



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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Continue the Conversation

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Photo courtesy of Stratasys



Photo courtesy of HP

Message from the Chair

Dear SPE AM Chapter Members,

Whether you're a newcomer to 3D printing or someone who has been navigating this technology for years, you probably felt the theme of the year for 2024: Resilience. I urge you – Stick with it! The potential of Additive Manufacturing (AM) is far from fully realized, and while times may be challenging now, we're on the cusp of breakthroughs that will make this technology more accessible, reliable, and impactful than ever.

Know that the promise of AM remains vast. It is proving its worth in healthcare, aerospace & defense, and a range of mass-customization applications, and the AM's potential continues to be revealed in consumer products, electronics, automotive, and others. As AM and Plastics professionals, we are uniquely positioned to help guide the technology to paths of success.

So, how can we keep moving forward? By continuing to learn, collaborate, and push the boundaries of what we know. The solutions to the challenges we face are emerging every day—new materials, improved printer technologies, and better software are making AM more reliable and versatile. And, just as importantly, the community we're building together is a powerful source of support and knowledge. When we face setbacks, we have each other to turn to for advice, inspiration, and ideas.

Board of Directors



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UniversityEllen Lee, PhD
Ford Motor
Company

Message from the Chair (Continued)

As your Chair, I am committed to helping foster an environment where we can continue to share our experiences, celebrate our successes, and learn from our failures. The journey may take time, but the destination is worth it. Let's stick with it and see where this incredible technology takes us.

Thank you for your dedication, your creativity, and your commitment to moving AM forward.

Jay Dinsmore
SPE AM Chapter Chair
2024-2025 SPE Term Year

Board News

Officers for SPE 2024-2025 Term Year:

The following Chapter Officers were voted into place for the SPE 2024-2025 Term Year (7/1/2024-6/30/2025):

- Chair: Jay Dinsmore
- Vice Chair/Technical Program Chair (TPC): Drew Davis
- Secretary: Mike Schorr
- Treasurer: Krysten Minnici
- Past Chair: Jason Lopes

Warm Welcome to new Board Members:

- Krysten Minnici joined the Board in March 2024. She is a business development scientist for 3D printing with Arkema. Her expertise is in materials, including an MS in Matls. Sci. & Engr. and PhD in Chem. Engr. Her work with Arkema includes new business development with Arkema's material offerings for FFF, FGF, SLS, MJF, and SAF.
- Tuan TranPham joined the Board in March 2024. His legacy in the AM industry includes working for 3Dp companies such as Z Corp., 3D Systems, Objet, Stratasys, Desktop Metal, etc., and he is a 2019 recipient of the prestigious AMUG DINO Award. Thanks to his demonstrated expertise and educational efforts and 36,000+ followers, he was awarded the "Top 3D Printing Voice" Badge on LinkedIn.

Board of Directors (Continued)

Jason Lopes
Gentle Giant
Studios



Krysten Minnici, PhD
Arkema



Daniel Pisarski
Ford Motor
Company



Ray Schenk
Diversified Plastics,
Inc.



Mike Schorr
DyeMansion



Edwin Tam
Lincoln Design



Matthew
Thompson, PhD
Toray Composite
Materials America



Tuan TranPham
TranPham



David Tucker
SPE ImplementAM,
New Wave Mfg,
MasterGraphics

Board News (Continued)*Noteworthy Board Member Activity in AM Field:*

- Ellen Lee was interviewed on the [SPE PlastChicks Podcast, Episode 60](#), April 5, 2024.
- Ellen also delivered a keynote talk at the [Plastics in Electric & Autonomous Vehicles \(EAV\) Conference](#), April 8-10, 2024, Troy, MI.
- Ellen also served as a panelist on an “AM Technology Users and Commercialization Thought Leaders” panel at the [Additive Manufacturer Green Trade Association \(AMGTA\) Annual Summit](#), June 24, 2024, Los Angeles, CA.
- Jason Lopes assumed the Chief Technology Officer (CTO) position at [Gentle Giant Studios](#).
- Jay Dinsmore and the ADDMAN team hosted the [“Innovate and Elevate: Rethinking Manufacturing with MJF” open house](#) at their facility in Irvine, CA, along with HP on June 27, 2024.
- Krysten Minnici completed an [interview with Endeavor3D](#), discussing Arkema’s bio-based PA11 material for Earth Day.
- Krysten gave talks at the [American Orthotic & Prosthetic Association \(AOPA\) National Assembly](#), Sept. 12-15, 2024, Charlotte, NC, and at the [ASTM International Conference on Advanced Manufacturing \(ICAM\)](#), Oct. 28-Nov. 1, 2024, Atlanta, GA.
- Mike Schorr participated in a Dynamic Panel Discussion about the Digital Foam Architects Network on the [Additive Snack Podcast](#) in February 2024.
- Mike was also interviewed for a Plastics Decorating article [“Decorating Plastic Additive Manufactured Parts”](#), 2/14/2024.

