

Wednesday, Sept. 9, 2015

7:00–8:15 a.m.

REGISTRATION / BREAKFAST / OPENING OF EXHIBITS - Diamond Ballroom
JUDGING FOR STUDENT POSTER COMPETITION & PARTS SHOWCASE - Hall C

8:15–8:45

OPENING REMARKS (Including Best Paper Awards & Student Scholarship Announcements)
Dale Brosius & Fred Deans, 2015 SPE ACCE Co-Chairs - Diamond Ballroom

8:45–9:00

EXHIBITS - Hall C

	IN ONYX	IN OPAL/GARNET	IN EMERALD/AMETHYST
	SESSION 1: ADDITIVE MANUFACTURING & 3D PRINTING - PART 1 OF 2: <i>Additive Manufacturing</i>	SESSION 2: VIRTUAL PROTOTYPING & TESTING - PART 1 OF 5: <i>Impact Testing</i>	SESSION 3: NANOCOMPOSITES - PART 1 OF 3: <i>Cellulose & Nanocellulose</i>
9:00–9:30	James Orrock, Stratasys Inc. Additive Manufacturing Composite Materials for Automotive Product Development	Lolei Khoun, National Research Council Canada (NRCC) Impact Behaviour of Thin Carbon Fibre Reinforced Composites Components for Automotive Applications	Mehdi Tajvidi, University of Maine Transparent Composite Films of All-Cellulose and Cellulose-Polyvinyl Alcohol Nanocomposites: Effect of Relative Humidity and Temperature on Mechanical Performance
9:30–10:00	Ellen Lee, Ford Motor Co. New Materials and Processes for Additive Manufacturing for Automotive Applications	Robert Yancey, Altair Engineering Designing Composite Structures for Impact Performance – What Can We Learn from the Aerospace Industry?	Kim Nelson, American Process Inc. Lightweighting Vehicles with BioPlus™ Nanocellulose Composites
10:00–10:30	Vlastimil Kunc, Oak Ridge National Laboratory Advances and Challenges in Large Scale Polymer Additive Manufacturing	Stuart Brown, Veryst Engineering, LLC Impact Testing of Fiber-Reinforced Thermoplastics	Shokoofeh Ghasemi, University of Maine Cellulose Nanoparticle Reinforced Polyurethane Foams

10:30–11:00

BREAK / EXHIBITS - Hall C

	SESSION 4: ADDITIVE MANUFACTURING & 3D PRINTING - PART 2 OF 2: <i>3D Printing</i>	SESSION 5: VIRTUAL PROTOTYPING & TESTING - PART 2 OF 5: <i>Fabric Weaves</i>	SESSION 6: NANOCOMPOSITES - PART 2 OF 3: <i>Nanostructures & Nanofillers</i>
11:00–11:30	Bryan Crutchfield, Materialise NV 3D Printing: A Game Changer for Manufacturing	Dustin Souza, e-Xstream engineering Prediction of Post Failure Behavior of Woven Made Parts for Crash Design Needs	Nanocomposites Roundtable Discussion
11:30 a.m.–12:00 p.m.	Umesh Gandhi, Toyota Research Institute North America Designing Lattice Structure for 3D Printing	Sarah Stair, Baylor University **2013-2014 ACCE scholarship winner** Investigation of Woven Fiber Reinforced Laminated Composites Using a Through Transmission Ultrasonic Technique	Thomas Köhler, Institut für Textiltechnik (ITA) der RWTH Aachen University Technological and Economical Assessment of Nanoscale Fillers in Fibre Reinforced Thermoplastic Composites
12:00–12:30	Mike Lee, AlphaStar Corp. The Impact of Fiber Content & Effect of Defects on 3D Printing Car Additive Manufacturing Processes	Neal Corey, Ford Motor Co. Ankur Bhosale, BASF Corp. MMLV Lightweight Powertrain – Long Carbon Fiber Structural Front Cover & Oil Pan	Jennifer Zhu, Ford Motor Co. Bio-Based Polyamides Reinforced with Cellulose Nanofibers — Processing & Characterization

