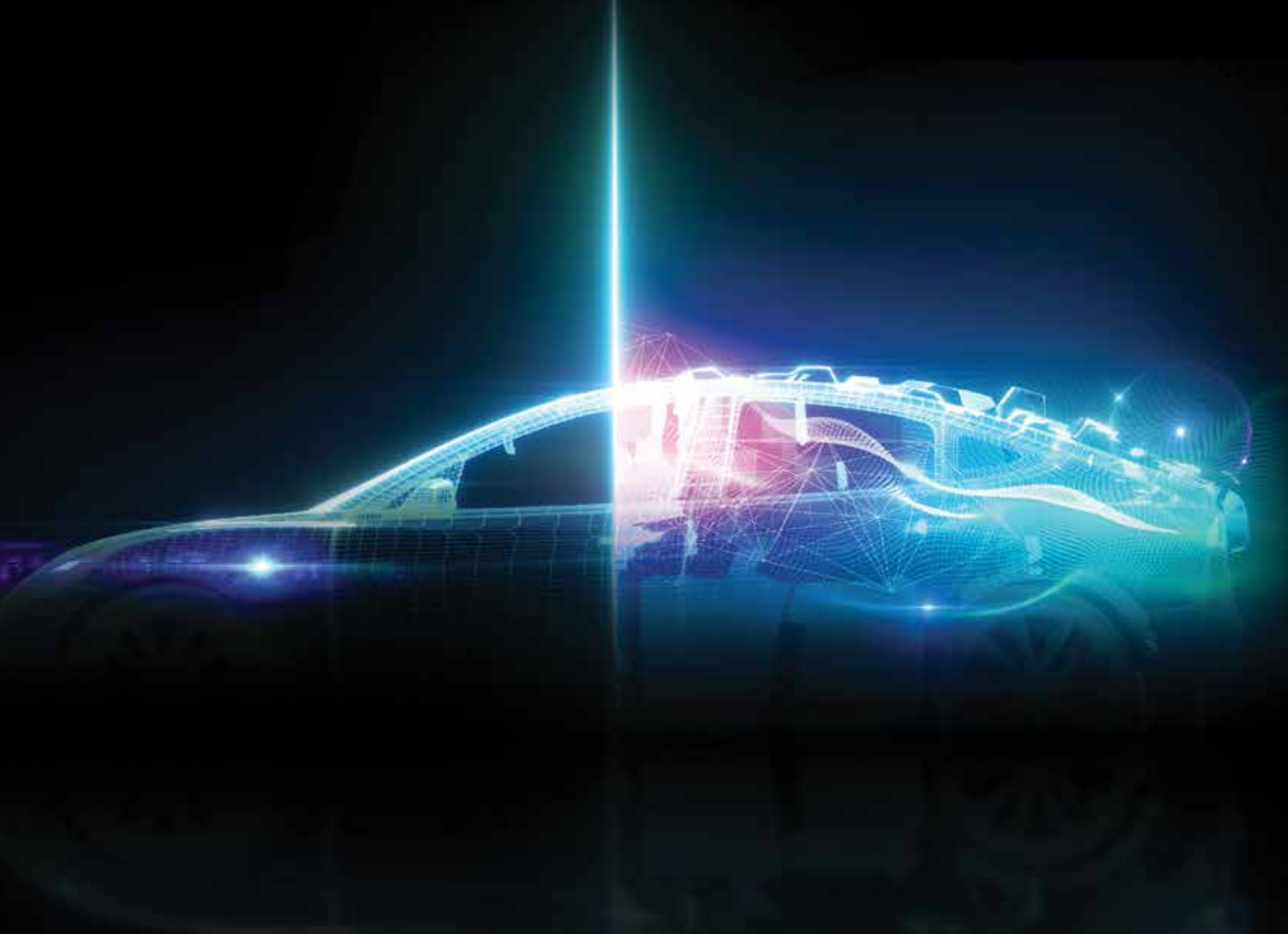
hybrids. In addition, the Los Angeles Department of Water and Power (LADWP) partnered with the LA auto show to create the EV|LA program to increase awareness around electric vehicles and EV ownership. LADWP is installing charging infrastructure through Los Angeles and providing incentives for every type of EV.

SAE International recently released the updated J3018 standard with the guidelines for safe on-road testing of SAE level 3, 4, and 5 prototype automated driving systems (ADS). The updated standard “better reflect the needs for safe on-road performance testing of the technology today and into the future” as explained by Mr. Pokrzywa, SAE’s Director of Global Ground Vehicle Standards. This standard, originally published in 2015, now includes the lessons learned gathered from field testing prototype ADS driven vehicles in mixed traffic environments on public roads.

