



January 2026

Chair's Message



Greetings! It is my great pleasure to share my thoughts with our Building and Infrastructure (B&I) colleagues. During my 10+ years associated with SPE's B&I Division, I have witnessed many changes. What began as a "Special Interest Group" has evolved into a full division. I've had the privilege of working alongside industry veterans, and the board members—with their diverse backgrounds—have brought fresh ideas to help grow the division.

While much has changed, one thing remains constant: our vision and mission. The division is committed to promoting the dissemination of scientific, design, and marketing knowledge of plastics, polymers, and composites for the global building and construction industry.

One of my key objectives is to reintroduce a dedicated B&I session at ANTEC, SPE's flagship conference. This will strengthen the division's presence and provide a platform for speakers to exchange knowledge. We will also continue hosting B&I sessions at the SPE International Polyolefins Conference (IPOC).

Additionally, the division is exploring opportunities to generate funds to give back to society. Last year, we sponsored a student's travel to ANTEC—a valuable opportunity for students to interact with industry professionals and experience the plastics industry firsthand. These initiatives showcase what our industry offers and help attract new talent. Additional funding will enable us to sponsor more student travel and scholarships.

We are seeking sponsorships from industry partners during B&I sessions at ANTEC 2026. Please consider supporting the division. We are also committed to helping students and young professionals grow in their careers by understanding their needs and providing mentorship opportunities, including webinars focused on B&I topics.

I am excited about SPE's merger with Plastics—this will expand our reach and create a greater impact.

Wishing you a prosperous New Year!

Best regards,
Manoj Nerkar



2026 SPE ANTEC® Conference

[2026 ANTEC](#) showcases leading-edge plastics technologies, advanced polymer research, and innovative processing solutions. Beyond a conference, it's a driving force for real-world problem solving in science, engineering, and industry.

We are excited to announce a dedicated Building & Infrastructure (B&I) session scheduled for Tuesday afternoon, March 10, 2026, as well as a joint session with the Plastics Pipes and Fittings Division on Wednesday morning, March 11, 2026. Program details are provided below.

March 10th	Building and Infrastructure
1:30	From Waste to Worth : Leveraging Acrylic Technology to Engineer High-Performance Building Products with Increased Post Consumer Recycled Content (Manoj Nerkar - Dow)
2:00	Repurposing of Fiber-Reinforced Thermoset Composites by Partial Solvolysis (Rakesh Gupta - West Virginia University)
2:30	Tunability of Pore Structures and Properties of Polyolefin Microporous Films Via Sequential Cold and Hot Stretching (Wenyi Huang - DuPont)
3:00	Break
3:15	Mold Releasing and Pultrusion/Powder Coating Process in building and infrastructure applications (Josh Meng - MITER Brands)
3:45	Smart Formulation Design For Foam Injection Molded Parts (Cristina Saiz-Arroyo - CellMat Technologies SL)
4:15	Thermoplastic Composite Confinement for Concrete Strengthening via Heat-Induced Fusion Wrapping (Jimesh Bhagatji - Old Dominion University)



March 11 Building and Infrastructure / Plastic Pipes and Fittings	
8:00	Novel FR Technology for Composites in Building & Construction (Navraj Heer - Avient Corporation)
8:30	Combustion Response of Fiber-reinforced Polymers to a Radiant Heat Flux (Thatcher Stevens - West Virginia University)
9:00	Characterization and Understanding of Mechano-Chemical Degradation of PP and cPVC in Semiconductor Wastewater Environments (Seongsu Shin - Korea University)
9:30	Break
9:45	Case Studies on the Failure of PEX and PP-R Pipes in Municipal Water Applications (Florian Koschitzki - Plastic Expert Group)
10:15	Development of Welding Processes for Plastic Pipes in Hydrogen Applications (Patricia Fatherazi - Institute for Plastics Processing (IKV) at RWTH Aachen University)
10:45	Open Molding of Thermoplastic Composite Pipes Using Recycled Carbon Fiber Tapes (Asami Nakai - Gifu University)

Sponsorship Opportunities for B&I Technical Session at ANTEC 2026

Why Sponsor?

- In 2025, the conference attracted nearly **500 attendees**.
- For 2026, we expect **140 presentations** and a similar or higher number of participants.

