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**SPE® ACCE 2018 – AUTOMOTIVE COMPOSITES CONFERENCE & EXPO ANNOUNCES
CALL FOR PAPERS, EXHIBITORS, PART COMPETITION NOMINATIONS & SCHOLARSHIP
APPLICATIONS**

ACCE 2017 Was a Success with an Increase in OEM Support, Exhibitors and Scholarships

Troy, (DETROIT) MICH. – The SPE Automotive Composites Conference (ACCE) team is announcing its annual call for papers, exhibitors, part competition nominations and scholarships for their 18th annual event September 5 - 7, 2018 at the Suburban Collection Showplace in Novi, Mich. in the Detroit suburbs. “Composites – Driving Innovation,” is the theme for this year’s event reflecting the growing interest automotive OEMs have in learning about the latest composites technologies. The ACCE features technical sessions, a panel discussion, 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 Division of the Society of Plastics Engineers (SPE®) jointly produce the ACCE to educate the automotive industry about the benefits of composites in automotive applications.

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Paper abstracts are due March 15th, 2018 and can be submitted online via

<http://SubmitACCEpapers.com>. A variety of **exhibit and non-exhibit sponsorship packages** offering opportunities for company exposure and **material and process award recognitions** are available. Companies interested in showcasing their products and/or services and nominating an innovative composite part for the competition should contact Teri Chouinard at teri@intuitgroup.com and go to www.speautomotive.com/acce-conference for more info. A number of **scholarships and awards** are available for students via the annual Poster Competition, Jackie Rehkopf Endowed Fund and Corporate and/or Government sponsored programs via the SPE Foundation. Students interested in submitting applications should visit foundation@4spe.org or call 203.740.5457.

The 2017 ACCE included 180 OEM attendee registrations in 2017 (141 OEMs registered in 2016 and 130 OEMs registered in 2015) out of an average of 900 total attendees registering each year over the last 3 years, which is a testament to the increasing interest OEMs, tiers and other automotive engineering professionals have in ACCE and automotive composites technologies. **The 2018 ACCE will be co-chaired by Dr. Alper Kiziltas, lead research scientist, Ford Motor Company and SPE Automotive Div. vice-chair & education committee chair and Matthew E. Carroll, materials engineering, General Motors Company and SPE Automotive Div. chair, which is a further testament to the increased interest OEMs have in ACCE.** “I am looking forward to continuing the growth of ACCE and expanding the Student Program to grow the education of our future leaders in the automotive composites industry,” noted Dr. Kiziltas. “Continued success of ACCE is essential to the industry as we have to meet challenging emissions and fuel-economy standards by eliminating mass and the ACCE provides us with technologies and options to help us achieve these goals,” noted Carroll.

The ACCE 2017 had great sponsorship support with 115 companies featured as sponsors of exhibit and non-exhibit promotional packages. All exhibit spaces were sold out with a total of 85 companies exhibiting. Exhibits highlighted advances in materials, processes, equipment and supporting technologies in both thermoset and thermoplastic composites in a wide variety of transportation applications. All 16 non-exhibit sponsorship packages were also sold out including scholarships packages (2) and advertising opportunities (3) and networking breakfasts (3), lunches (3), coffee breaks (3) and cocktail receptions (2). Automotive and composites media publications and associations also participated (14).

MEDC increased their ACCE 2017 Scholarship Program to include \$8,000 USD for four awards for students pursuing advanced studies in a composites-related field (the 2016 program included \$6,000 USD for three awards). The three winners of the SPE ACCE 2017 graduate scholarships (\$2,000 USD each) were Mr. Benjamin Blandford of Baylor University, Mr. Jake Fallon of Virginia Polytechnic Institute and Ms. Madhura Pawar of University of Massachusetts at Amherst. A fourth ACCE scholarship (also \$2,000 USD) for a student attending a university or college in the U.S. state of Michigan was won by Mr. Christopher Hershey of Michigan State University. ACCE scholarship winners are required to present the results of their research at next year's SPE ACCE show, September 5-7, 2018.