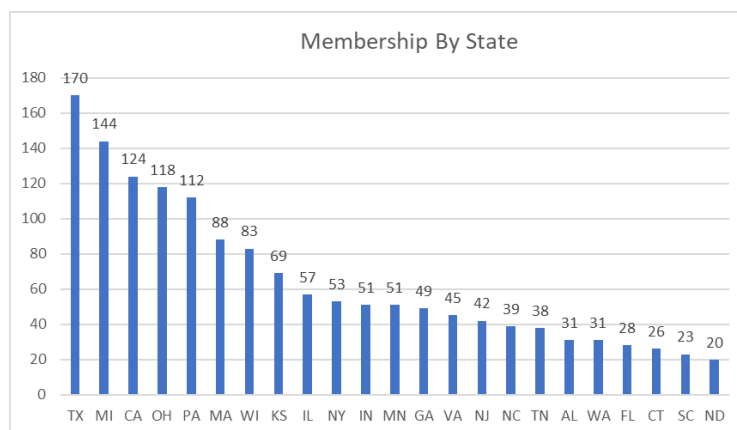
Membership Information

The current total membership for the SPE Additive Manufacturing Chapter is **2,268 members**.

Geographically, by country, the overwhelming majority of members (71%) are from the **US**. The top 5 countries are USA, India, Canada, Australia, and Germany.

More than 15 countries are represented, across the globe.

At the state level, the top 5 states are **Texas, Michigan, California, Ohio, and Pennsylvania**. See the figure below, which shows the distribution for states with 20 or more members.



SPE AM Chapter Membership by State

States with <20 members are not shown.

Regarding membership type, 44% are Professional members, 28% Young Professionals (35 years of age or younger,

but not a current student), 24% Student, and the balance Emeritus and Distinguished.

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

Our Purpose is to educate plastics professionals about AM and AM industry members about plastics.

Want to Contribute?

Ask us about our newly formed ***Friends of the Board!***

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- DMLS™ (Direct Metal Laser Sintering)
- FDM™ (Fused Deposition Modeling)
- MJF (Multi Jet Fusion)
- PolyJet™ (Polymer Ink Jetting)
- HPS (Hybrid PhotoSynthesis)

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Event Information

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

SPE Events & Activity

1. ANTEC® 2024
2. 2024 Auto EPCON
3. Between the Layers panel discussion series
4. ACCE 2024
5. 3Dnatives & ImplementAM Activity

2024 SPE ANTEC®

SPE hosted its annual technical conference [ANTEC® 2024](#) in St. Louis, MO, March 4-7, 2024. The format was comparable to recent years with less than 500 attendees and featuring sessions including plenary talks, a Glenn Beall Symposium, technical sessions, and a student poster session.

The AM Chapter Board attendees complimented the organization of the conference and appreciated the transparency and communication between the SPE Board of Directors and the various SPE chapter councilors and members, as well as SPE organizations like 3Dnatives and ImplementAM.

AM/3Dp related talks included the following:



Additive Manufacturing and 3D Printing 1

3D printing of Liquid Silicone Rubber - Influence of Process Parameters on the Mechanical and Optical Properties of the Part
Ralf-Urs Giesen, University of Kassel

Cooling Channel Layout Optimization for Injection Molding
Clinton Kietzmann, Autodesk Australia Pty. Ltd.