Sponsorship Details

Includes:

1. Sponsorship of the Building & Infrastructure session on **Tuesday, March 10 (afternoon)**
2. Acknowledgment with your logo on the Building & Infrastructure Division website for one year
3. Recognition during the session, including display of your logo
4. Option to bring signage or a roll-up banner for display in the room
5. Option to provide company brochures for distribution on tables



Price: \$600

Unlike “for-profit” conferences, sponsorship funds will support **student scholarships and travel awards**, helping to invest in the future of our industry.

We truly appreciate your consideration and support. It’s an investment that benefits both your organization and the next generation of professionals.

If interested, please reach out to mark.a.barger@outlook.com.

Student Sponsorship for attending 2026 ANTEC conference

The SPE Building & Infrastructure (B&I) Division supported student travel to attend ANTEC® 2025. This marked the first time the B&I Division provided support for ANTEC, contributing to the development of the future plastics workforce.

The 2025–2027 SPE B&I Division Board, led by Chair Manoj Nerkar, is focused on building stronger financial capabilities and expanding the Division’s contributions to SPE and the broader plastics community.

For ANTEC® 2026, the SPE B&I Division plans to continue sponsoring student attendance, providing opportunities for students to network with industry professionals and gain insights into emerging technologies and trends. Students who are members of the B&I Division and interested in applying for sponsorship for ANTEC® 2026 are encouraged to contact Chair Manoj Nerkar at mnerkar@dow.com.

2026 SPE International Polyolefins Conference (IPOC) & B&I Technical Session

We are excited to announce that the technical program for the [2026 IPOC conference](#) is being finalized. The conference will be held in Galveston, Texas, from February 23–26, 2026. The program will feature more than 130 speakers covering a wide range of topics, along with additional tutorial sessions scheduled for Monday afternoon and a concurrent exhibit hall.



The B&I session will be held on Tuesday afternoon Feb. 24th and the provisional schedule is shown below.

Applications in Building and Infrastructure Moderator: Alisa Chen	
2:00	Advancing UV and Chemical Resistance in Geomembranes: New Standards and Solutions (Jeff Xu - Synesqo)
2:30	Advancing the Circular Use of Thin-Film Polyethylene in Asphalt Binder Modification (Chris Wacinski - Driven Plastics)
3:00	Break
4:00	Vistamaxx performance polymers in TPO waterproof membranes (Zhifeng Bai - ExxonMobil)
4:30	Advances in Moisture Curable Flame-Retardant Polyethylene Systems for Wire and Cable Applications (Wenwen Li - Dow)
5:00	Ionomer for Decking Applications (Jong-Young Lee - Dow)

Please reach out to [Alisa Chen](#) or [Yijian Lin](#) with any questions regarding the IPOC or the B&I session.

Summary of B&I Technical Program at 2025 IPOC conference

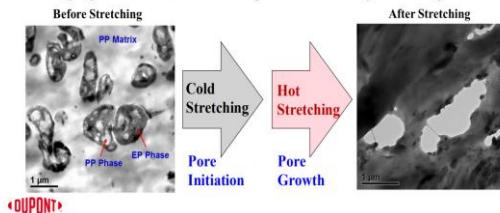
The Building and Infrastructure session was held on Monday February 17, 2025. The session featured six speakers who covered an array of topics related to B&I. The session was well attended and interactive, brief summaries of the six presentation topics are provided below.

Weiyi Huang from **DuPont** spoke on the topic *Reinforcement of Polyolefin Breathable Membrane*.

Technical Background

DuPont Invented Technology: patent granted.

- Novel mechanism for creating microporous structure: microphase segregation/inclusion induced pore formation by stretching.



Concluding Remarks

- Three methods were tested for integrating PET mesh or PP-PET nonwoven into PP vapor permeable membrane for reinforcement.
 - Thermal lamination of PET mesh with PP membrane in the presence of PU adhesive resulted in lower water vapor permeance.
 - Ultrasonic lamination PET mesh with PP membrane led to weak interface and strength.
 - Extrusion lamination & biaxial stretching afforded products meeting the performance requirements.

