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BEST PAPER AWARD WINNERS ANNOUNCED FOR 2013 SPE® AUTOMOTIVE COMPOSITES CONFERENCE & EXHIBITION

TROY (DETROIT), MICH. – The organizing committee for the **SPE® Automotive Composites Conference & Exhibition** (ACCE) today announced **Best Paper Award** winners for the group's thirteenth-annual show, **September 11-13, 2013**. Three winners – all in the *Virtual Prototyping & Testing of Composites* technical session and who received the highest average ratings by conference peer reviewers out of a field of 90 contenders – will be honored for excellence in technical writing during opening ceremonies. Honorees Thierry Malo, engineering services team leader at [e-Xstream engineering](#), an MSC Company; David Sheridan, senior design engineer at [Ticona Engineering Polymers](#), the engineering polymers business of Celanese Corporation; and Dr. Ivor Huan-Chang Tseng, program manager at [CoreTech System \(Moldex3D\) Co. Ltd.](#) or their representatives will receive a commemorative plaque for excellence in technical writing during opening ceremonies at this year's SPE ACCE.

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2013 SPE ACCE Best Paper Award Winners Announced

2-2-2-2

Thierry Malo was lead author (along with Laurent Adam and Roger Assaker, also of e-Xstream engineering, and Tsukatada Matsumoto and Riccardo Giacomini from Toyota Motor Europe) on a paper entitled *Multi-Scale Modeling of High Cycle Fatigue of Chopped and Continuous Fiber Composites*, which will be presented by e-Xstream colleague, Kurt Danielson on September 12 from 8:00-8:30 a.m. The paper introduces two micro-mechanically based composite fatigue models. The focus is on the high-cycle fatigue model implemented specifically for chopped-fiber-reinforced plastics that were used on an automotive oil-cooler bracket for a Toyota vehicle in Europe. The bracket is molded from short-glass reinforced polyamide (PA, also called nylon) 6/6 resin. Through this case study, the presentation shows how the use of proper fatigue-modeling tools, developed specifically for composites, can increase the accuracy of simulation in the field of durability and pave the way for new simulation standards that help support the desired weight reductions of vehicle components.

David Sheridan was lead author (along with Ulrich Mohr-Matuschek and Anton Grzeschik of Ticona GmbH and Roland Peter of Inteva Roof Systems) on a paper entitled *Integrated Anisotropic Simulation for Components Made from Glass Fiber Reinforced Thermoplastics*, which he will present on September 12 from 11:30 a.m. - 12:00 p.m. along with a tutorial earlier that day on *Design & Development of Precision Plastic Gear Transmissions*. The paper discusses how accurately analyzing and predicting the mechanical behavior of components made from fiber-reinforced thermoplastics is complex owing to the fact that fibers are individually oriented during injection molding. Finite-element analysis often uses isotropic material models, but accuracy of results can be improved if local fiber orientations are considered with anisotropic material properties. The paper introduces the analysis process and a practical application.

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2013 SPE ACCE Best Paper Award Winners Announced

3-3-3-3

Dr. Ivor Huan-Chang Tseng was lead author (along with Yuan-Jung Chang, Tzu-Chang Wang, and Chia-Hsiang Hsu of CoreTech System (Moldex3D) Co., Ltd. and Rong-Yeu Chang, National Tsing-Hua University) on a paper entitled *Three Dimensional Predictions of Fiber Orientation for Injection Molding of Long Fiber Reinforced Thermoplastics*, which will be presented on September 11 from 2:30 - 3:00 p.m. by Moldex3D colleague, Ken (KC) Cheng. The award-winning paper discusses a recently proposed new fiber orientation model for improving the previously developed models for long fiber-reinforced thermoplastic (LFRT) composites with regard to interaction and diffusion of the fibers immersed in a matrix. This improved Anisotropic Rotary Diffusion model combined with Retarding Principal Rate (iARD-RPR) model has been demonstrated to describe changes in fiber orientations well, whether treating short fibers or long fibers. This was demonstrated in a study using 40 wt% glass-fiber immersed in a polypropylene matrix that was injection molded in a center-gated disk. Good correlation was achieved between predicted fiber orientation distribution through the thickness and experimental results.

