



DAVE OKONSKI 2024 HONORED SERVICE MEMBER

sponsored by
SPE DETROIT SECTION
and **INJECTION
MOLDING DIVISION**

Dave Okonski receives Honored Service Member Award from Conor Carlin, SPE President at ANTEC® 2024 in St. Louis, MO.

SEE MORE ON PAGE 5

SPE DETROIT SECTION

honored as
**SPE FOUNDATION
TOP DONOR**
and welcomed into
the **AMBASSADOR
GIVING SOCIETY** at the
VISIONARY LEVEL



Dave Okonski accepted the top award for the Section from Dr. Matthew Harthcock, SPE Foundation Chair, in St. Louis at the SPE Awards Luncheon.

SEE MORE ON PAGE 7



2024 WONDERS IN PLASTICS ESSAY CONTEST WINNERS, PAGES 24-30



2024-2025 PRESIDENT'S MESSAGE

ROB PHILP, BUSINESS DEVELOPMENT MANAGER, SIRMAX

DEAR DETROIT SECTION MEMBERS,



As I reflect on the past 18 months, I am filled with gratitude and pride for what we have accomplished together. It's been an incredible journey, and none of it would have been possible without the dedication and hard work of many individuals

First, I extend my heartfelt thanks to **Neil Fuenmayor**, our Co-Chair of the TPO Conference and Past President of the Detroit Section. Neil, your friendship, guidance, and tireless efforts have been invaluable. Thank you for your unwavering support this year.

Bob Petrach, our Past President and Secretary, your organizational skills and positive leadership have been instrumental in our progress. Your involvement in various projects and your mentorship have been greatly appreciated. Thank you for all you do.

To **Sandra McClelland** and **Tom Miller**, our Councilor, your outstanding work on the Education Committee and your commitment to our scholarship programs have been remarkable. Thank you for driving our philanthropic initiatives forward.

Eve Vitale, your work with the PlastiVan® Program has sparked interest in so many students across Michigan and beyond. Your dedication and that of your team are truly inspiring. Thank you for your incredible contributions.

I also want to express my deep appreciation to all members of the Board of Directors. Your generosity with your time and talents is the backbone of our organization. Thank you for your commitment and hard work.

A special recognition goes to **Karen Rhodes Parker**, the glue that holds SPE Detroit together. Karen, your tireless assistance, and positive impact on everyone you interact with do not go unnoticed. Thank you for everything you do.

I encourage all of you to get involved and make a difference. Our updated website now features a "Committees" page under the "About" tab. Please explore the various committees and see if something interests you. We also need assistance with our Technical Conferences, both in planning and on the day of the events. There are many opportunities for you to give back to our industry.

I am also thrilled to announce the launch of our new **SUSTAINABILITY WORLD CONGRESS**, set for **June 10-12, 2025**, at Huntington Place (formerly Cobo Hall) in Detroit, MI. This Congress will cover a wide range of sustainability topics. We are also in the process of building a new website for the Congress which linked to spedetroit.org under the "Events" tab. More information will be available soon. If you're interested in volunteering, please contact **Sassan Tarahomi**.

These past 18 months have been busy and full of exciting new events. I invite you to help us continue our journey and bring a friend along to join the Detroit Section.

Warm regards,

Rob Philp



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Visit the main Society of Plastics Engineers' website for up-to-date information on training, seminars, and other career-enhancing information.



