

7:30-8:00
8:00-8:15
8:15-9:00
9:00-10:00

REGISTRATION / COFFEE

OPENING REMARKS AND AWARD PRESENTATIONS Including Best Paper and Scholarship Awards (Opal/Garnet/Onyx)

David Jack and Mike Siwajek, 2024 SPE ACCE Co-Chairs;
Mehdi Tajvidi and Dr. Dominik Dörr, 2024 SPE ACCE Technical Program Co-Chairs

KEYNOTE ADDRESS (Opal/Garnet/Onyx)

High Performance Composites: Trends and Impact on Automotive Lightweighting, Andrew N. Hrymak, Co-Director, Fraunhofer Innovation Platform for Composites Research at Western University; Professor of Chemical and Biochemical Engineering

EXHIBITS OPEN / COFFEE BREAK

	OPAL/GARNET/ONYX	EMERALD/AMETHYST	PEARL	CORAL
	ADVANCES IN THERMOSET COMPOSITES	ENABLING TECHNOLOGIES	BONDING, JOINING & FINISHING	ADDITIVE MANUFACTURING & 3D PRINTING
10:00-10:30	Ultra-Low VOC, Low Density Class A SMC Composites Michael Asuncion, Teijin Automotive Technologies	Fluid Injection Molding for the Design of Complex Structures Oliver Stahl, Chemigon LLC	Plasma Surface Modification on Failure Behavior of Moisturized Metal-CFRTP Dissimilar Adhesive Joint Yao Qiao, Pacific Northwest National Laboratory	
10:30-11:00	Nanofiber Z-Threaded CFRP and the Multifunctionality for Advanced Air Mobility Kuang-Ting Hsiao, University of South Alabama	Establishing the Digital Twin - Feature Quantification from Ultrasound for Composite Analysis David Jack, Baylor University	Optimization of Fiber-Reinforced Composite Patch Repair for Steel Bridge Girders Sung Jun Choi, Purdue University	Light-Assisted 3D Printing of Continuous Carbon Fiber Reinforced Thermoset Composites Chad Ulven, North Dakota State University
11:00-11:30	Completed Status on Advances in Molded-in-Color, UV-Stable Composites for Automotive Applications Jeff Klipstein, AOC	A Method to Evaluate Adhesive/ Cohesive Strength on 3D Surface Pattern Painting System Seongchan Pack, General Motors		Advancements in Super-Toughened Biodegradable Polymer Materials for Automotive Applications Malik Hassan, Bioproducts Discovery and Development Centre

NETWORKING LUNCHEON (Opal/Garnet/Onyx)

	ADVANCES IN THERMOSET COMPOSITES	ENABLING TECHNOLOGIES	BONDING, JOINING & FINISHING	ADDITIVE MANUFACTURING & 3D PRINTING
12:30-1:00	PU In-Mold Coating Over Honeycomb Structures Oliver Stahl, Chemigon LLC	Tangho Hemp Pellets - Technology for Decarbonization Douglas Casetta, Tangho Green Canada Inc	Macro-Level Mechanical Interlocking: A Facile Approach for Joining AMCM Panels Akash Phadatore, University of Tennessee, Knoxville	
1:00-1:30	More from HP-RTM: How In-mold Pressure Control Enables High-volume Manufacturing of Composite Parts Dario Pigliafreddo, Cannon SPA	SECOND PLACE BEST PAPER AWARD WINNER Sound Predictions: Correlating Impact Damage to Laminate Compressive Strength with Phased Array UT Rachel Van Lear, Baylor University	Largest Known Injection Molded Polyamide Hydraulic Tank, an Alternative Technique to Roto-Molding Ankur Bhosale, BASF Corporation	Advanced Composites for FFF Printing: How to Manufacture High Performance Parts for Transportation Mihaela Mihai, National Research Council of Canada
1:30-2:00	CFRP Energy Absorbers - More Safety, Energy Efficiency & Design Space Gerret Kalkoffen, CarbonTT		Investigation of Performance of Different Threaded Inserts in Fiber Reinforced Composite Laminate Garam Kim, Purdue University	Investigation of Additively Manufactured Composite Modular Tooling under Thermal Cycling Jacob Montrose, Purdue Univ.

