



ADDITIVE MANUFACTURING CHAPTER

Mission

The mission of SPE Additive Manufacturing (AM) / 3D Printing (3Dp) Chapter is to provide a forum to present, promote and educate the SPE community in AM/3Dp in the following areas:

- Material Development
- Equipment
- Process Technologies
- Product Design
- Mold & Mold Making
- Marketing
- Research & Development.

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Photo courtesy of Stratasys



Photo courtesy of HP

Message from the Chair

I am honored to step in as Chair for the SPE Additive Manufacturing (AM) Chapter Board for the remainder of the SPE term year. It's a great privilege, and I'm enthusiastic about carrying forward Jason Lopes' A.C.E. vision, emphasizing Awareness, Content, and Events. Reflecting on my journey with SPE including my first SPE event in 1994 and my time on the AM Chapter Board since 2020, it's truly a surreal moment to come full circle and serve our industry in this capacity. I'm looking forward to embracing this responsibility and continuing to build on the great work that's been done.



Jay Dinsmore
 SPE AM Chapter Chair
 10/20/2023-6/30/2024

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Board News

Jay Dinsmore steps into the Chair position:

- Thank you very much to Jason Lopes for serving as our Chapter Chair for 1 yr, 4 mo! Jason will continue to serve on the SPE AM Chapter Board, but due to other time commitments, he resigned from the Chair position in October 2023.
- On October 20, Jay Dinsmore was voted to step into the Chair position for the remainder of the SPE term year (through June 30, 2024). Thank you Jay!

Warm Welcome to a new Board Member:

- Daniel Pisarski joined the Board in October 2023. He is a Powertrain & Vehicle Manufacturing Engineer for the Ford Motor Company. He is passionate about AM/3Dp, printing at home, founding a University of Michigan 3D Printing Club, and implementing AM in various tools/jigs/fixtures applications in his roles at Ford. He is also extremely active in SPE Detroit Section and University of Michigan SPE Student Chapter activity.

Thank You to the following former Board members:

- Ray Pearson, Professor in the Material Science & Engineering Department and Director of the Polymer Science & Engineering Graduate Program at Lehigh University, stepped down from the Board in August 2023. Ray was one of the founding members of the SPE AM Chapter, serving on the Board since its inception in 2015. He served in several capacities, including Education Committee Chair, and his Lehigh University research group has been an active contributor to the Chapter's sessions at events, particularly ANTEC sessions. Thank you Ray for all that you have done for the Chapter, and we expect to continue to work together in the future!
- Shu-Kai Yeh, Professor in the Materials Science & Engineering Department at the National Taiwan University of Science & Technology,



Do you have an idea for an activity or event that the SPE AM Chapter should engage in? We need your contributions! Contact us at speadditivemanufacturing.org/contact-us to get connected and get started!

Board of Directors continued

Jason Lopes
Gentle Giant
Studios



Daniel Pisarski
Ford Motor
Company



Ray Schenk
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Inc.



Michael Schorr
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David Tucker
SPE ImplementAM,
New Wave Mfg,
MasterGraphics

HELP WANTED

Do you have a passion for AM and want to help educate plastics professionals about AM and vice versa?

Join the Board!

Let us know your interest at
[speadditivemanufacturing.org/
contact-us](http://speadditivemanufacturing.org/contact-us).

Board News (Continued)

[Shu-Kai Yeh] stepped down from the Board in October 2023. Shu-Kai served on the SPE AM Chapter Board from 2017-2023. Thank you Shu-Kai for all of the years of service!

- Emily Hunt, Product Manager at Prima Power Laserdyne, stepped down from the Board in October 2023. Emily served on the Board since August 2022, and she served as Webmaster for most of that time. Thank you Emily for your contributions to the SPE AM Chapter.

Several Board members have changed positions or had other noteworthy activities in the AM field.