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IN THIS ISSUE

2024-2025 President’s Message – Rob Philp2	South Region High School Winning Essay – Syed Jamal25
Treasurer’s Report4	South Region Middle School Winning Essay – Kamora Taylor26-27
Dave Okonski – 2024 SPE Honored Service Member.....5	North Region Winning Essay – Emma Huang..... 28-29
ANTEC 2025.....6	2025 Essay Contest Call for Judges..... 30
SPE Detroit Inducted into the SPE Foundation Ambassador Giving Society7	2025 Sustainability World Congress (SWC) Call for Presentations31
2024 Auto EPCON Recap.....8-10	PlastiVan® Impact for 2024 / Thank you from the SPE Foundation..... 32-33
MSU SPE Student Chapter at Auto EPCON8	Thank you from Pat Farrey, SPE CEO..... 34
Auto EPCON Poster Competition Results..... 10	2024 Engineering Society of Detroit’s Future Cities Competition.....35
Thank You from Abdifitah Adan – Auto EPCON Poster Winner..... 10	2025 SPE Detroit Gold Outing.....36
Member Highlight - Bernd Henkelmann 11-12	2024 SPE Detroit Recap37
Dr. Mahmoodul Haq Awarded Teaching In Excellence Award from MSU13	2024 SPE Detroit Toy Donation 38
2024 TPO Recap..... 14-17	2025 ACCE Call for Papers.....39
2025 Plastics in Electric and Autonomous Vehicles (EAV) Call for Presentations..... 19	2025 Planned Events40
2024 SPE Detroit Scholarship Winners Announced ..20-21	Detroit Section Executive Board and Committee Members 41
2024 Detroit Section SPE Foundation Scholars 22-23	Back Cover - Detroit SPE Chapter Profile 42
2024 Wonders of Plastics Essay Contest Winners Announced24-30	

TREASURER’S REPORT

AS OF 12/31/2024, SPE DETROIT’S FINANCIAL PERFORMANCE WAS:

	BUDGET (Entire Fiscal Year)	ACTUAL (7/1/2024 - 12/31/24)
INCOME	\$ 1,693,200.00	\$ 209,842.88
EXPENSES	\$ 1,306,040.00	\$ 217,137.28

Fiscal Year: July 1, 2024 - June 30, 2025



DAVE OKONSKI,
SPE DETROIT SECTION
TREASURER

SPE HONORED SERVICE AWARD PRESENTED TO DAVE OKONSKI

BY BOB PETRACH, SPE DETROIT SECTION SECRETARY



DAVE OKONSKI HONORED AS 2024 SERVICE MEMBER Sponsored by SPE DETROIT SECTION and INJECTION MOLDING DIVISION



I am pleased to report that **Dave Okonski** has been selected as one of three SPE members selected for the **SPE HONORED SERVICE AWARD**.

Dave is one of 357 SPE members selected since this award was established in 1992.

[See SPE announcement here.](#)

Dave has focused on education and mentoring throughout his career with SPE. He worked with the Auto EPCON team to ensure that we started having college student posters at the conference in 2022.

Over the years he has contributed greatly to many roles including ANTEC 2020 Technical Programs Chair for IMD, TPO Conference Co-Chair, AutoEPCON Conf Co-Chair, and Family Picnic Chair. Dave currently serves as the Treasurer for the Detroit Section.

With IMD he secured sponsors for senior capstone projects for students enrolled in Penn State Behrend's Plastic Engineering Technology (PLET) program. Along with the sponsorship dollars, each senior project team was assigned an IMD mentor.



Dave Okonski, 2024 Honored Service Member

The Injection Molding Division was asked to join SPE Detroit in sponsoring Dave for the HSM award. Lih-Sheng (Tom) Turng, Ph.D. HSM of SPE; Fellow of ASME, SME, and SPE, joined Sandra McLelland, HSM of SPE, and Bob Petrach, HSM of SPE, in submitting sponsor statements in support of Dave.

[VIEW FULL LIST OF HONOERED SERVICE MEMBERS HERE.](#)

David Okonski started his career in 1984 when he accepted a Manufacturing Engineer position at GM Research & Development; he was asked to become an expert in polymer processing and specialize in the injection molding process. David spent the next 39 years generating intellectual property on thermoplastic material systems, injection molding tooling strategies, and polymer manufacturing processes. David retired from GM on June 30th, 2023. David first joined SPE in 1992 and serves on the Board of Directors of both the Injection Molding Division and the Detroit Section where he is currently the treasurer.