Held annually in suburban Detroit, the SPE ACCE draws over 700 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 OEM, and another 25% representing tier suppliers. Attendees also represent composite materials, processing equipment, additives, or 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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2013 SPE ACCE Best Paper Award Winners Announced

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Current supporters of the show include: PREMIER & SPECIAL SPONSORS: Ticona Engineering Polymers* (also lunch and conference bag sponsor), BASF Corp.*, Bayer MaterialScience*, CPI Binani, Inc.* , Dow Automotive Systems*, Dieffenbacher GmbH*, INVISTA Engineering Polymers* (also student poster-competition sponsor), Michigan Economic Development Corp.* (student scholarship sponsor), Momentive Specialty Chemicals Inc.* (also first-reception sponsor), PPG Industries*, Schuler Group*, Autodesk Inc. (second-reception sponsor), Red Spot Paint & Varnish Company, Inc. (lunch sponsor), American Chemistry Council - Plastics Div. (breakfast sponsor), Plasticomp, Inc. (breakfast sponsor); ASSOCIATE & BREAK SPONSORS: A&P Technology*, Abaris Training Resources, Inc.* , Accutek Testing Laboratory*, Acrolab, Ltd.* , Addcomp North America, Inc.* , Adhesives Research, Inc.* , AOC Resins*, Applied Fluid Technologies Division-Graco Inc.* , Asahi Kasei Plastics North America, Inc.* , Ashland Inc.* , Assembly Guidance Systems, Inc.* , BMC Inc.* , Cannon USA* , CHOMARAT*, Core Molding Technologies, Inc.* , CoreTech System Co., Ltd. (Moldex3D)* , Dassault Systèmes*, ESI Group*, e-Xstream engineering*, FibrTec Inc.* , Fraunhofer Project Centre @ Western University*, Gurit Automotive Ltd.* , HBM, Inc. (HBM-nCode)* , Henkel Corp.* , Johns Manville*, LANXESS Corp.* , Lawton Machinery Group*, LayStitch Technologies LLC*, Mitsubishi Rayon Co. Ltd.* , Mitsubishi Rayon Carbon Fiber & Composites*, Mitsui Chemicals America, Inc.* , National Research Council Canada (NRC-CNRC)* , NETZSCH Instruments North America, LLC*, Owens Corning*, Pinette Emidecau Industries*, Plasan Carbon Composites* (also lanyard sponsor), Polyscope Polymers*, Polystrand*, Quantum Composites*, Regloplas Corp.* , RTP Co.* , Siemens*, Single Temperature Controls, Inc.* , Tata Technologies*, TenCate Advanced Composites USA, Inc.* , The Composites Group*, Toho Tenax America, Inc.* , Trexel, Inc.* , Williams, White & Co.* , Zoltek*, Zotefoams, Plc*, Zwick USA*, and Multimatic Engineering (coffee-break sponsor); MEDIA/ASSOCIATION: Automotive Design & Production magazine, Automotive Engineering International magazine, Automotive NewsWire magazine, China Plastics & Rubber Journal, China Plastics & Rubber Journal International, Composites Technology magazine, CompositesWorld Weekly magazine, High-Performance Composites magazine, Industrias Plásticas magazine, JEC Group, Modern Plastics India magazine, Noticiero del Plástico magazine, Plaspec Global Plastics Selector, Plastech.biz, Plastics Engineering magazine, Plastics Technology magazine, Plastics: The Global Application Medium, PrototypeToday.com, Reciclado y Plasticos magazine, Reinforced Plastics magazine, Rubber Fibre Plastics International Magazine, SAE International®, TheMoldingBlog.com, and WardsAuto.com.

* Indicates a sponsor that also is exhibiting.

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2013 SPE ACCE Best Paper Award Winners Announced

5-5-5-5

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 Automotive Division's website at <http://speautomotive.com/comp.htm>, or the Composites' Division website at <http://specocomposites.com/>, 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 or other SPE events, visit the SPE website at www.4spe.org, or call +1.203.775.0471.