Foam 3D Printing of Thermoplastic Polyurethane/Carbon Nanotube Nanocomposites with Adjustable Density and Mechanical Performance
Mohammad Hassan Aghvami Panah, University of Mass Lowell

Evaluation of the Influence of Particle Type, Shape and Size on the Thermal Conductivity of Filled Polymers in the Fused Filament Fabrication Process
Christian Elsner, Paderborn University

GLENN BEALL SYMPOSIUM

The Application of Design Rules to Additive Manufacturing
David Tucker, New Wave MFG

Additive Manufacturing and 3D Printing 2

Influence of Post-Processing on the Mechanical Properties of Laser Sintered Parts
Ruben Schlutter, SKZ KFE GmbH

Injection Molds With Near-Contour Heat Pipes From the 3D Printer - A New Temperature Control Concept
Dennis Kraemer, Hochschule Bielefeld (University of applied Sciences and Arts Bielefeld)

In-Plane Compressive Behavior of Additive Manufactured Dual Material Auxetic Structures
Mohammad Ahmed, Southeastern Louisiana University

Investigation of the Process-Structure-Property Relationships During 3D Printing With Liquid Crystalline Polymers
Kai S. Johann, Institut für Kunststofftechnik (IKT); University of Stuttgart

Tailored Microstructure in Laser-Based Powder Bed Fusion of Polymers
Simon Cholewa, Institute of Polymer Technology - University Erlangen-Nuremberg



Photo courtesy of E. Lee

Ellen Lee (far left) and Edwin Tam (far right) serve as SPE AM Chapter Board Members

2024 SPE Auto EPCON

The SPE AM Chapter again co-hosted the 2024 Automotive Engineering Plastics Conference & Exhibition ([2024 Auto EPCON](#)) with the SPE Detroit Section and the SPE Injection Molding Division. The one-day was May 14, 2024, in Troy, MI, featuring three parallel technical sessions on subjects such as Additive Manufacturing, Electrification,



Sustainability, Injection Molding, and a US Dept. of Energy (DOE) Workshop.

The AM sessions included the following:

Revolutionizing Lightweighting through Systems Integration of Advanced Composites	Srikanth Pilla, University of Delaware
Additive Manufacturing Automotive Applications	Ryan Hayford, Endeavor 3D
Understanding LFAM with High Temp Materials	Daniel Fernback, Juggerbot 3D

Bringing AM Parts into Reality with the Right Post-Processing	Lester Hitch, DyeMansion
Additive Manufacturing for Sustainability: Panel Discussion	Moderator: Ellen Lee, Ford Sherri Munroe, AM Green Trade Assn. Daniel Cooper, U. Michigan Fadi Abro, Stratasys
Accelerating Validation and Launch with 3D Printed Steel Tooling	Daniel Miller, Mantle



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Between the Layers: Panel Discussion Series

The **SPE AM Chapter** kicked off a new series called **Between the Layers** with a virtual panel discussion on [Additive Manufacturing Materials and Innovations for Aerospace & Defense](#) on June 7, 2024. The panel discussion was supported by ADDMAN® and produced by the SPE AM Chapter, SPE, ImplementAM, and 3Dnatives. Matthew Thompson, Toray & SPE AM Chapter Director, moderated, and panelists

were Ed Samulski, U. North Carolina & BlueSky Polymers; Vittorio “Victor” Jaker, Stratasys & former AM Chapter Director; and Wout De Backer, U. South Carolina.

Check out the recording on [YouTube](#), and reach out to us to let us know what information you want to hear next or if you want to host a panel discussion at an upcoming event.



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/

ACCE 2024

The SPE AM Chapter helped with the AM sessions at the SPE Automotive Composites Conference & Exhibition ([ACCE 2024](#)), which was Sept. 4-6, 2024, Novi, MI.



The AM talks included the following:

Light-Assisted 3D Printing of Continuous Carbon Fiber Reinforced Thermoset Composites	Chad Ulven, North Dakota State University	Investigation of Additively Manufactured Composite Modular Tooling under Thermal Cycling	Jacob Montrose, Purdue University
Advancements in Super-Toughened Biodegradable Polymer Materials for Automotive Applications	Malik Hassan, Bioproducts Discovery and Development Centre	3D-Printed Car Bumper with Design and Material Optimized through AI-Based Inverse Optimization	Komal Chawla, Oak Ridge National Laboratory
Advanced Composites for FFF Printing: How to Manufacture High Performance Parts for Transportation	Mihaela Mihai, National Research Council of Canada	Assessment of Anisotropic Elastic Response for TPMS and Strut-Based Lattices under Rotation	Chongyi Wei, Baylor University

ImplementAM

[ImplementAM - Powered by SPE](#), hosts one-day workshops around the US and now Europe as well. Since our last newsletter issue, workshops were held in Charlotte (Oct. 2023) and Atlanta (April 2024). Subscribe and reach out via their website to register for an upcoming workshop, invite them to a city near you, or sponsor an upcoming workshop. The next workshop is scheduled in Cleveland on Oct. 16, 2024.