«DUPONT»

Tianran Chen from **DuPont** spoke on the topic *Root Cause Analysis and Technical Solutions for Low Water Vapor Permeance of Polypropylene Breathable Membrane*.

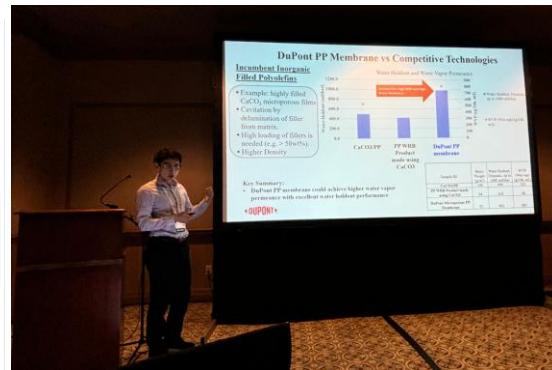
Test of the Annealed Biaxial Stretched PP Membrane in Pilot Scale

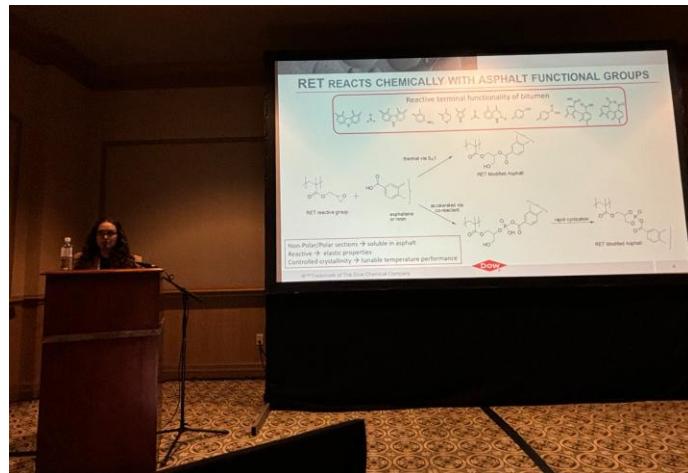
Annealed		Unannealed	
ID	WVTR (g/24h m ²)	ID	WVTR (g/24h m ²)
Stretched PP Membrane	163	Stretched PP Membrane	1.8
ID	Breaking Strength (lbs/in) - MD	ID	Breaking Strength (lbs/in) - MD
Stretched PP Membrane	16.2	Stretched PP Membrane	19.1
ID	Breaking Strength (lbs/in) CD	ID	Breaking Strength (lbs/in) CD
Stretched PP Membrane	15.1	Stretched PP Membrane	12.9
ID	Tear Resistance (lbs) - MD	ID	Tear Resistance (lbs) - MD
Stretched PP Membrane	5.6	Stretched PP Membrane	6.8
ID	Tear Resistance (lbs) - CD	ID	Tear Resistance (lbs) - CD
Stretched PP Membrane	5.5	Stretched PP Membrane	5.1

Key Summary:

1. Annealing could improve the WVTR of the PP film, and degree of stretch is sensitive to the annealing conditions
2. Annealed PP film showed similar mechanical properties as unannealed film

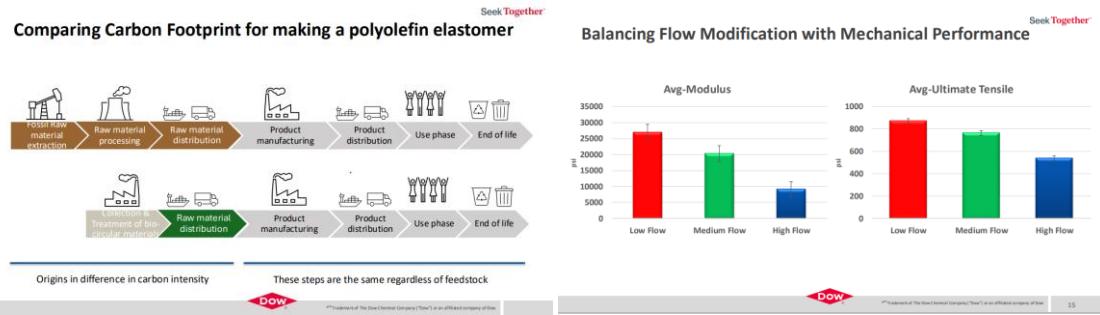
Hayley Brown from **Dow** spoke on the topic of *Reactive Ethylene-Based Terpolymers for Highly Modified Asphalt Pavement*.



