Best Papers

SPE® ANNOUNCES 2015 ACCE BEST PAPER AWARD WINNERS

Three authors who received the highest average ratings by conference peer reviewers out of a field of 70 contenders are being honored this morning for excellence in technical writing with a commemorative plaque during opening ceremonies at the 15th-annual ***SPE® Automotive Composites Conference & Exhibition*** (ACCE). The conference's best paper awards are named for long-time SPE ACCE committee member, session organizer, two-times technical program co-chair, and long-time automotive-composites industry researcher, Dr. Jackie Rehkopf.

Dr. Christopher Pastore, *professor of Transdisciplinary Studies* in the Kanbar College of Design, Engineering and Commerce at ***Philadelphia University*** (Philadelphia, Pa., U.S.A.) took first place in this year's competition; **Amy Langhorst,** *research engineer* in the Plastics Research group of Materials Research & Advanced Engineering at ***Ford Motor Co.*** (Dearborn, Mich., U.S.A.) took second place, and **Dr. Jacob Anderson,** *senior research & development engineer* at the ***PPG Fiber Glass Science and Technology Center*** (Shelby, N.C., U.S.A.) placed third in the competition.

Pastore was sole author on a paper entitled *Lightweighting Composites through Selective Fiber Placement*, which will be presented on **September 10 from 2:30-3:00** p.m. in the ***Advances in Reinforcements*** session at the conference. About the topic, he says, "The underlying idea is to use more expensive carbon fiber reinforcement only where needed through the use of a gradient hybrid material that incorporates glass everywhere else. The goal is a process that allows automation while optimizing weight and cost for a given structural element. Through a combination of theoretical and experimental evaluations, a methodology for evaluating the weight/cost efficiency of chopped fiber composites has been developed and confirmed experimentally."

The author holds both a Ph.D. in Materials Engineering and an M.S. degree in Mathematics from Drexel University as well as a B.A. degree in Mathematics from LaSalle University. His book Sustainable Composites was published earlier this year, adding to a list of many publications in the field of composites, sustainability, and textiles.

Langhorst was lead author along with Dr. Alper Kiziltas, Dr. Deborah Mielewski, and Dr. Ellen Lee, all of Ford Motor Co., on a paper entitled *Selective Dispersion and Comptabililizing Effect of Cellulose Filler in Recycled PA 6/PP Blends,* which will be presented on **September 10 from 2:00-2:30 p.m.** in the ***Sustainable Composites*** session. About her topic, Langhorst notes that "The environmental impact of automobiles can be reduced by using combinations of recycled polymers and natural fiber reinforcements to replace traditionally unfilled, glass-filled, and talc-filled polymeric components. Composites containing recycled polypropylene, recycled polyamide 6 (PA 6, also called nylon 6), and cellulose were produced using a twin-screw extruder and injection molding. The resulting properties were investigated on a microscopic (scanning-electron microscope) and macroscopic (mechanical and thermal properties) scale and will be discussed during the session."

Before joining the Plastics Research group, Langhorst previously worked with Ford's Fuel Cell group on the development of novel materials for enhanced hydrogen storage. She also worked on the launch of the 2015 *Ford Edge* crossover utility vehicle (CUV) at the Oakville Assembly Plant in Ontario, Canada. She graduated from the University of Michigan-Ann Arbor with a Bachelor's degree in Materials Science and Engineering in 2013.

Anderson was lead author along with Dr. Ryan P. Emerson on a paper entitled *Effect of Processing Technique on the Mechanical Performance of Glass Fiber Reinforced Thermoplastics,* which will be presented on **September 10 from 11:30 a.m.-12:00 p.m.** in the ***Advances in Thermoplastic Composites*** session. Describing his topic, Anderson explained "In the present work, thermoplastic bulk molding compound (BMC) was investigated to determine its mechanical performance relative to granulated long-fiber thermoplastic (GLFT) and continuous fiber-reinforced thermoplastic tape (CFRT). This was achieved by using injection and compression molding to fabricate thermoplastic composite parts from GLFT, CFRT, and BMC. Versus the GLFT specimen, the BMC material was shown to exhibit improvements in flexural and impact performance of 100% and 20%, respectively, results of which will be described during the presentation."

In his current role, Anderson is a project leader in the Applications Development Group at PPG and focuses on the processing and evaluation of long-fiber-thermoplastic composites.