EXHIBITS OPEN / COFFEE BREAK

	ADVANCES IN THERMOSET COMPOSITES	SUSTAINABLE COMPOSITES	BONDING, JOINING & FINISHING	ADDITIVE MANUFACTURING & 3D PRINTING
3:00-3:30		Sustainable Composite Materials for EV Battery Enclosures June Wu, INEOS Composites	Correlating In-Plane Shear Strength to the Degree of Bonding in CF/PEKK Abdo Korayem, Michigan State University	3D-Printed Car Bumper with Design and Material Optimized Through AI-Based Inverse Optimization Komal Chawla, Oak Ridge National Laboratory
3:30-4:00	Improving the Fatigue Resistance of Reinforced Epoxy Ian Swentek, Westlake Epoxy	Thermoset Recycling for Sustainability Randy Lewis, PR Lewis Consulting, LLC	How the Right Adhesive Meets Evolving Battery Box Requirements in Electric Vehicles James Puthussery, Bostik	Assessment of Anisotropic Elastic Response for TPMS and Stut-Based Lattices Under Rotation Chongyi Wei, Baylor University
4:00-4:30	Proxima™ Next Generation Polyolefin Thermosets for Mobility Applications Jeffrey Valente, ExxonMobil	High Performance Sustainable Composites from Recycled Carbon Fiber Reinforced Polyamide 6,6 Arturo Rodriguez-Urbe, University of Guelph		

EXHIBITS OPEN / COFFEE BREAK

KEYNOTE ADDRESS (Opal/Garnet/Onyx)

Beyond Carbon-Neutral Mobility-Sustainability in the Volkswagen Group Innovation
Kristin von Szadkowski, Field Action Lead for Sustainable Mobility, Volkswagen Automotive Group

EXHIBITS OPEN / COCKTAIL RECEPTION

4:30-4:45
4:45-5:30
5:30-6:45

REGISTRATION / COFFEE

WELCOMING REMARKS and KEYNOTE ADDRESS (Opal/Garnet/Onyx)

Innovation to Impact: Advancing Transportation Through the Intersection of Sustainability and Polymer Composite Technology
Amanda Nummy, Senior Materials Engineer, Sustainable Materials at Hyundai America Technical Center

EXHIBITS OPEN / COFFEE BREAK

OPAL/GARNET/ONYX

EMERALD/AMETHYST

PEARL

CORAL

SUSTAINABLE COMPOSITES

ADVANCES IN THERMOPLASTIC COMPOSITES

DESIGN, MODELING AND SIMULATION OF COMPOSITES

10:00-10:30

Using Life Cycle Analysis to Understand the System Level Carbon Footprint of a Truck Box
 Eric Haiss,
IDI Composites International

Composite Battery Housing Components: Performance and Cost Reduction for Large Volume BEVs
 Luca Mazarella,
Autoneum Management AG

THIRD PLACE BEST PAPER AWARD WINNER
 Using Thermokinetic Analyses for the Efficient and Accurate Optimization of Composites Molding
 Martin Hohberg, *Simutence GmbH*

10:30-11:00

New BMC Material Challenges Thermoset Recycling Paradigm -
 Craig Carder,
LyondellBasell

Development of Fly Ash-Reinforced Polypropylene Composites: Effect of TPU on Ductility Performance
 Siham Ez-Zahraoui, Mohammed VI,
Polytechnic University

Residual Stress and Artificial Intelligence Enabled Morphology Reconstruction of a Molded Composite
 Oleksandr Kravchenko,
Old Dominion University

11:00-11:30

Control of Hemp Short Fiber for Application in Molded Thermoplastic Composites
 Gulzeb Khakwani,
University of Waterloo

