



FOR IMMEDIATE RELEASE: (18 August 2012)
SPE-ACCE-05-12

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WINNERS OF 2012-2013 SPE® ACCE GRADUATE SCHOLARSHIP AWARDS ANNOUNCED

TROY (DETROIT), MICH. – The organizing committee for the ***SPE Automotive Composites Conference & Exhibition*** (ACCE) today announced winners of the group's annual ***SPE ACCE Graduate Scholarship Award*** for the 2012-2013 academic year. Winning students whose composites-intensive projects were judged to have the greatest potential impact on ground transportation were John Hofmann, who is working on a doctorate in Macromolecular Science & Engineering at Virginia Polytechnic Institute and State University (Virginia Tech) and Alper Kiziltas who is pursuing a Ph.D. in Forest Resources at the University of Maine. Each student will receive a total scholarship of \$2,000 USD and will return to present the results of his research at next year's SPE ACCE show, September 10-12, 2013.

John Hofmann's research will focus on extension of the Method of Ellipses (MOE) for measuring the orientation of long, semi-flexible glass fibers to aid in predicting final fiber orientation in injection-molded parts. He notes that glass-reinforced polymer composites provide many commercial benefits and are widely used in numerous industries, including automotive. However, the magnitude of the benefits are highly dependent not only on polymer matrix and length, type, fiber-volume fraction, and form factor of reinforcement used, but also on processing conditions and final fiber orientation in the part.

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Hofmann adds, "The primary thrust of my research is to evaluate the feasibility of extending the Method of Ellipses from short, rigid-fiber composites to long, semi-flexible fiber systems. In the coming year, I'll evaluate a number of research objectives, including looking at both short- and long-fiber orientations in complex geometries, possibly making modifications to the traditional method's image analysis width, doing a comprehensive study on experimental fiber orientation behavior in areas like the sprue and immediate entry region of the tool, and looking at long-fiber flexibility to develop a method to experimentally quantify the extent of fiber curvature."

Alper Kiziltas plans to explore the use of engineering thermoplastics reinforced with natural fillers for automotive underhood applications where conditions are too severe for commodity plastics. Using a combination of microcrystalline cellulose, wood flour, and hemp, flax, and kenaf fibers to replace conventional reinforcing fillers such as glass fiber, carbon fiber, nanoclay, and minerals, he hopes to formulate high specific-strength and modulus materials that are low-cost, low-density, easy-to-process, offer thermal and acoustic insulation, easy surface modification, low abrasion to molds, biodegradability, renewability, and global availability. He will concentrate on polyamide (PA, also called nylon) 6 and 6/6 as well as a blend of polyethylene terephthalate (PET) and polytrimethylene terephthalate (PTT).

Kiziltas adds, "The common belief is that natural-filler reinforcements for thermoplastics are limited to low-melting commodity thermoplastics with melting points below 180°C rather than higher temperature, higher performance engineering thermoplastics with higher melting points of 220°C and above. My research and patent applications have previously demonstrated that these beliefs are untrue. I have already succeeded in making thermoplastic composites combining microcrystalline cellulose (MCC) with nylons and thermoplastic polyesters and achieved melting points above 220°C and 260°C respectively. In the next phase of my research, I'll produce engineering thermoplastic composites with various natural fiber reinforcements and MCC and then evaluate their resulting thermal and mechanical properties."

Held annually in suburban Detroit, the SPE ACCE draws over 500 speakers, exhibitors, sponsors, and attendees and provides an environment dedicated solely to discussion and networking about advances in the transportation composites. Its global appeal is evident in the diversity of exhibitors, speakers, and attendees who come to the conference from Europe, the Middle East, Africa, and Asia / Pacific as well as North America. Fully one-third of attendees indicate they work for automotive and light truck, agriculture, truck & bus, heavy truck, or aviation OEMs, and another 25% represent tier suppliers. Attendees also represent composite materials, processing equipment, additives, and reinforcement suppliers; trade associations, consultants, university and government labs; media; and investment bankers. The show has been jointly sponsored by the SPE Automotive and Composites Divisions since 2001.

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The mission of SPE is to promote scientific and engineering knowledge relating to plastics. SPE's Automotive and Composites Divisions work to advance plastics and plastic-based composites technologies worldwide and to educate industry, academia, and the public about these advances. Both divisions are dedicated to educating, promoting, recognizing, and communicating technical accomplishments for all phases of plastics and plastic-based composite developments, including materials, processing, equipment, tooling, design and testing, and application development.

For more information see <http://speautomotive.com/comp.htm> or <http://compositeshelp.com>, or call +1.248.244.8993, or write SPE Automotive Division, 1800 Crooks Road, Suite A, Troy, MI 48084, USA. For more information on the Society of Plastics Engineers, see www.4spe.org, or call +1.203.775.0471.

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**FOR IMMEDIATE RELEASE: (18 August 2012)
SPE-ACCE-06a-12**

TROY (DETROIT), MICH. – John Hofmann, who is working on a doctorate in Macromolecular Science & Engineering at Virginia Polytechnic Institute and State University (Virginia Tech), is a winner of the **SPE® Automotive Composites Conference & Exhibition** (ACCE) annual **Graduate Scholarship Award** for the 2012-2013 academic year. Hofmann will receive a \$2,000 USD scholarship for research on extension of the Method of Ellipses (MOE) to measure orientation of long, semi-flexible glass fibers to predict final fiber orientation in injection-molded parts.

After completing a Bachelor's degree in Chemical Engineering at Case Western Reserve University, Hofmann moved on to graduate school at Virginia Tech. He is currently in his fourth year in the Macromolecular Science and Engineering program working towards a Ph.D. He is advised by Dr. Don Baird and works in the Polymer Processing lab in the Department of Chemical Engineering. The main focus of his research is on glass fiber-reinforced injection-molded composites. After graduation, Hofmann plans to head to industry but stay in research.

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FOR IMMEDIATE RELEASE: (18 August 2012)
SPE-ACCE-06b-12

TROY (DETROIT), MICH. – Alper Kiziltas, who is pursuing a Ph.D. in Forest Resources at the University of Maine, is a winner of the ***SPE Automotive Composites Conference & Exhibition*** (ACCE) annual ***Graduate Scholarship Award*** for research to develop polyamide and thermoplastic polyester blends reinforced with a variety of natural fillers for use in automotive underhood applications that are too severe for commodity thermoplastics.

Upon obtaining an undergraduate degree in Forest Products Engineering from Karadeniz Technical University, Trabzon, Turkey, Kiziltas was awarded a prestigious scholarship from the Turkish government to attend graduate school at the Karadeniz Technical University Graduate School. In the Spring of 2006, the Republic of Turkey/Ministry of National Education awarded him a full scholarship to pursue graduate studies in wood science and technology in the United States. He enrolled in the School of Forest Resources at the University of Maine in the fall of 2007, obtained a Master's of Science degree in August of 2009, and is currently enrolled in the School of Forest Resources' Ph.D. program from which he expects to graduate next year. After graduation, Kiziltas hopes to work in automotive research developing natural fiber-reinforced components for passenger vehicles.

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