



DEBORAH MIELEWSKI TO GIVE KEYNOTE ON FORD MOTOR CO. WORK ON BIO-BASED POLYMERS AT NINTH SPE® ACCE SHOW

Interest Grows Globally in Lightweight, Carbon-Sequestering, Green Composites, which Offer Cost, Mass Reduction Opportunities for Automakers

TROY (DETROIT), MICH. – Interest in the benefits of using carbon-sequestering, bio-based monomers and polymers and natural-fiber reinforcements to produce lighter, *greener* composites for automotive and ground-transportation applications has been growing for over a decade. With all automakers challenged to significantly increase fuel economy, reduce tailpipe emissions, and lower vehicle mass, the value of green composites is expected to grow even stronger in coming years. At the ninth-annual ***SPE Automotive Composites Conference & Exhibition*** (SPE ACCE), September 15 and 16, here, Deborah Mielewski, technical leader of Plastics Research, Research & Innovation Laboratory, Ford Motor Co. (Dearborn, Mich.), will give a keynote address entitled *Can you Be-Leaf It? Development & Implementation of Sustainable Materials for the Automotive Industry*, which will compliment SPE's popular technical session on *Advances in Bio- & Natural Fiber Composites*. Ford has long been a leader in incorporating environmental technologies such as bio- and natural-fiber composites and recycled polymers into vehicles sold worldwide.

“Ford Motor Company's founder, Henry Ford, was an avid inventor who believed that agriculture and industry should work together to transform products of the farm into materials for manufacture. This old idea may have finally taken hold globally,” explains Mielewski. “Within Ford Motor Company's research lab, our plastics group has been focused on developing biomaterials for almost a decade – long before it was fashionable to be ‘green’. Our group's efforts have been focused on soy-based polyurethane foams, natural-fiber reinforced composites, and polymer resins made from plant sources. These technologies provide positive environmental impact by utilizing renewable resources, reducing CO₂ emissions, by being entirely compostable, and – in some cases – reducing weight, which helps improve fuel economy. Traditional petrol-based plastics used in cars today have been optimized over the past 60 years, so we have some catching up to do on developing these environmental materials. This will require creativity in how best to synthesize materials from crops and overcome the technical hurdles inherent in them. During my talk, I will describe the technologies we are working on, some of the key challenges that we have already overcome, and describe some that we have yet to solve to meet all durability and functional requirements needed for passenger vehicles. However, as the price of oil continues to fluctuate, more companies will begin to invest in these technologies, and more breakthroughs will be made.”



About Deborah Mielewski

Dr. Deborah Mielewski is currently technical leader-Plastics Research at Ford Motor Co.'s Research and Innovation Center in Dearborn. She has spent the past 22 years working for Ford in a variety of positions, ranging from automotive paints, to polymer processing, to materials development. She initiated a biomaterials program at Ford Research in 2001, and her team demonstrated soy-based foam on a concept vehicle (*Model U*) at the January 2003 Detroit International Auto Show. Ford has since launched soy-based foam seating on the 2008MY *Mustang* sports car and six other models. Mielewski's group continues to pioneer developments in sustainable materials that meet stringent automotive requirements, including natural-fiber and soy-flour reinforcement for plastics, and compostable resins made from renewable feedstocks. Mielewski has over 30 referred journal publications and is named to eight U.S. patents. She holds B.S.E. ('86), M.S.E. ('93), and Ph.D.

('98) degrees in Chemical Engineering from the University of Michigan-Ann Arbor.

About the ACCE

The ACCE typically draws over 400 speakers, exhibitors, sponsors, and attendees from 14 countries on 4 continents with fully one-third indicating they work for an OEM involved in ground transportation or aerospace/aviation. Interestingly, over the past few years, the types of transportation OEMs represented at the show have continued to broaden beyond traditional automotive and light truck, to include agriculture, truck & bus, heavy truck, and aviation. This trend may indicate greater interest in technology sharing among transportation OEMs and suppliers.

Held annually in suburban Detroit, the ACCE provides an environment dedicated solely to discussion and networking about advances in the automotive composites industry. Its global appeal is evident in the diversity of exhibitors, speakers, and attendees who come to the conference from Europe, the Middle East, and Asia / Pacific as well as North America and who represent transportation OEMs and tier suppliers; composite materials, processing equipment, additives, and reinforcement suppliers; trade associations, consultants, university and government labs; media; and investment bankers. The show is sponsored jointly by the SPE Automotive and Composites Divisions.

For more information about the SPE Automotive Composites Conference, visit www.speautomotive.com/comp.htm, or contact the group at +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 International or other SPE events, visit the SPE website at www.4spe.org, or call +1.203.775.0471.

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