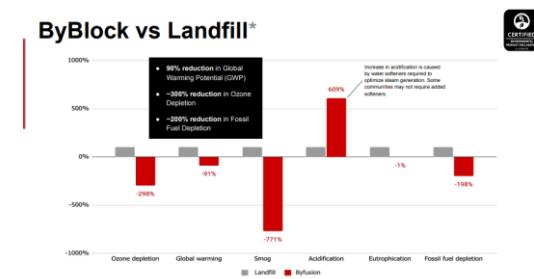
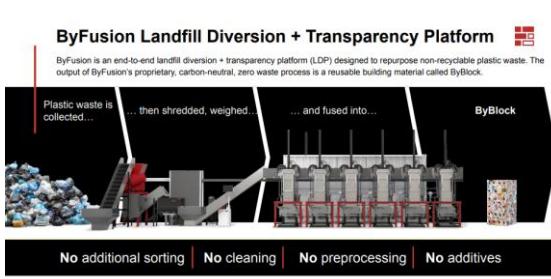
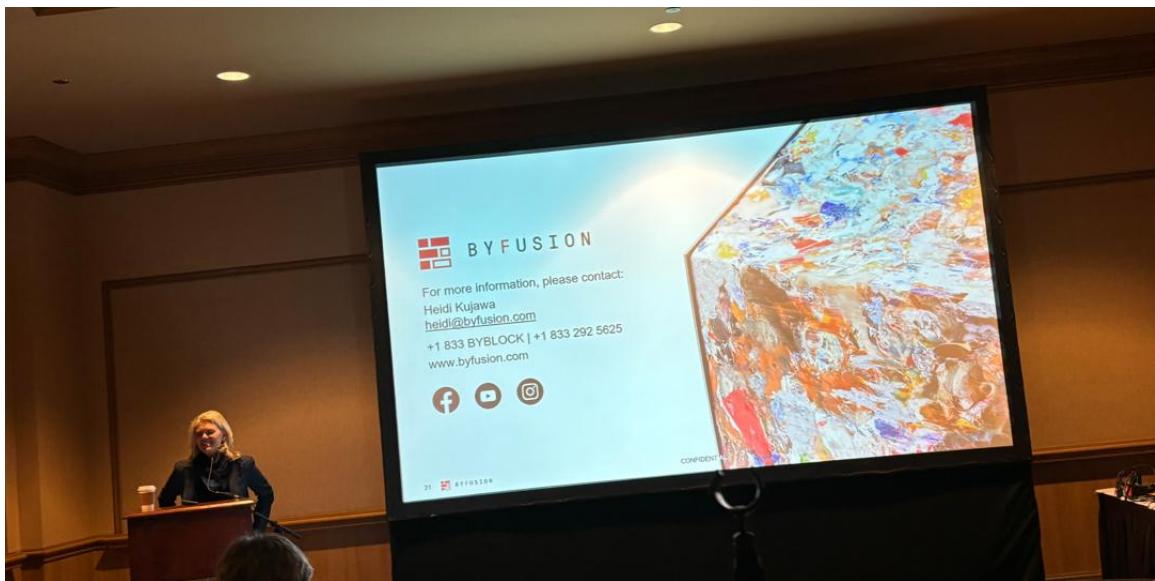


Yushan Hu on behalf of Rosalyn Kent from [Dow](#) spoke on the topic of *Pathways to Sustainability with Polyolefin Materials for Flooring*.





Heidi Kujawa from **ByFusion Global, Inc** spoke on the topic of *Beyond Recycling: Building a Better Future with Plastic Waste*.



The final presentation was made by **Yi Ding** from the **Lehigh University**. His topic was *Finite Element Simulation of TPO Roofing Systems Impacted by Spherical Indenters of Varying Elastic Stiffness*. This research was done in conjunction with GAF Materials Corporation.