Continuous Fiber Thermoplastic Sandwich Structures for Next Generation Service Hole Covers
 Louis Kaptur, *Fraunhofer Innovation Platform for Composites Research at Western University*

Composite Lattice Reinforced Part Optimization with FEA: An Automotive Door Component Case Study
 Meghana Kamble, *WEAV3D Inc*

11:30-12:15

Student Presentations, Group A

Student Presentations, Group B

Student Presentations, Group C

12:15-1:00

NETWORKING LUNCHEON (Opal/Garnet/Onyx)

12:45-1:30

STUDENT POSTER SESSION (Opal/Garnet/Onyx)

SUSTAINABLE COMPOSITES

ADVANCES IN THERMOPLASTIC COMPOSITES

COMPOSITES IN ELECTRIC VEHICLES

1:30-2:00

Sustainable Potential of Minerals in Composites
 Jenelle Sams, *Imerys*

Long Fiber Reinforced Thermoplastics as Metal Replacement to Improve Vehicle Performance
 Hank Crawford, *Avient*

2:00-2:30

Use of Recycled Glass Fibers from End-of-Life Wind Turbine Blades in Thermoplastic Composites
 Mihaela Mihai,
National Research Council of Canada

BEST PAPER AWARD WINNER
 Assessment of Damage Evolution in Thermoplastic Composite Using Acoustic Emission and CNN-LSTM Model
 Tanzila Minhaj, North Carolina A & T State University

Rapid Processes for Manufacturing an Integrated Composite Component for Long-Distance Electric Buses
 Lolei Khoun,
National Research Council of Canada

2:30-3:00

Sustainable Processing Additives for Improving Melt Flow in Injection Molding - Haoyang Liu,
Fraunhofer Innovation Platform for Composites Research at Western Univ.

Cost-Effective Thermoplastic Body Structures
 Christopher Oberste,
WEAV3D Inc.

Simulation Driven Design of Polymer Intensive Functional Prototype HVBE for OEM Validation
 Sara Andrea Simon, *Forward Engineering North America*

3:00-4:00

EXHIBITS OPEN / COFFEE BREAK

4:00-4:30

Advanced Lightweight Sustainable Bio-Based Composites Based on Recycled Polyamides
 Arturo Rodriguez Uribe,
University of Guelph

Assessing Impact Damage in Carbon/Thermoplastic Composites Using Active Flash Thermography
 Richard D. Amevorku, North Carolina A&T State University

State of the Art EV Battery Enclosures and their Challenges
 Craig Calkins,
LyondellBasell

Building Confidence in Composite Manufacturing Process for EV Battery and Component Manufacturing
 Anand Bora,
Moldex3D Northern America, Inc.

4:30-5:00

Cost-Performance Relationship of Recycled Automotive Hybrid Molded Composites
 Alyson Pickering,
Purdue University

Cost-Effective, High-Volume and Recyclable Reinforcements for Highly Loaded Components
 Michael Wilhelm, *Fraunhofer Institute for Chemical Technology ICT*

Fire Resistant Thermoset Polymers for EVs
 Henry Sodano,
Trimer Technologies

Optimized Design of Lightweight Composite Electric Vehicle Components with Anisotropic Simulation
 Gourab Ghosh, *Hexagon Manufacturing Intelligence*

5:00-6:00

PANEL DISCUSSION (Opal/Garnet/Onyx)

BREAKING DOWN THE BARRIERS TO A CIRCULAR AUTOMOTIVE ECONOMY

PANELISTS: *Dr. Hendrik Mainka, Senior Project Lead and Head of Innovation Hub Knoxville at Volkswagen of America;*
Dr. David L. Wagger, Chief Scientist/Director of Environmental Management at Recycled Materials Association (ReMA);
Mr. Brad Allen, OEM Automotive Account Manager at Rebuilders Automotive Supply (RAS);
Mr. Marco Meloni, Chief Operating Officer at Plastics Recycling, Inc. (PRI)
MODERATOR: *Adam Halsband, Managing Director, Forward Engineering*