Dave Okonski receives Honored Service Member Award from Conor Carlin, SPE President at ANTEC® 2024 in St. Louis, MO.



ANTEC® 2025

Philadelphia, PA • March 3-6

ANTEC® 2025 is headed to Philadelphia, PA! Join us at SPE's premier Annual Technical Conference for all things plastics and polymer science! From cutting-edge research and new materials to innovative processes and solutions for real-world challenges, ANTEC® 2025 has it all. Don't miss out on top-tier networking, prestigious SPE awards, symposiums, and our exclusive ANTEC® All-Access VIP Experience.

Mark your calendars and be part of the future of plastics!

4spe.org/ANTEC25



SPE DETROIT HONORED AS TOP DONOR TO SPE FOUNDATION

LETTER FROM EVE VITALE, SPE FOUNDATION EXECUTIVE



SPE DETROIT SECTION HONORED AT ANTEC® 2024 AS #1 SPE FOUNDATION DONOR

Dear Rob, Sandra, and Tom,

This year, the SPE Foundation created giving societies to recognize our most generous donors. **We are delighted to include the SPE Detroit Section and welcome you to the Visionary Level of our SPE Foundation Ambassador Giving Society.** The Visionary Level is for donors who have given between \$500,000 and \$999,999.

Because of your loyalty to the SPE Foundation, the Detroit Section is the top donor among many. Congratulations!

To mark this induction, we are having a special recognition luncheon during ANTEC® on March 6th from 11:15am to 1:30pm. If you are attending ANTEC®, we hope you will join us so we can personally thank you.

We also look forward to featuring the SPE Detroit Section in the Ambassador Giving Society listing in our 2023 Impact Report.

Your membership in this society is an outward display of the Section's dedication to our Positive Plastics Education™ programs. Thank you for recognizing the need to support our future plastics professionals and for continuing to be a part of our mission. It is our hope that your membership at the Visionary Level will encourage you to continue your active role in the life of the SPE Foundation and inspire others to join us.

SPE Detroit is our top donor of all time! Congratulations! I'm so proud to be part of an SPE Chapter that supports Positive Plastics Education to the level that we do.

Sincerely,

Eve Vitale

SPE Detroit was celebrated as a **POSITIVE PLASTICS EDUCATION HERO** and **TOP OVERALL DONOR** in the [SPE Foundation 2023 Impact Report](#).



Dave Okonski accepted the top award for the Section from Dr. Matthew Harthcock, SPE Foundation Chair, in St. Louis at the SPE Awards Luncheon.

POSITIVE PLASTIC EDUCATION HEROES

SPE DETROIT CELEBRATED AS OVERALL TOP DONOR

SPE Detroit, where it all began 82 years ago, has donated more than \$675,000 to the SPE Foundation, giving them the honor of being our most dedicated and generous supporter. They have earned the Visionary Level in our Ambassador Giving Society, and we are proud to partner with them in this important work.



In 2023, the SPE Detroit Section continued to support the work of the Foundation with an impressive gift of \$75,000 for the PlastiVan® Program in Michigan. They have also endowed four scholarships over the years and were the major funder of our PlastiVideo™ Program which helped us to continue serving students with Positive Plastics Education™ during the pandemic.

The Detroit community possesses untapped potential for future plastics professionals. Together, we are bridging the gap and extending our industry's exciting work and opportunities to thousands of individuals. We couldn't do it without Detroit SPE!





2024 AUTO EPCON RECAP

The SPE Detroit Section, the SPE Injection Molding Division, and the SPE Additive Manufacturing Chapter collaborated on the **17th Annual Automotive Engineering Plastics Conference and Exhibition (Auto EPCON)** on May 14th, 2024, at the Detroit Marriott Troy. Conference Chairs were **Dave Okonski** and **Sandra McClelland**.