12:30–1:30

LUNCH, STUDENT POSTERS, LARGE-PART DISPLAY - Hall C

	SESSION 7: ADVANCES IN THERMOSET COMPOSITES - PART 1 OF 2:	SESSION 8: VIRTUAL PROTOTYPING & TESTING - PART 3 OF 5: <i>Draping & Joining Simulation</i>	SESSION 9: NANOCOMPOSITES PART 3 OF 3: <i>Nanosilica & Nano Trends</i>
1:30–2:00	Michael Sumner, Ashland Inc. Development of Ultra Low Density SMC	Ian Swentek, Fraunhofer Project Centre for Composite Research at the Western University Investigation on Fiber Preforming with Draping Simulation	Kunal Kumar, Evonik Corp. Damage Tolerant Automotive Composites with Nanosilica Modifications
2:00–2:30	Markus Downey, Michigan State University **2014-2015 ACCE scholarship winner** Toughening of Aromatic Epoxy Polymers via Aliphatic Epoxy Monomer Addition: Optimized Fiber-Reinforced Polymer Composites for Lightweighting	Steffen Ropers, Volkswagen Group Research Márton Kardos, The University of Applied Sciences Hof **2015-2016 ACCE scholarship winner** Material Characterization and Draping Simulation of Thermoplastic Prepregs: The Influence of Temperature	James Nelson, 3M Nanosilica-Modified Epoxy Resins for Use in Lightweight Filament-Wound Drive Shaft Applications
2:30–3:00	Thermoset Composites Roundtable Discussion	Yuyang Song, Toyota Research Institute of North America Finite Element Modeling for Adhesive Joint of Dissimilar Materials	Mark Shaw, UltraTech International, Inc. New Nanotechnology Initiatives in the Automotive Market

3:00–3:30

BREAK / EXHIBITS - Hall C

3:30–4:00

KEYNOTE 1 – Diamond Ballroom: **Anthony Schiavo, Research Associate, Lux Research Inc.** **Carbon Fiber 2.0: Roadmap for Growth to 2020 and Beyond**

4:00–5:30

KEYNOTE 2 – Diamond Ballroom: **Institute for Advanced Composites Manufacturing Innovation (IACMI): A Disruptive Moment in Automotive History**
Dr. Craig Blue, CEO, IACMI / Dr. Larry Drzal, IACMI Director - Vehicles Technology Area, Michigan State University / Dr. Byron Pipes, IACMI Director - Modeling and Simulation Technology Area, Purdue University / Brian Rice, IACMI Director - Compressed Gas Storage Technology Area, University of Dayton Research Institute / Cliff Eberle, IACMI Director - Materials and Process Technology Area, Oak Ridge National Laboratory

5:30–5:45

RECEPTION SPONSOR ADDRESS - Diamond Ballroom

5:45–7:45

COCKTAIL RECEPTION / EXHIBITS - Hall C Sponsored by BYK USA Inc.

7:45

CONFERENCE ADJURNS FOR THE DAY

Thursday, Sept. 10, 2015

7:00-8:00 a.m.