The 2017 Dr. Jackie Rehkopf Scholarship, created in 2016 from an endowed fund to honor the long-time SPE committee member, SPE Automotive Div. board member and automotive composites researcher, (\$5,000 USD) was won by Mr. Arya Tewatia of Rutgers University. The Rehkopf scholarship winner is required to either present the results of their research at next year's ACCE or publish them in an SPE journal.

The 2017 Student Poster Competition, sponsored by Asahi Kasei Plastics, was the largest ever. The committee received 49 applications from students including 34 PhD/MSc students, 12 undergraduate students and 3 high school students from 16 schools in the US, Canada and Germany. A total of \$5,000 was donated to assist with student travel expenses (including travel stipends and shared hotel room accommodations) and provide scholarships to the students with winning poster entries. Additionally, all 49 students received free student memberships in SPE.

In the PhD student category, the first-place winner of \$1,000 USD was Zhaogui Wang from Baylor University for his poster titled, "Effect of Polymer Melt Rheology on Predicted Die Swell and Fiber Orientation in Fused Filament Fabrication Nozzle Flow." Second-place winner of \$500 USD in this category was Robert Brüll from Aachen University (Germany) for his poster titled, "Mechanical Properties and Spinning behavior and of Polyamide 6/Ferrite-Compounds." Third-place winner of \$250 USD was Anmol Kothari from Clemson University for his poster titled, "Design Optimization of a Carbon Fiber Reinforced Thermoplastic Composite Vehicle Door Assembly for Weight Reduction."

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In the MSc student category, the first-place winner of \$750 USD was Siegfried Werner from the University of Wisconsin Madison for his poster titled, "Effect of Initial Fiber Length on Fiber Attrition During Processing of Long Glass Fiber-Reinforced Polypropylene." Second-place winner of \$375 USD in this category was Oscar Valeria from the University of Guelph for his poster on "Hyperbranched Glycerol Polyesters as New Impact Modifiers for Sustainable Thermoplastic Blend Materials with Balanced Performance." Third-place winner of \$175 USD was Ian Walter from University of Wisconsin, Madison for his poster titled, "Investigation of Fiber-Matrix Separation in Rib Filling During Compression Using a Direct Fiber Simulation."

In the Undergraduate student category, the first-place winner of \$500 was Ian Major from the University of Guelph for his paper titled, "Miscanthus Biocarbon as a Renewable Carbon Substitute for Automotive Manufacturing Applications." The second- place winner of \$250 USD was Nathaniel Arnold from Michigan State University for his paper titled, "Design of Bio Based Flexible and Rigid Polyurethane Foam Formulations using Bio, Petroleum & Silicon Based Polyols." Third-place winner of \$125 USD was Christoff Reimer of from the University of Guelph for his paper, "Nitrogen-Doped Distiller's Dried Grains with Solubles (DDGS) Biocarbon Supercapacitors in Automotive Electrical Systems."

In the High School student category, 3 students from Ford Motor Co.'s High School Intern Program participated and all were awarded \$200 USD. Participants included: Robert Chen from Novi High School for his poster on "Sustainable Fillers as a Replacement for Mineral Fillers in Polyamide Composites," Logan Boals from South Lyon East High School for his poster on "Incorporating Rice Hull Ash Based Polyol into Flexible Polyurethane Foams," and Alp Aydin from Bloomfield High School for his poster on "Upgrading Biomass for Sustainable and Lightweight Automotive Applications."