- [Dinsmore Inc.](#) joined the [Addman Group](#).
- Mike Schorr was promoted to General Manager of [DyeMansion](#) NA Inc.
- David Tucker co-founded [ImplementAM](#) along with Kristin Mulherin. They were featured in a [3Degrees Discussion](#). David also started Wasted Picks. ImplementAM was acquired by [3DNatives](#), part of SPE.
- Ellen Lee accepted a position on the [SPE Board of Directors](#).
- Matthew Thompson and Rakesh Gupta served as guest editors for a special issue “Role of Additives in Rheology and Processing” for the *Journal of Vinyl & Additive Technology (JVAT)*, an SPE scientific journal, which includes several additive manufacturing/3D printing related articles: 4spepublications.onlinelibrary.wiley.com/toc/15480585/2023/29/4.
- Jason Lopes was featured in an [Additive Insight Innovators on Innovators episode](#) with tct Magazine.

Membership Information

The current total membership for the SPE Additive Manufacturing Chapter is **1,958 members**.

Not an SPE AM Chapter member?

Join today for *free!*

Membership to the AM Chapter is free and can be added when you enroll or renew your SPE society membership: www.4spe.org



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- PolyJet™ (Polymer Ink Jetting)
- HPS (Hybrid PhotoSynthesis)

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The SPE AM Chapter is available to co-host events and collaborate with other SPE and AM industry groups.

Event Information

2023 SPE ANTEC®



SPE hosted its annual technical conference ANTEC® 2023 at the Hilton Denver City Center in Denver, CO, March 27-30, 2023. Following the smaller format used last year, the conference featured plenary talks, sessions on advances in materials and characterization, digitalization and additive

manufacturing, polymer processing and equipment, sustainability, Dr. Shaw's symposium, etc.

More information may be found on the 4spe.org website. AM/3Dp talks included the following:

<i>Talk Title</i>	<i>Speaker</i>	<i>Speaker Affiliation</i>
Digitalization and Additive Manufacturing		
Compressive Behavior of Additively Manufactured Elastomeric Thermoplastic Polyurethane Honeycomb Structures with 2D Density Gradients	Mohammad Ahmed, PhD	Southeastern Louisiana University
3D Printing of Thermoplastic Polyurethane Foams using Thermally Expandable Microspheres	Aboutaleb Ameli, PhD	University of Massachusetts Lowell
Comparison of the Anisotropy of the Mechanical Properties of Injection Moulded and Additively Manufactured Parts	Johannes Austermann	IKV-RWTH Aachen University
Structure Development of Semi-Crystalline Polymers in Laser Based Powder Bed Fusion	Simon Cholewa	Institute of Polymer Technology
Numerical Simulation and Experimental Investigation of the Flow Behavior in Material Extrusion Additive Manufacturing	Julian Kattinger	IKT University of Stuttgart
Strategic Cost and Sustainability Analyses of Injection Molding and Material Extrusion Additive Manufacturing	David Kazmer, PhD	University of Massachusetts Lowell
Effective Wall Thickness for Computational Modeling of Polymer Extrusion Additive Manufacturing	Saratchandra Kundurthi	Michigan State University
Dry Stereolithography	Manilal Savla	Savla Associates
Simultaneous Processing of Thermosets and Thermoplastics in Additive Manufacturing of Multi-Material Polymer Parts	Robert Setter	Technical University of Munich
Characterization of Polyaryletherketone (PAEK) Filaments and Printed Parts Produced by Extrusion-Based Additive Manufacturing	Benjamin Streifel, PhD	Exponent
Powder Bed Fusion of Polymer-Based Separators for Solid-State Batteries	Katrin Wudy, PhD	Technical University of Munich
Dr. Shaw's Symposium		
3D Printing Assisted Multifunctional Porous Materials for Advanced Applications	Sadhan Jana, PhD	University of Akron
3D Printing: From Electronics to Edible Products	Anson Ma, PhD	University of Connecticut
Better Printing through Chemistry	Edward Samulski, PhD	University of North Carolina Chapel Hill

2023 SPE Auto EPCON



The SPE AM Chapter co-hosted the 2023 Automotive Engineering Plastics Conference & Exhibition (Auto EPCON) with the SPE Detroit Section and the SPE Injection Molding Division. The event was held on May 2, 2023, at the Detroit Marriott Troy in Troy, MI. The

conference featured technical talks on topics such as Additive Manufacturing, Sustainability, Simulation, Materials, and Electrification.