3Dnatives

With continued excellence in 3D printing industry news around the world, informative guides, and events, [3Dnatives](#) continues to be a leader for 3D printing media.



Upcoming ADDITIV Polymers World



The SPE AM Chapter is partnering again this year for the 3Dnatives' [ADDITIV Polymers World](#) free virtual event taking place on Oct. 10. Attendees will have access to panel experts with professionals in different sectors, workshops to discover leading polymer additive manufacturing solutions

and networking sessions to mingle with key stakeholders. Be sure to register for free to learn more about the use of plastics in 3D printing including large-scale polymer additive manufacturing, automotive applications and industrialization, and more!

AM Industry Events & Activity

AmericaMakes AM Strategies 2024

AmericaMakes hosted the [Additive Manufacturing Strategies](#) event Feb. 6-8, 2024, in New York. Mike Schorr spoke at the event about the state of the art for post processing. The event covers AM of all materials but seems to include more info related to metals than plastics/composites.

AMUG 2024

The [Additive Manufacturing Users Group \(AMUG\) 2024](#) conference was held March 10-14 in Chicago. Several SPE AM Chapter Board members participated, including Mike Schorr who gave a talk related to the [AM I Navigator](#). Jason Lopes also gave one of the keynotes.



Jason Lopes with Sulley (right to left) Photo from amug.com

2024 NPE

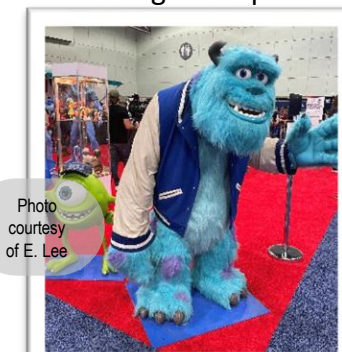
[NPE 2024 The Plastics Show](#), the largest plastics event in the US (>51,000 attendees), was held in Orlando May 6-10, 2024, the first time since 2018. AM content included a dedicated section of the expo floor and a half-day 3D printing workshop.

2024 AM Coalition DC Fly-In

The [Additive Manufacturing Coalition](#) held its second annual [DC Fly-In](#) May 8-10, 2024. Mike Schorr joined again this year along with 39 other leaders from the AM industry. The group advocated for the AM industry in 70 meetings in 3 days.

RAPID + tct 2024

The [Rapid + tct](#) event was held June 25-27, 2024, in Los Angeles. Ellen described the event as very well attended, featuring several workshops focused on real use cases, sessions with AM OEM executives, and a new Hollywood Showcase featuring examples of props, effects, and characters made by AM from many movies, presented by Gentle Giant Studios (Jason Lopes).



Other Events & Activities

- In the last newsletter, the [Wilson airless basketball](#) was highlighted. The product officially launched this year and sold out in <2 hr. [March]
- The [Advanced Manufacturing for Defense Summit](#) was held in Pasadena, CA, June 11-12, 2024.
- The US General Services Administration (GSA) hosted a [Government-Wide Additive Manufacturing/3D Print Multiple Award Schedule \(MAS\) Vendor Capabilities Show](#), Aug. 27, 2024.
- The International Manufacturing Technology Show ([IMTS](#)) was held Sept. 9-14, 2024, in Chicago.
- The Joint-Defense Advanced Manufacturing Meeting for Innovation and Transition ([J-DAMMIT](#)) is Sept. 17-19, 2024, in Harrisburg, PA.
- The [2024 Plastic Product Decorating Summit](#) is Sept. 18-20, 2024, in Milwaukee, WI.
- [Formnext](#) was held in Frankfurt, Germany, Nov. 19-22, 2024.

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*Some restrictions apply.



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.



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**ADDITIVE MANUFACTURING
CHAPTER**

Join or Renew Your Membership



Stay connected with other plastics professionals in the field of Additive Manufacturing/3D Printing.

If you are an SPE member, it is **free** to join the SPE AM Chapter!

Visit www.4spe.org.

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.

Call for Sponsors

The **SPE Additive Manufacturing (AM) Chapter** invites you to take advantage of an opportunity to capture advertising space in our outgoing communications to our **>1,900 members**. Help align your company's image with advanced technology and future trends by submitting your logo or designed ads which will feature on the SPE AM Chapter website, newsletter, and other communications.

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.