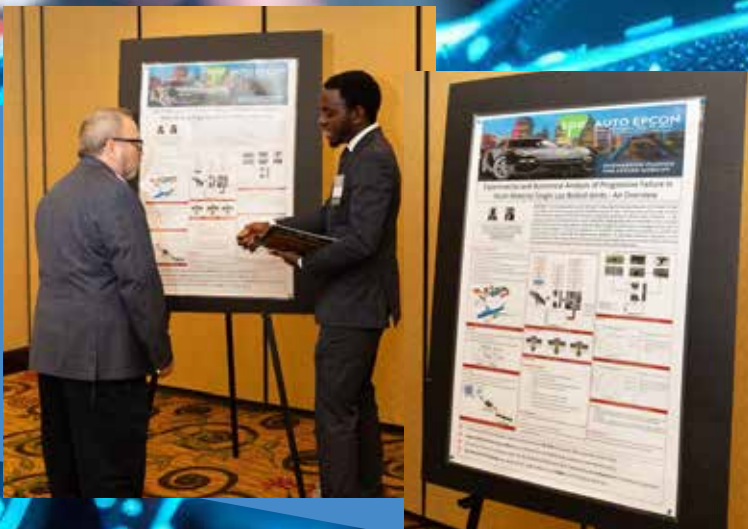
Engineering plastics have been used by the transportation industry for many years to innovatively meet the performance, cost, and mass reduction targets of vehicle programs. New high-performance material systems are constantly being developed to satisfy future needs, and these next generation materials are destined to become the mainstays for vehicle systems ranging from electrical component assemblies, chassis & interior hardware, exterior body panels & trim as well as critical safety components. Auto EPCON is a magnificent event to meet and network with the most influential product designers, manufacturing engineers, and research scientists involved in specifying and recommending engineering plastics to the transportation industry.



MSU SPE STUDENT CHAPTER REPRESENTED AT AUTO EPCON 2024

Five students from Michigan State University's Composite Vehicle Research Center and from the MSU SPE Student Chapter participated in the Auto EPCON conference held in Troy, MI on the 14th of May. Students presented in the poster competition on a wide array of subjects such as additive manufacturing, and non-destructive testing and coating. Members engaged with industry leaders and other academics on the potential and impact of their research on their respective fields which helped broaden their perception of the scope of their work. All five members of the MSU team received awards for their poster presentations, showing the value of their work and

recognizing the effort that was invested in it. MSU has a long-standing collaboration with SPE involving graduate and undergraduate research, as well as participation and volunteering in SPE functions and events. Students also moderated the sessions of the conference and engaged with both speakers and audience members on the topics, enabling a richer and more substantive conversation, as well as shedding light on the role of academic research institutions in industrial research. Members of the MSU student chapters have previously won several awards and scholarships and various SPE events and conferences, showing the commitment of SPE towards supporting the next generation of plastics engineers and the potential that academic research institutions have as partners and as foundations for generating the expertise needed for excellence in the field.



2024 SPE AUTO EPCON POSTER COMPETITION RESULTS

Brian Knouff, on behalf of the planning committee for the 2024 SPE Auto EPCON conference and exhibition, would like to thank the students who assembled and presented their distinguished work for the Poster Session competition this year. The Poster Session is one of the highlights of our conference. These students represent the future of our industry and, as in past years, did not disappoint.

Brian had the pleasure of speaking with many attendees who reviewed the posters, and they were all impressed, with the biggest complaint being that they had to rank them which proved to be a difficult task. Many said that on a different day their rankings may have changed as they were that close.