Plastics in B&I Handbook Status

The B&I Division BOD is excited to provide a status update for our future handbook. As background, the B&I Division has engaged with Taylor & Francis/CRC in mid-2025 to author a Handbook on Plastics in Building & Infrastructure. We proposed an initial Handbook Table of Contents that has been subsequently adjusted to consist of thirty-nine chapters comprising both materials and applications. To date we have received and approved thirty-five-chapter outlines with several more pending. We expect to receive initial manuscript drafts by July, 2026. **Please note that we are still seeking lead authors for the following chapters/sections:**

- Chapter: Laboratory Testing and Performance Characterization
- Chapter Section: PVC and PVC Composites in Decking, Railing, and Fencing
- Chapter Section: Polyolefins and PVC in Landscaping

We may also be seeking a supporting author for the following chapter:

- Asphalt Modification and Underlayment in Roads

Please reach out to either Lei Rao (lrao07450@gmail.com) or Mark Barger (mark.a.barger@outlook.com) you are interested in contributing to one of the above-listed chapters or sections.



Plastics in B&I Handbook Sub-committee

Lei Rao
Mark Barger
Rakesh Gupta

Jeff Drusda
Manoj Nerkar
Alisa Chen

Spotlight Member



Tammy Yang, past chair of the Building and Infrastructure Division, is being recognized as a new Fellow of the SPE. She is a Research Fellow for GAF, reflecting her extensive and successful career in plastics.

Ms. Yang is known as an expert within the plastics and building industry who fully understands key factors that drive the market. Her knowledge and experiences include polymers, composites, coating, adhesives, stage gate new product development, blue ocean and disruptive innovation, IP generation, competitive strength weakness assessment, supply chain cost and market positioning, global product development, industry-academic partnership, team building, effective coaching, raw material specifications, regulations, sustainability, customer product design receiving 60 granted patents, 30 new patent applications and 10+ publications.

Among her accomplishments, she

- Founded and grew EverGuard single ply TPO (thermoplastic polyolefin) team owning the formulation and product development, upscale of manufacturing production, expanding full system product line collection, growing the GAF TPO business from scratch to over 6 billion square feet rooftop coverage, one of the top two producers.



- EverGuard products are widely regarded as the highest performing membrane in the market today.
- Led small functional team to innovate and execute on a next generation RV opportunity with patent protection. The first year earned tens of millions of square feet for a new venue and significant market position.
- Liaised and directed collaboration with Lehigh University to deliver the first single ply roofing predictive model around durability performance in wind and hail impact situations.
- Developed Single Ply attribute, technology and IP roadmap. NPD and IP application in pipeline.
- GAF Business Excellence Award (the highest individual award in the whole company, 2 recipients in 2014)

Connect with SPE B&I BOD

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Dow Inc.	
Councilor	
Rakesh Gupta	
West Virginia University	
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Dow Inc.



Call for Nominations: SPE Building & Infrastructure Board of Directors

The SPE, Building and Infrastructure Division has more than 100 members representing a wide variety of companies and academic institutions. It is our mission to continue to grow the Division and become a bigger, stronger and more diverse group. We will act as a conduit for the exchange of information and as a resource for Society members to increase the understanding of plastic building materials through our newsletter, conferences, workshops and industry contacts facilitated through a focused group effort within SPE. These activities are designed to provide a forum for the exchange of ideas and information related to the latest applications and best practices for plastics in building and infrastructure applications for residential and commercial projects. The SPE Building and Infrastructure Division is now accepting nominations for the following positions:

Board Member at Large: Three-year term commencing 01 July 2026

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One can self-nominate or offer another person for nomination, subject to the nominee's approval to put their name into nomination.

Please contact **Mark Barger** (mark.a.barger@outlook.com) **prior to March 02, 2026** if you are *eligible** and interested in serving a three-year Board of Director term commencing on 01 July 2026 and running through 30 June 2029.

Please reach out to Mark Barger via email or phone with any questions or if you wish to discuss further.

* Eligibility Note: Every Board Member must be a member of the Society of voting grade in good standing at the time of nomination, election and during their term

Your Voice Matters

We'd love to hear your feedback on this newsletter, suggestions for future topics, or ideas to highlight your research and related work in upcoming issues. Your input helps strengthen and grow the B&I community.

Please share your thoughts with Alisa Chen at alisa.qichen@gmail.com.