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TROY (DETROIT), MICH. – Thierry Malo, engineering services team leader at [e-Xstream engineering](#), an MSC Company, has been named a *Best Paper Award* winner by the peer-review committee for the **SPE® Automotive Composites Conference & Exhibition (ACCE)**. Malo was lead author (along with Laurent Adam and Roger Assaker, also of e-Xstream engineering, and Tsukatada Matsumoto and Riccardo Giacomini from Toyota Motor Europe) on a paper entitled *Multi-Scale Modeling of High Cycle Fatigue of Chopped and Continuous Fiber Composites*. Malo's colleague, Kurt Danielson, will accept a special plaque for excellence in technical writing on his behalf during opening ceremonies at the thirteenth-annual SPE ACCE on September 11th and will present the paper in the *Virtual Prototyping & Testing* session on September 12 from 8:00-8:30 a.m.

Aside from Malo's current responsibilities as team leader for the engineering services group at e-Xstream, he also is involved in all initiatives at the company on fatigue modeling of composites. He joined e-Xstream in 2009 as a project engineer. Before that, he worked for Rhodia Engineering Plastics on the development of state-of-the-art composite modeling techniques.

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TROY (DETROIT), MICH. – David Sheridan, senior design engineer at *Ticona Engineering Polymers*, the engineering polymers business of Celanese Corporation, has been named a *Best Paper Award* winner by the peer-review committee for the **SPE® Automotive Composites Conference & Exhibition** (ACCE). He was lead author (along with Ulrich Mohr-Matuschek and Anton Grzeschik of Ticona GmbH and Roland Peter of Inteva Roof Systems) on a paper entitled *Integrated Anisotropic Simulation for Components Made from Glass Fiber Reinforced Thermoplastics*, which he will present on September 12 from 11:30 a.m. - 12:00 p.m. along with a tutorial earlier that day on *Design & Development of Precision Plastic Gear Transmissions*. Sheridan will receive a special plaque for excellence in technical writing during opening ceremonies at the thirteenth-annual SPE ACCE on September 11.

Sheridan has worked for Ticona and been involved with the design and analysis of plastic parts for over 25 years. He also has been involved with plastic gear design and analysis for the past 15 years and is an active member of the American Gear Manufacturers Association's Plastics Gearing Committee. He has authored many articles on plastic part and gear-related topics. He holds a Bachelor's of Science degree in Mechanical Engineering from the former GMI Engineering & Management Institute (now called Kettering University).

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SPE-ACCE-05c-12

TROY (DETROIT), MICH. – Dr. Ivor Huan-Chang Tseng, program manager at [CoreTech System \(Moldex3D\) Co., Ltd.](#), has been named a *Best Paper Award* winner by the peer-review committee for the **SPE® Automotive Composites Conference & Exhibition** (ACCE). Tseng was lead author (along with Yuan-Jung Chang, Tzu-Chang Wang, and Chia-Hsiang Hsu of CoreTech System (Moldex3D) Co., Ltd. and Rong-Yeu Chang, National Tsing-Hua University) on a paper entitled *Three Dimensional Predictions of Fiber Orientation for Injection Molding of Long Fiber Reinforced Thermoplastics*, which will be presented on September 11 from 2:30 - 3:00 p.m. by Moldex3D colleague, Ken (KC) Cheng. Cheng will accept a special plaque on behalf of Teng for excellence in technical writing during opening ceremonies at the thirteenth-annual SPE ACCE on September 11.

Tseng received his Ph.D. degree in Applied Chemistry from National Chiao-Tung University (NCTU) in Taiwan in 2008. Under the direction of professors Rong-Yeu Chang and Jiann-Shing Wu, Tseng's major research interests focused on molecular simulations, involving Molecular Dynamics (MD), Monte Carlo (MC), and Dissipative Particle Dynamics (DPD) methods, with applications to predictions of nano-thermodynamic and nano-rheological properties of polymer materials. Many of his non-equilibrium molecular dynamics simulation (NEMD) studies for sheared n-hexadecane fluid have been published in the *Journal of Chemical Physics*. In his current job as program manager in the R&D Division of CoreTech System Co., Ltd., Tseng's main research areas are composite and polymer processing, polymer rheology and viscoelasticity, and molecular simulations, and he is responsible for theoretical development with a focus on the prediction of fiber orientation during processing of fiber-reinforced composites. Recently, he has expanded his research into new areas including powder concentration and particle migration for metal injection molding (MIM).

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