The ACCE 2017 featured four keynote presentations and a panel discussion with industry experts. The first day of the conference included two keynotes including "Road Mapping of Structural Thermoplastics and Manufacturing Research at the University of Maine" by David Erb, Senior R & D Program Manager at the University of Maine Advanced Structures and Composites Center and "The UK National Composite Centre: Meeting the Challenges of the Automotive Industry" by Alison Starr, National Composite Centre. The second day of the conference included a keynote address,

“IACMI: Fulfilling the Promise for Advanced Composites” by Dale Brosius, Chief Commercialization Officer, IACMI – The Composites Institute. Brosius also moderated a panel discussion on International Industry-Institute Collaboration: Addressing Big Issues in Composites later that afternoon. The fourth keynote, presented on the third day of the conference, was “Completing the transition From Metallic to Multi-Material Automotive Solutions – Challenges and Opportunities,” by Dr. Patrick Blanchard, Global Technical Leader, Composites, Ford Motor Company.

The technical program included 80 paper presentations (30 min. ea.) organized into the following 13 categories: Advances in Thermoplastics Composites; Enabling Technologies; Virtual Prototyping & Testing; Bonding, Joining & Finishing; Sustainable Composites; Opportunities & Challenges with Carbon Composites; Advances in Reinforcement Technologies; Nanocomposites; Business Trends & Technology Solutions; Enabling Technologies; Additive Manufacturing & 3D Printing; Opportunities & Challenges with Carbon Composites; and Advances In Thermoset Composites.

2017 ACCE Best Paper Award Winners: The first-place winner was Mariana Desiree Reale Batista, a doctoral student in Materials Science & Engineering at Michigan State University. Batista won the award for her paper presenting her research results with the topic “Hybrid Cellulose Composites: Lightweight Materials for Automotive Applications.” She also won an ACCE scholarship in 2016 for her paper describing her proposed research in this area. Douglas Gardner, professor and program leader of Forest Operations, Bioproducts & Bioenergy in the School of Forest Resources at the University of Maine, won the second-place award for his paper on “Mechanical Properties of Hybrid Basalt, Carbon Fiber-Filled Recycled Polypropylene and Polyamide 6 Compounds.” The third-place winner was Nathan Sharp, a validation engineer at Purdue University for his paper titled “End to End Process Simulation of the High Pressure Resin Transfer Molding Process.”

The ACCE 2017 also had more nominations in the Innovative Part Competition than ever before. A total of 7 nominations were submitted:

- Thermoplastic Re-Engineered '98 Dodge Dakota Rear-Differential Cover-Nominated by: Advanced Structures and Composites Center - University of Maine Orono
- CFRP Motorcycle License Plate Holder-Nominated by Hennecke
- Fabrication of a Recycled Tow Carbon Fiber Overwrapped Pressure Vessel-Nominated by: Vartega Inc., Steelhead Composites and Michelman Inc.
- Structural Floor, Seat Pan and Front Bulkhead in a Prototype Vehicle-Nominated by: Huntsman
- Carbon Fiber Composite Front Perimeter Subframe Prototype-Nominated by: Magna
- Class A, Painted, Injection Molded, Thin-Wall Body Panels in Polypropylene Carbon Fiber-Nominated by: Magna (for Material Category)
- Rear Bumper Beam made with Tepex (a thermoplastic composite laminate) for Honda Clarity Fuel Cell Vehicle-Nominated by: Lanxess

A panel of 9 industry experts from the ACCE planning team selected a winner for “Most Innovative Process” and “Most innovative Material.” Magna won in both categories. Their “Class A, Painted Injection Molded, Thin-Wall Body Panels in Polypropylene Carbon Fiber” won in the “Most Innovative Material” category. Their “Carbon Fiber Composite Front Perimeter Subframe Prototype” won the “Most Innovative Process” category. ACCE attendees selected a winner from all categories for a “People’s Choice Award” and Magna won again. Both of their nominations tied to win the “People’s Choice Award.”

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. Topic areas include applications, materials, processing, equipment, tooling, design, and development. For more information see www.speautomotive.com. For more information on the *Society of Plastics Engineers*, see www.4spe.org.

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