REGISTRATION / BREAKFAST / OPENING OF EXHIBITS & JUDGING FOR PARTS COMPETITION - Exhibit Hall C

	IN ONYX	IN OPAL/GARNET	IN EMERALD/AMETHYST
	SESSION 10: OPPORTUNITIES & CHALLENGES WITH CARBON COMPOSITES - PART 1 OF 2: <i>New Prepreg Technologies</i>	SESSION 11: VIRTUAL PROTOTYPING & TESTING - PART 4 OF 5: <i>Fiber Orientation</i>	SESSION 12: ADVANCES IN THERMOSET COMPOSITES - PART 2 OF 2:
8:00-8:30	Brian Gardner, Sigmatec Carbon Composite Solutions The Lightweighting Excellence Program: High-Throughput Composites for Automotive Applications	Gregory Lambert, Virginia Polytechnic Institute and State Univ. Assessing the Performance of the Bead-Rod Model for Simulating Long Fiber Orientation in Basic Flows	Mike Gruskiewicz, A. Schulman - Engineered Composites A New Approach to SMC Weight Reduction
8:30-9:00	Michael Karcher, Fraunhofer Institute for Chemical Technology Evaluation of a New "InlinePrepreg" Process Approach to Established Processes for the Manufacturing of Structural Components out of Carbon Fibre Reinforced Plastics	Sebastian Goris, Univ. of Wisconsin-Madison **2014-2015 ACCE scholarship winner** Fiber Orientation Measurements Using a Novel Image Processing Algorithm for Micro-Computed Tomography Scans	Marcel Bruijn, Huntsman Polyurethanes Latest Generation of Polyurethane Resins with Superior Process Control for Fast-Cycle Manufacturing of Structural Composites
9:00-9:30	Max Thouin, Mitsubishi Rayon Carbon Fiber & Composites Automated Solution to High Volume Manufacturing Using Low-Cost PCM TowPrepreg	Dhanendra Kumar Nagwanshi, SABIC Plastic Hybrid Solutions in Truck Body-in-White Reinforcements and in Front Underrun Protection	Sigrid ter Heide, HEXION BV A Life Cycle Assessment-Based Comparison of Engineering Thermoset and Aluminum in an Automotive Under-the-Hood Application

9:30-10:00

BREAK / EXHIBITS - Hall C

	SESSION 13: OPPORTUNITIES & CHALLENGES WITH CARBON COMPOSITES - PART 2 OF 2: <i>Preforming, Woven Composites, & Lightweighting</i>	SESSION 14: VIRTUAL PROTOTYPING & TESTING - PART 5 OF 5: <i>Anisotropy Modeling</i>	SESSION 15: ADVANCES IN THERMOPLASTIC COMPOSITES - PART 1 OF 1
10:00-10:30	Markus Thiessen, Compositence GmbH Preforming 2.0 – Leap Innovations for Automotive by Compositence	Roger Assaker, e-Xstream engineering Fiber Reinforced Plastic Durability: Nonlinear Multi-Scale Modeling for Structural Part Life Predictions	Yankai Yang, Hanwha Azdel Inc. Development of Lightweight Reinforced Thermoplastic with Improved Stone Impingement Resistance for Automotive Underbody Application
10:30-11:00	Jon Goering, Albany Engineered Composites Application of 3D Woven Composites for Energy Absorption	Doug Kenik, AutoDesk, Inc. Bridging the Gap: As-Manufactured Structural Simulation of Injection Molded Plastics	Eric Wollan, PlastiComp, Inc. Hybrid Long Fiber Thermoplastic Composites: A Perfect Blend of Performance and Cost
11:00-11:30	Brian Gardner, Sigmatec Carbon Composite Solutions Recycled Carbon Thermoplastic for Automotive Lightweighting	Roger Assaker, e-Xstream engineering Anisotropic Damping Behavior of Reinforced Plastic Parts for NVH Simulations	Cécile Demain, Solvay Thermoplastic Composite Structural Part for Truck Market Application
11:30 a.m. -12:00 p.m.	Stephen Greydanus, HEXION Inc. Advancements in Epoxy Technologies for Enabling Automotive Light-Weighting at High Build Rates	Don Robbins, Autodesk, Inc. Progressive Failure Simulation of As-Manufactured Short Fiber Filled Injection Molded Parts: Validation for Complex Geometries and Combined Load Conditions	Jacob Anderson, PPG Fiber Glass Reinforcement Technology Center 2015 Dr. Jackie Rehkopf Best Paper Award winner Effect of Processing Technique on the Mechanical Performance of Glass Fiber Reinforced Thermoplastics

12:00-1:00

LUNCH, LARGE-PART DISPLAY HALL C

1:00-1:30

KEYNOTE 3 – Diamond Ballroom: **Deborah Mielewski, Senior Technical Leader of Sustainable Materials and Plastics Research, Ford Motor Co.**
Owning the Future: Sustainable Materials Research, Development & Implementation at Ford