Congratulations! to our prize winners:

1ST PRIZE:

Poster Title: *Reinforced Elium Thermoplastics on Lap Shear Strength of Aluminum Joints*

Authors: Abdifitah Adan, Syed Fahad Hassan, Mahmoodul Haq

2ND PRIZE:

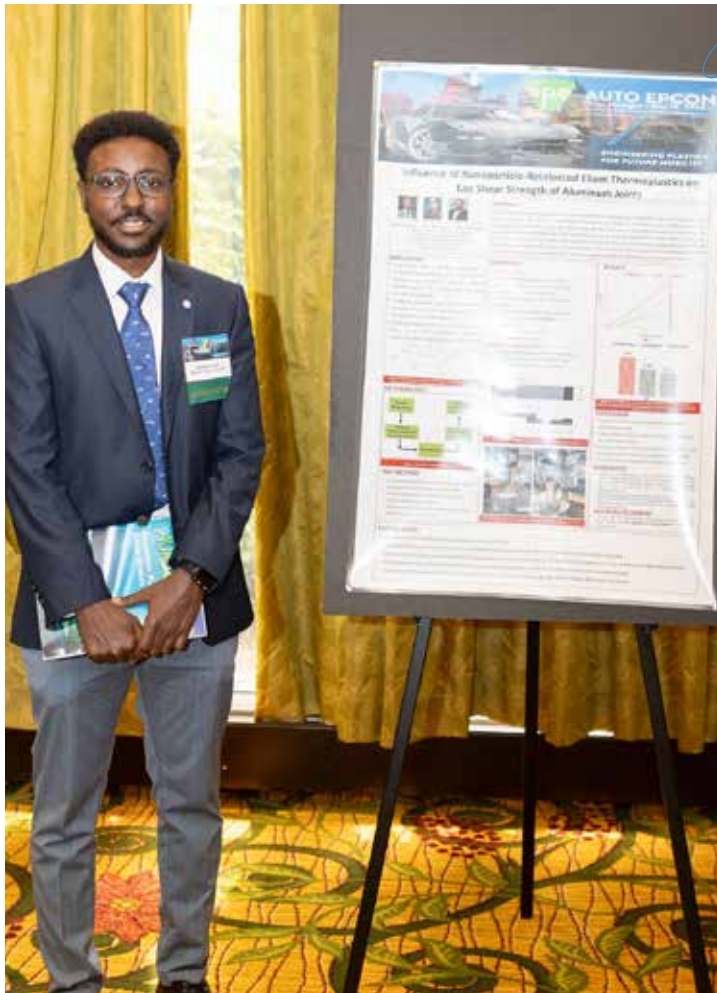
Poster Title: *Experimental and Numerical Analysis of Progressive Failure in Multi-Material Single Lap-bolted Joints- An Overview*

Authors: Kunle Kazeem Adeyemo, Mahmoodul Haq

3RD PRIZE:

Poster Title: *Developing High-Performance Biomimetic Nacre-Like Composites*

Authors: Alexander Kepreos, Syed Fahad Hassan, Mahmoodul Haq



Thank You
**FROM ABDIFITAH ADAN
1ST PLACE**

Dear All,

I am Abdifitah Adan from Michigan State University, and I would like to express my gratitude for the opportunity to participate in Auto EPCON 2024. The event was truly remarkable, and I appreciate all the effort you put into organizing it.

I was honored to have won the first prize in the poster contest, and I thank you and everyone who voted to recognize my work. The chance to engage with guests and keynote speakers, the opportunity to serve as a moderator for the second year in a row at the conference and learn from experts in the field was a privilege that I will always cherish.

The different presentations were informative and thought-provoking, and the range of innovative products and services on display at the booths of the sponsors was impressive.

Thank you for making this event possible. It was a significant milestone for me as a student, and I am grateful for the opportunity to contribute to the field.

Sincerely,

Abdifitah Adan,
Ph.D. Candidate
Structural & Mechanical Engineering
Composite Vehicle Research Centre



BOARD MEMBER HIGHLIGHT: BERND HENKELMANN

BY NEIL FUENMAYOR, PAST PRESIDENT



I recently had the pleasure to sit down with one of our newest board members, **Bernd Henkelmann** just before a well-deserved winter holiday break to go back home, relax with family, and enjoy some skiing in Europe with friends. It's been a busy 2024 for Bernd, both professionally in the demanding automotive plastics industry and also personally, having spent considerable efforts to settle into his new home in the northern suburbs of Detroit, MI.