6:00-7:00

EXHIBITS OPEN / COCKTAIL RECEPTION

7:30-8:00

REGISTRATION / COFFEE

8:00-8:45

KEYNOTE ADDRESS (Opal/Garnet/Onyx)

50 years of Innovation at the University of Delaware's Center for Composite Materials
 Dr. Srikanth Pilla, Professor and Director of the University of Delaware's Center for Composite Materials (UD-CCM)

8:45-9:00

AWARD PRESENTATIONS (Opal/Garnet/Onyx)

Student Poster Competition and Parts Competition Award Presentations

Douglas Smith, 2024 ACCE Student Poster Competition Chair;
 Keith Nagara, Dassault Systèmes, 2024 Student Poster Competition Sponsor;
 Leonardo Simon, 2024 ACCE Parts Competition Chair

OPAL/GARNET/ONYX

EMERALD/AMETHYST

PEARL

CORAL

SUSTAINABLE COMPOSITES

COMPOSITES IN ELECTRIC VEHICLES

CELEBRATION OF THE 50 YEARS OF THE CENTER FOR COMPOSITE MATERIALS

DESIGN, MODELING AND SIMULATION OF COMPOSITES

9:00-9:30

Documenting a Sustainable Industry
 John Schweitzer,
 American Composites
 Manufacturers Association

Advanced Thermoplastic Composites: A Newly Developed OEM Component in Series Production for BEV
 Udo Steinhauer, Profol

Formability Enhancement in Fiber-Reinforced Composites for Urban Air Mobility
 Thomas Cender,
 University of Delaware
 Center for Composite Materials

Body-in-Black: Composites and Metallic Automotive Structural Conceptual Design Exploration
 Etienne Ardouin,
 Dassault Systèmes

9:30-10:00

A Holistic Approach to Next-Generation Polymer Composite Pickup Bed Development and Prototyping
 Amanda Nummy,
 Hyundai America Technical
 Center, Inc.

Sustainability of Composite Materials and CCM
 Joseph Deitzel,
 University of Delaware
 Center for Composite Materials

Multiscale Modeling of Hybrid Composite Materials Comprising Different Forms of Fibers
 Dustin (Yongsik) Kong,
 HANWHA Advanced Materials

10:00-11:00

EXHIBITS OPEN / COFFEE BREAK

10:30-11:00

Modeling Liquid Composite Molding Processes for Automotive Applications
 Pavel Simaček,
 University of Delaware
 Center for Composite Materials

11:00-11:30

Ecoresponsible Extruded Foams from Recycled Polystyrene, Thermal Black and Nanofibrillated Cellulose
 Mihaela Mihai, National Research
 Council of Canada

Development of Novel Aluminum Hydroxide-Based Flame Retardants for Composite EV Battery Enclosures
 Simon Bonyhady,
 JM Huber

Multifunctional Hybrid Micro/Nanocomposites: Applications in Sensing and Health Monitoring
 Erik Thostenson,
 University of Delaware
 Center for Composite Materials

11:30-12:00

Unique Opportunities for Bio-based and Biodegradable PHA-based Polymers and Composites
 Peter Steeves,
 CJ Biomaterials

Metal-Plastic Hybrid Solution for Electric Vehicle Inverter/Converter
 Somasekhar Bobba Venkat,
 SABIC

Highly-Aligned Discontinuous Fiber Composites as a Sustainable Manufacturing Solution
 Shridhar Yarlagadda,
 University of Delaware
 Center for Composite Materials

12:00-12:15

CLOSING REMARKS (Opal/Garnet/Onyx)

David Jack and Mike Siwajek, 2024 SPE ACCE Co-Chairs

12:15

CONFERENCE ADJOURNS FOR THE YEAR