1:30-2:00

KEYNOTE 4 – Diamond Ballroom: **Stefan Stanglmaier, Technologieentwicklung CFK Material- und Prozessabsicherung, BMW Group**
Mass Production of CFRP in Automotive Applications – Potential and Challenges in Implementing Local Reinforcements

	SESSION 16: ENABLING TECHNOLOGIES - PART 1 OF 3: <i>New Manufacturing Strategies</i>	SESSION 17: SUSTAINABLE COMPOSITES - PART 1 OF 2: <i>Reinforcements</i>	SESSION 18: ADVANCES IN REINFORCEMENT TECHNOLOGIES - PART 1 OF 1
2:00-2:30	Chuck Buckley, Dassault Systèmes Business Intelligence to Help Define Composite Processes Measurements and Production Predictive Analytics	Amy Langhorst, Ford Motor Co. 2015 Dr. Jackie Rehkopf Best Paper Award winner Selective Dispersion and Compatibilizing Effect of Cellulose Filler in Recycled PA6 / PP Blends	Hendrik Mainka, Volkswagen AG Raman and X-ray Photoelectron Spectroscopy: Useful Tools for the Chemical Characterization of the Conversion Process of Lignin to Carbon Fiber
2:30-3:00	Burak Uzman, Coriolis Composites SAS Automated Manufacturing for Mass Production and Low-Cost Materials	Niloofer Yousefi Shivyari, University of Maine All-Renewable Paper Nano-Laminates for Automotive Applications	Christopher Pastore, Philadelphia University 2015 Dr. Jackie Rehkopf Best Paper Award winner Lightweighting Composites Through Selective Fiber Placement
3:00-3:30	Andrew Rypkema, Pinette Emidecau Industries QSP: A Breakthrough Approach for Automating High Performance Thermoplastic Composites	William Jordan, Baylor University Improving the Properties of Banana Pseudo-Stem Fiber LDPE Composites by Chemically and Thermally Treating the Fibers	David Jack, Baylor University The Impact of Nozzle Shape & Convergence Flow on the Extrudate Fiber Orientation & Subsequent Stiffness in Fused Deposition Modeling

3:30-4:00

BREAK / EXHIBITS - Hall C

4:00-5:30

PANEL DISCUSSION - DIAMOND BALLROOM: **Carbon Steel to Carbon Composites – Can the Existing Automotive Infrastructure be Leveraged to meet Lightweighting Targets?** Moderator: **Jan-Anders Månson, Ecole Polytechnique Fédérale de Lausanne (EPFL)**
Panelists: **Glade Gunther, Cytec Industries Inc.; Paul Krajewski, General Motors Co.; Peter Ulintz, Precision Metalforming Association; Rainer Kossak, Ph.D., Novelis Inc.; Markus Geier, Schuler Inc.; Hannes Fuchs, Ph.D., Multimatic Engineering**

5:30-5:45

RECEPTION SPONSOR ADDRESS - Diamond Ballroom

5:45-7:30

COCKTAIL RECEPTION / EXHIBITS - Hall C **Sponsored by HEXION Inc.**

7:30

CONFERENCE ADJURNS FOR THE DAY

Friday, Sept. 11, 2015

7:00–8:00 a.m.