Bernd joined our Board of Directors in June 2023, after getting involved and supporting our Section throughout 2023, following a surprise opening becoming available during my term as President. I was very happy to appoint Bernd to join our board.

Admittedly, I didn't know too much about Bernd beyond the fact that he has spent his entire career in various global locales pursuing his passion in the plastics industry, was a "car guy" who loved performance tuning and sports cars like me, and was enthusiastic to help the Detroit Section in our mission – especially through Education – bringing further global perspectives to our Board. In fact, as I learned, Bernd is on his second stint living and working in the United States, now working as Market Development Manager for RADICI PLASTICS USA.

His personal and career interests have taken him from Germany, to Switzerland (twice!), and also the United States (also twice!). It became readily apparent that Bernd enjoys new professional and personal experiences, loves meeting different cultures, is quite driven personally, and is not afraid of challenges while meeting, growing and, most importantly, helping people in his travels.

But how did Bernd, an Engineer by academic training, get to be the global voyager in automotive plastics? Why was Bernd motivated to reach out to the SPE Detroit Section to help contribute to our goals?

It started young, even before Bernd could truly walk as he recalled, growing up in the small city of Dieburg, close to Darmstadt and Frankfurt am Main in Germany. Bernd clearly remembers many instances as a toddler crawling around the dirty and oily floor of his father's auto repair shop just to be close to his dad and the cars he worked on, much to his mother's dismay. A natural problem solver, it was thus inevitable that Bernd was interested in science and technology for his studies beyond secondary school...but was not immediately drawn to engineering nor the automotive field.

Initially wanting to pursue a University education and a career in the pharmaceutical sciences, Bernd was further influenced by the realization during high school lectures and university orientations that study in pharmaceutical sciences were primarily designed to lead to running one's own pharmacy (not the greater pharmaceutical research and development industry which Bernd desired). Most notably, a visiting lecturer in plastics told him, loosely-translated *"...if you want to have a successful technical career, and also make some money, **make fun stuff that people want...**"*. Bernd then enrolled in the University of Darmstadt in their Plastics Engineering program where he graduated "Best in Class" in 2005 as a Diplom-Ingenieur, the German equivalent of a B.S. in Engineering.

“*...make fun stuff that people want*”

Though a professor introduction, subsequent internship and completion of university thesis work, Bernd started his career at AKRO-PLASTIC GmbH in Germany as an R&D Development Engineer focused on polyamides and also the injection molding process. This foundation continues to serve him well, having focused much of his career and interests with a solutions-focused approach working with polyamides and injection molding processes, most often interfacing with customers in the automotive market.

Bernd soon developed his other main passion to explore new cultures by living/working abroad – initially driven by his interests in skiing on some of Europe's most iconic mountains and a what sounded like a very attractive salary – and thus jumped at the chance to join EMS-CHEMIE in Domat/Ems, Switzerland near Zurich, in Process and Application Development working with specialty, high performance polymer materials. Despite the very quick realization upon arriving that the cost of living was extremely high compared with Germany (thus, the attractive "high salary" offer), Bernd truly enjoyed his first stint in Switzerland for 8 years.

Fascinatingly, even as a child in Germany, Bernd was able to volunteer as a firefighter starting at age 12, continued to pursue it while attending University, becoming "active status" as an adult at 17, and then throughout most of his professional life... even while living and working in Switzerland. I asked what attracted him to this calling, and his desire to help his fellow man, and Bernd explained that he enjoys the technical aspect of firefighting, while helping save people's lives – perhaps not so surprising for an engineer. Another valuable and rewarding benefit, which Bernd discovered during his time living in many locales, is the ability to meet new people though this firefighting volunteerism and get integrated into the community. This self-motivated approach has fueled Bernd's ability to embrace and quickly adapt to his new homes, no matter where in the world they may be.