More information may be found at 4spe.org/autoepcon. The AM track featured the following:

Time	Talk Title	Speaker	Speaker Affiliation
	Session Moderator	Daniel Pisarski	Ford Motor Company
9:40-10:05	Optimizing Additive Mold Inserts with Simulation	Jeffrey Higgins	Autodesk
10:05-10:30	Additive Manufactured Continuous Carbon Fiber Reinforced Thermoset Composites	Chad Ulven, PhD	North Dakota State University
10:30-10:55	Liquid Crystalline Polymer Reinforced Wholly Thermoplastic Composites	Cailean Pritchard, PhD	Virginia Tech
11:20-12:10	Panel Discussion: The Use of Additive Manufacturing in the Automotive Industry, from the Shop Floor to Production	Moderator: David Tucker	New Wave Mfg/ImplementAM
		Sophie Dower	Carbon
		Michael Bortner, PhD	Virginia Tech
		Jay Haubenstricker	Ford Motor Company
		Andrew Roderick	Extol
		Brent Ewald	Autodesk
	Panelists:	Joe Staperfenne	Stratasys



Panelists and Moderators/Organizers

Left-to-right: Sophie Dower, Michael Bortner, Jay Haubenstricker, Joe Staperfenne, Brent Ewald, Daniel Pisarski, David Tucker, Andrew Roderick, Matthew Thompson



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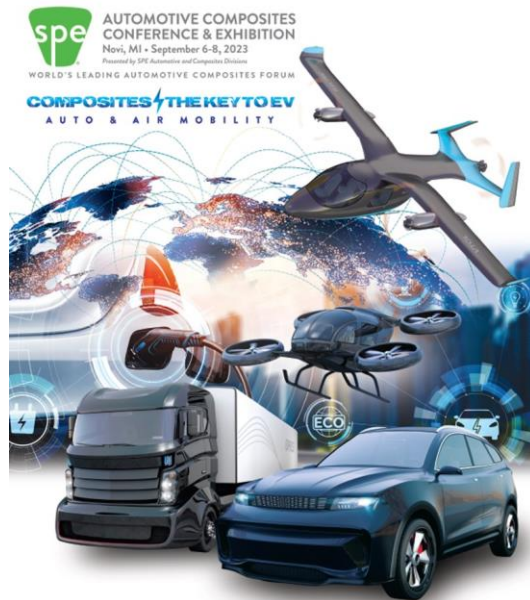
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ACCE 2023

The AM Chapter helped coordinate an AM/3Dp session at the SPE Automotive Composites Conference & Exhibition (ACCE), Novi, MI, September 6-8, 2023. The AM talks were the following:

More information can be found at speautomotive.com/acce-conference.

Talk Title	Speaker	Speaker Affiliation
Investigation of Surface Characteristics on Additively Manufactured Composites	Sung Jun Choi	Purdue University
Introduction of Continuous Fiber Thermoplastic Tapes and Laminates into 3D Printed Structures	Jonathan Spiegel	Polystrand, Avient Corporation
Advancing the Use of Sandwiched Composites through Hybrid Manufacturing the Core Structures	Savannah Rose	Baylor University
Flexible Fusion 3D: Advancing Additive Molding Fabrication for Enhanced Mechanical Properties of FDM	Alex Kravchenko	Old Dominion University



MD&M West 2023

Development and applications of AM in the medical industry continue to grow rapidly. Several of the AM Chapter Board members participated in the Medical Design & Manufacturing (MD&M) West annual tradeshow in Anaheim, CA, February 7-9, 2023. This show boasts 1,400 exhibitors and 20,000 attendees.

MD&M West 2024 is one of five co-located shows, including WestPack, ATX West, DM West, and Plastec West, in Anaheim, CA, February 6-8, 2024: imengineeringwest.com.

RAPID + TCT 2023

Rapid + tct is the largest AM event in the US, garnering 9,500 attendees. Several of the SPE AM Chapter Board members participated in Chicago, IL, May 2-4, 2023. More information can be found at rapid3devent.com.

AMUG 2023

The Additive Manufacturing Users Group (AMUG) conference is a favorite for AM professionals among the various annual AM conferences. Several of the SPE AM Chapter Board members attended in Chicago, IL, March 10-14, 2023. More information can be found at amug.com. This show was also the debut for the Wilson airless basketball prototype.