REGISTRATION / BREAKFAST / OPENING OF EXHIBITS - Hall C

	IN ONYX	IN OPAL/GARNET	IN EMERALD/AMETHYST
	SESSION 19: ENABLING TECHNOLOGIES - PART 2 OF 3: <i>Advances in RTM Technology</i>	SESSION 20: SUSTAINABLE COMPOSITES - PART 2 OF 2: <i>Polymers & Trends</i>	SESSION 21: TUTORIALS - PART 2 OF 2: <i>Adhesive Bonding of CFRP Composites</i>
8:00–8:30	Tobias Jansen, Hennecke GmbH The HP-RTM Technology – Actual Status and New Developments	Sustainable Composites Roundtable Discussion	Louis Dorworth, Abaris Training Resources, Inc. Adhesive Bonding of CFRP Composites: Practices and Principles - Part 1 of 4
8:30–9:00	Philipp Rosenberg, Fraunhofer Institute for Chemical Technology Characterization of Epoxy and Polyurethane Resin Systems for Manufacturing of High-Performance Composites in High-Pressure RTM Process	Henning Karbstein, BASF Corp. Acrodur® Natural Fiber Composites: New Opportunities with Thermoplastic Binder	Louis Dorworth, Abaris Training Resources, Inc. Adhesive Bonding of CFRP Composites: Practices and Principles - Part 2 of 4
9:00–9:30	Ian Swentek, Fraunhofer Project Centre for Composite Research at the Western University Impact of HP-RTM Process Parameters on Mechanical Properties using Epoxy and Polyurethane	Andrea Birch, Ford Motor Co. / University of Waterloo Development of Cost Effective and Sustainable Polyamide Blends for Automotive Applications	Louis Dorworth, Abaris Training Resources, Inc. Adhesive Bonding of CFRP Composites: Practices and Principles - Part 3 of 4
9:30–10:00	Erich Fries, KraussMaffei Technologies GmbH Light Weight Technology — New Approach Thermoplastic RTM / Surface RTM and Fiber Form Technology	Atul Bali, Competitive Green Technologies Light-Weighting Opportunities using Bio-Materials in Automotive Applications	Louis Dorworth, Abaris Training Resources, Inc. Adhesive Bonding of CFRP Composites: Practices and Principles - Part 4 of 4

10:00–10:30

BREAK / EXHIBITS - Hall C

	SESSION 22: ENABLING TECHNOLOGIES - PART 3 OF 3: <i>NDT, Direct Fiber Feeding, & Hybrid Vehicles</i>	SESSION 23: BONDING, JOINING & FINISHING - PART 1 OF 1	SESSION 24: TUTORIALS - PART 1 OF 2: <i>Bioplastics & Biocomposites</i>
10:30–11:00	Jan Olav Endrerud, DolphiTech AS Non-Expert NDT Solution for Composite Materials in the Automotive Industry	Michael Day, American Chemistry Council - Plastics Division Mahmoodul Haq, Michigan State University Efficient Assembly & Joining: Reversible Bonded Joints Using Nano-Ferromagnetic Particles	Karen Stoeffler, National Research Council Canada (NRCC) Biomaterials for Automotive Applications - Part 1 of 2
11:00–11:30	Martino Lamacchia, Cannon USA An Innovative Solution for the Production of PUR-Based Reinforced Composite Parts for the Latest Hybrid Vehicles	Ryan Schuelke, Enercon Industries Implementing Plasma & Flame Surface Treating Technologies to Improve Adhesion with Composite Materials	Karen Stoeffler, National Research Council Canada (NRCC) Biomaterials for Automotive Applications - Part 2 of 2
11:30 a.m.–12:00 p.m.	Ingo Valentin, Valentin Technologies, LLC Cost Efficient Composite Platform with Integrated Energy Storage for a Hydraulic Hybrid	Andy Stecher, Plasmatreat USA, Inc. Surface Treatments for Better Performance and Automation in Composite Bonding and Manufacturing	

12:00–1:00

LUNCH, PARTS COMPETITION WINNERS, LARGE-PART DISPLAY - Hall C

1:00–2:00

KEYNOTE 5 – Diamond Ballroom: **Antony Dodworth, Chief Technical & Manufacturing Officer, Bright Lite Structures**
Zenos E10: A Platform for Novel Lightweight Automotive Composite Structural Design

2:00–2:15

CLOSING REMARKS & PART INNOVATION AWARDS: Fred Deans & Dale Brosius, 2015 SPE ACCE Co-Chairs

2:15

CONFERENCE ADJURNS FOR THE YEAR