**Board Member,
Bernd Henkelmann**

It was also while living and working in Switzerland that Bernd started to **give back and spent considerable time helping students**. It was at EMS-CHEMIE AG that Bernd enjoyed **mentoring and tutoring** university students as they pursued their thesis work – much like he had experienced at the start of his career in the plastics industry. This desire has remained with him his whole life, and was a major driver to now get further involved with SPE most recently.

With EMS-CHEMIE AG, Bernd had the opportunity to expatriate to the United States for the first time in 2014, furthering his career in the global automotive industry. Although initially not overly enthusiastic about the location, but viewed better than others in terms of flexibility and freedom, and desiring the opportunity to grow culturally and meet new people, Bernd's thoughts very quickly changed during his initial exploratory 2 week trip through talking with his US colleagues and experiencing Michigan first hand.



Relocating to Auburn Hills, MI Bernd came to quickly love the United States and all that it offered both professionally and personally. It was here in the metro-Detroit area that Bernd could further pursue another growing hobby of target shooting, after first experiencing it in Switzerland. In fact, important criteria for his recently purchased home in Davison, MI was the space and land to pursue two of his major personal interests, performance car tuning and target shooting.

Alas, due to work visa restrictions, Bernd's time first time in the USA was far too short at 3 years, but Bernd was responsible for helping grow and mentor the US team and especially liked training the new hires. And, outside of work, Bernd was also able to hone his target shooting skills with both pistols and rifles, and was able to get involved with clay pigeon target shooting, which he finds most enjoyable about the hobby.

However, Bernd quickly embraced his next opportunity which allowed him to essentially return back to his original home, close to his parents and brother in Germany, while staying with the automotive polymers industry. Returning to the Frankfurt area in 2017, Bernd started at Total Petrochemicals & Refining, as a Senior Technical Service Engineer in PP/PP Compounds (another new challenge and learning opportunity!), once again assisting customers and helping them succeed, through his approach to problem solving and proposing solutions.



During a period of automotive de-emphasis by the public in Germany, as global climate change became a primary focus in Europe, Bernd soon desired to experience a different market to further enhance his career. This initiative fortunately brought him for a second time to Switzerland, which Bernd knew and loved so well. Working for Geberit Produktions AG in Jona, Switzerland – a European leader in water management – from 2019 into 2022, Bernd focused on the plastics processing side where he was responsible for sourcing and specifying injection molding machines for in-house plastic component production and also helping with process development.

Now back in the USA since early 2022 and working for RADICI Plastics USA, Bernd has returned once again to another place he knows and loves, in his pursuit to grow personally and professionally, and has returned to the automotive industry. Not limited by a fixed expatriation time period this time, Bernd has perhaps started to truly feel a more permanent sense of “home” here in the United States. Bernd really loves being here in Michigan, and was especially proud that he was finally able to settle down, now having the land and facilities to keep up with his personal interests. He remains eager to continue to make his new house his own.

Through it all, and in all of the locales however, Bernd has never lost sight of his family in Germany, his friends around the world, and his personal and professional passions. I had mentioned that Bernd approached SPE wanting to get more involved in helping make a difference for young people though his desire to help mentor in various educational ways.



Bernd has already become active in helping SPE with technical conference development (Auto EPCON) and also participating in student activities and school visits. He will definitely make a difference! In his approach, Bernd feels it's important for young people to understand that *“plastics are not the problem, but in fact, the solution. Without plastics, life would become much more difficult and certainly not fun!”*

“Plastics are not the problem, but in fact, the solution. Without plastics, life would become much more difficult and certainly not fun!”