Photos courtesy of Haleyanne Freedman
 Back row left-to-right: Bob Gafvert, David Tucker, Ray Schenk; Front row left-to-right: Michael Schorr, Ellen Lee, Haleyanne Freedman, Jason Lopes
 Left-to-right: Jason Lopes, Jay Dinsmore, Haleyanne Freedman

Wilson Airless Basketball Prototype



Image from amug.com

One of the most fun and most discussed AM cool parts in 2023 was the Wilson Airless Basketball Prototype. For this project, Wilson Sporting Goods worked with General Lattice (lattice design), EOS (additive manufacturing), and DyeMansion (finishing). The prototype was shown off at AMUG and Rapid+tct, and it was dunked at the AT&T 2023 Slam Dunk Contest.

Check out the description of the story on YouTube: [YouTube](#).

Additive Manufacturing Coalition

Michael Schorr participated in the Additive Manufacturing Coalition inaugural Washington, DC Fly-In Event May 15-16, 2023. The AM Coalition is an organization serving as the voice for the AM industry toward federal decision-makers as well as helping its members navigate legislative and funding challenges.

More information about the AM Coalition can be found at addmfgcoalition.org.



Image from 3dprint.com, courtesy of the Additive Manufacturing Coalition

Formnext 2023

Jay (ADDMAN/Dinsmore) and Michael (DyeMansion) participated in Formnext 2023, Frankfurt, Germany, November 7-10, 2023. More information about the conference can be found at formnext.mesago.com.

We want to hear from you!

Tell us what you are up to, what are you printing, what challenges are you facing, what is a recent success, what events or opportunities are coming up.



speadditivemanufacturing.org/contact-us



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spe3dprinting-chg2698.slack.com

ImplementAM

In 2022, David Tucker co-founded [ImplementAM](#) along with Kristin Mulherin. ImplementAM is localized, focused AM/3Dp training in an engaging and effective workshop format. Check out their discussion with the [3Degrees](#).

So far, they have hosted full-day workshops at the following cities: Denver,

Boston, Los Angeles, Seattle/Tacoma, Detroit, Austin, Charlotte, Phoenix, and Milwaukee! In October 2023, ImplementAM was acquired by SPE.

Follow their [LinkedIn](#) or sign up on their website to stay up to date on events coming near you in the future.

SPE Acquires 3Dnatives and ImplementAM



2023 was a very active year for SPE in AM. SPE acquired [3Dnatives](#) in February 2023. 3Dnatives is an AM/3Dp industry leading media platform, boasting 1.2M visitors to their website monthly and hosting a variety of well-attended online and in-person events.

Then, in October 2023, SPE acquired

ImplementAM. More information can be found [on SPE's website](#).

Stay tuned for more information in our next newsletter for collaborative efforts with SPE, 3Dnatives, ImplementAM, and the SPE AM Chapter!

Calls for Papers for Upcoming Events

<i>Conference</i>	<i>Location</i>	<i>Date(s)</i>	<i>Website</i>	<i>Due Dates</i>
SPE Automotive Engineering Plastics Conference (Auto EPCON) 2024	Troy, MI	May 14, 2024	SPE website	Abstracts February 23. Call for Sponsors is also active.
SPE Automotive Composites Conference & Exhibition (ACCE) 2024	Novi, MI	September 4-6, 2024	speautomotive.com/acce-conference	Abstracts April 26. Final Papers June 28

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Call for Sponsors

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Sponsorships include ad space in our newsletter and on our website (speadditivemanufacturing.org). Sponsoring companies' logos may also be featured in other outgoing communications, which will add marketing value to the companies and bring color to our content. Please also reach out to us if you have educational content, such as published articles or white papers, that you feel our membership would benefit in reading.

Sponsorship options start from \$100. Rates cover the entire SPE term year (July 1 - June 30). Payments are handled through 4spe.org, and **credit card payments are accepted**. Size limit for digital file is 700 kB.

Reach out to discuss Sponsorship options and opportunities: Jay Dinsmore, SPE AM Chapter Chair, jay@dinsmoreinc.com.