Lastly, Formnext, the largest global exhibition and conference on additive manufacturing (AD), had an overwhelming increase in exhibitors and attendants that represents the growth of AD and industrial 3D printing, including applications in the automotive industry. The key trends are continued growth in post-processing equipment and solutions, application-specific materials (metals and polymers), large format printing, and a large software offering landscape. There is still a long way from mass production with AD technology; however, there is a large progress in new applications, innovations and investments.

Automotive electrification and automation, sustainability and the global political landscape will certainly make 2020 a year full of challenges affecting plastics in the automotive industry. We will continue seeing major changes happening in the automotive world as new technologies enter the market. These new technologies are driving unprecedented disruption in the industry, making this moment a very exciting time. Happy holidays everyone!





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Society of Plastics Engineers  
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5750 New King Dr., Suite 120  
Troy, MI 48098

## AUTOMOTIVE DIVISION HOTLINE

ph: 248.244.8993, ext. 4 | web: <http://www.SPEAutomotive.com> | email: [info@SPEAutomotive.com](mailto:info@SPEAutomotive.com)

## 2019-2020 EXECUTIVE COMMITTEE

### Dave Helmer, Chair

General Motors Co.  
+1.248.431.9804

### Dr. Alper Kiziltas, Vice-Chair

Ford Motor Co.  
+1.313.322.0595

### Bonnie Bennyhoff, Treasurer

ExxonMobil (retired)  
+1.734.660.3200

### Crystal VanHouten, Secretary

Grupo Antolin  
+1.248.825.7135

### Dr. Suresh Shah, Councilor

Delphi Corp. (retired)  
+1.248.635.2482

### Matt Carroll, Past-Chair

General Motors Co.  
+1.586.218.9405

### Dr. Allan Murray, Director Emeritus

Allied Composite  
Technologies LLC  
+1.248.814.8072

### Nippani Rao, Director Emeritus

Rao Associates  
+1.248.444.1753

### David Reed, Director Emeritus

General Motors Co. (retired)  
+1.734.674.0736

## 2019-2020 COMMITTEE CHAIRS

### Dr. Jeffrey Helms, Innovation Awards

Celanese Corp.  
+1.248.377.6895

### Dr. Norm Kakarala, ANTEC, TPO Shanghai

Inteva, LLC (retired)  
+1.248.655.8483

### Dr. Gary Kogowski, Auto EPCON, Awards

Ravago Americas  
+1.248.797.7433

### Dr. Alper Kiziltas, Education

Ford Motor Co.  
+1.313.322.0595

### Samar Teli, Membership

Lotte Advanced Materials  
+1.517.304.2979

### Steve Van Loozen, Newsletter

Celanese Corp.  
+1-248.289.2508

### Rodrigo Orozco, Intersociety

Ascend Performance Materials  
+1.248.904.7925

### Marc Bahm, Webmaster

BASF Corporation  
+1.734.309.1738

### Teri Chouinard, Social, Sponsorship, IAG, MARCOM

Intuit Group, LLC  
+1.248.701.8003

### Kimberly Hoodin, ACCE Administration

+1.513.582.2442

### Fred Deans, Golf Outing

Allied Composite  
Technologies LLC  
+1.248.760.7717

### Chuck Jarrett, Design in Plastics

The Materials Group  
+1.248.310.3283

## 2020-2022 DIRECTORS

### TO MAY 2020

**Marc Bahm** +1.734.309.1738  
BASF Corp.

**Fred Deans** +1.248.760.7717  
Allied Composite Technologies LLC

**Umesh Gandhi** +1.734.995.7174  
Toyota Technical Center

**Brian Haggart** +1.248.228.5959  
Styrolution

**Chuck Jarrett** +1.248.310.3283  
The Materials Group

**Dr. Gary Kogowski** +1.248.797.7433  
Ravago Americas

**Tim Rush** +1.313.495-4523  
Ford Motor Co.

### TO MAY 2021

**Neil Fuenmayor** +1.517.898.7117  
LyondellBasell

**Brian Grosser** +1.248.941.9368  
Lotte Advanced Materials

**Paula Kruger** +1.248.979.6128  
DSM

**Tom Pickett** +1.248.431.9724  
General Motors Co.

**Sassan Tarahomi** +1.248.259.5624  
Altera Holdings

**Steve Van Loozen** +1-248.289.2508  
Celanese Engineered Materials

### TO MAY 2022

**Drew Geda** +1-734.337.2561  
Hyundai America Technical Center, Inc.

**Mark Lapain** +1.248.567.5455  
Magna International

**Jeremy Lee** +1.248.409.3584  
Faurecia

**Dr. Norm Kakarala** +1.248.655.8483  
Inteva Products, LLC (retired)

**Jeff Mayville** +1.313.805.9500  
Ford Motor Co.

**Dhanendra Nagwanshi** +1.248.760.3860  
SABIC

**Keith Siopes** +1.248.497.4258  
Sumika Polymers N.A. LLC