



DOW CHEMICAL'S KALYAN SEHANOBISH TO PRESENT VISION FOR CARBON FIBER COMPOSITES DURING SPE ACCE KEYNOTE

Speaker to Discuss Tremendous Opportunities, Challenges Faced by Industry in Making Carbon Composites Truly Competitive with Metal Forming

TROY (DETROIT), MICH. – Kalyan Sehanobish, distinguished scientist from the Dow Chemical Co. (Midland, Mich.), will give the opening keynote at the ninth-annual **SPE Automotive Composites Conference & Exhibition** (SPE ACCE) here on Sept. 15, from 8:45 to 9:15 a.m. on “*A Vision for Carbon Fiber Composites in Automotive*” – a topic of great interest to automakers struggling to reduce vehicle mass without compromising safety, aesthetics, or component costs. Carbon composites will be featured on many of the vehicles on display at the show and in numerous papers presented in the event's technical sessions. Sehanobish promises to provide an overview of not only the opportunities that carbon composites present, but also the numerous challenges that must be overcome before they become a viable material/process option on more than a handful of low-volume/high-performance vehicles.



“Currently, the composites industry lacks any real alternative to high-speed metal-stamping technology,” explains Sehanobish. Carbon fiber composites in particular really lag the metal-forming industries in terms of fast, low-cost fabrication technologies. Present technology is both hostage to excessively costly precursor and to slow and costly conversion technologies. While this is likely to improve somewhat as carbon fiber supply increases, still no single commercial entity is going to take on the challenge of delivering low-cost carbon fiber without a commitment for serious growth of these materials in ground transportation and a less-costly manufacturing strategy. To solve the complex and formidable challenges before us will require a consortium of industries coming together and attacking the problem from all angles.”

The author sites increased volatility in oil prices and recognition of human contributions to global warming and other environmental issues to greater emphasis on improving the fuel efficiency of automobiles and other modes of transportation, which has caused automakers to look more seriously at non-traditional, lighter weight solutions, helping improve the volume of composites used in the transportation market. As composites usage expands, other drivers such as energy management in a crash, design flexibility, parts integration, aesthetics, and systems cost reduction are becoming drivers for composites usage.

Nevertheless, in order for composites – and in particular carbon fiber-reinforced composites – to gain greater marketshare, technology breakthroughs are needed to make composites as easy and accessible to use as metal forming. The author notes the need to increase engineering knowledge about composites design, improve cycle times, produce higher performance/lower cost reinforcements, facilitate repair, and develop strategies for disassembly and recycling of composite parts at end of vehicle life.

About Kalyan Sehanobish

Dr. Kalyan Sehanobish, senior scientist at Dow Automotive, is a leading expert in the area of materials science with particular emphasis on fracture behavior. During his 22-year career at Dow, he had been responsible for pioneering work in use-life predictive modeling of polyolefin pipes, structure-property relationships of thermoplastic polymer blends, engineering improvements in metals, ceramics and hybrids, as well as unique safety, bonding, acoustics, and heat-storage applications. He was also one of the early pioneers in the development of applications for metallocene-catalyzed and post-metallocene-catalyzed resins, such as impact modifiers for thermoplastic polyolefins (TPOs) widely used today in nearly all vehicle bumper fascia. He has also made significant contributions in the area of polyethylene pipes, blown and cast films, specialty fibers and films, and development of new TPOs. The significant number of publications and patents on which Sehanobish is named is testament to the impact of his work in the plastics industry and the markets served by these materials. Four times his inventions have been named to *R&D Magazine's R&D 100 Award* (1994, 1999, 2005, and 2007).

About the ACCE

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.

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 about the SPE Automotive Composites Conference, visit the Composites' Division website at www.4spe.org/communities/divisions/d39.php, or the Automotive Division's website at 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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