MSU COLLEGE OF ENGINEERING RECOGNIZES DR. MAHMOODUL HAQ WITH WITHROW TEACHING EXCELLENCE AWARD

Dr. Mahmoodul Haq, a SPE Detroit Section board member, was awarded a **Withrow Teaching Excellence Award**. These awards, according to their website are based primarily on student nominations, and recognize faculty who have created effective, enthusiastic learning environments, are accessible and dedicated to advising and mentorship.

Dr. Mahmoodul Haq is a Professor in the Department of Civil and Environmental Engineering. Dr. Haq also serves as Director of the MSU Composite Vehicle Research Center (CVRC) and holds adjunct appointments in the Departments of Chemical Engineering and Material Science, Electrical and Computer Engineering, and Mechanical Engineering. His research interests include multimaterial joining, nondestructive evaluation (NDE), multiscale-reinforced hybrid/tailorable composites, and computational simulation of materials and structures. His research has been supported by the U.S. Army Tank Ground Vehicle Systems Center, the U.S. Army Research Laboratory, the Office of Naval Research, the U.S. Department of Energy, the National Science Foundation, and the American Chemistry Council.



Dr. Mahmoodul Haq,
Professor Civil and Environmental
Engineering (CEE),
MSU College of Engineering

Congratulations!

See more [HERE](#).

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Powered by SPE Detroit Section



2024 SPE TPO GLOBAL AUTOMOTIVE CONFERENCE – 25 YEARS OF INNOVATION

BY NEIL FUENMAYOR, PAST PRESIDENT

The **SPE TPO GLOBAL AUTOMOTIVE CONFERENCE** was very proud to celebrate its 25th Anniversary in Troy, MI USA from September 30 – October 3, 2024. The 2024 Conference was a tremendous success and once again continued to set the benchmark as the *“World’s Leading Automotive Polyolefins Forum”*. As we looked forward to the next 25 years, we honored the past – especially the vision, creativity and determination of our Founding Members to conceive this conference – while also strengthening the conference’s core elements: Offering abundant learning through a robust **Technical Program, Keynotes, and Panel Discussions**, and enabling unique networking opportunities through the entire automotive value chain, providing tremendous value for all of the 647 participants from industry and academia who joined us.

It was rewarding to once again hear many positive comments from the participants during and after the event, and **as always, we thank each and every participant – YOU are the reason we do this every year and the reason we push ourselves to optimize with the latest, relevant content in an enabling, interactive environment.**

The 44-member volunteer 2025 Planning Committee composed of key industry representatives, led by the Conference Chairs (Neil Fuenmayor, Mike Balow, and Rob Philp) along with the Technical Program Chairs (Norm Kakarala, Mike Balow, and Dave Helmer), did an outstanding job of setting aggressive internal targets, creating the event plan with new features, leading the teams and executing for a successful and enjoyable event, reinforcing this year’s theme of *“25 Years of Innovation”*. We’d like to once again thank the dedicated voluntary committee members for finding the time with their busy personal and professional lives to perform to this level, exceed our internal targets and put on this leading global event for the mobility industry.

In addition to honoring the progressive vision and mission of our Founders, through a very special “Founders’ Roundtable” interactive discussion to kick-off the event, we concentrated

on delivering the latest and future trends arising from the entire, diverse industry value chain in the mobility space, such as **sustainability** and **electrification**, and together shared the challenges and the innovative solutions possible with polyolefins.

We continued our efforts to keep growing the conference globally, through worldwide marketing promotional efforts and once again offering an **“On Demand” Virtual Portal** to see all shared technical content with speaker recordings and presentations. We also grew with increased OEM and Tier 1 participation this year.

We thank all of the speakers and panel participants who make the technical program, keynotes and panel discussions who are essential in the success of industry learning core element of the Conference every year.

Over the 4 days, the 2024 Conference offered:

- 5 Outstanding **Keynotes** from Nissan, Yanfeng, ExxonMobil, General Motors, and Inteva Products
- 2 Interactive OEM-led **Discussion Panels** with a sustainability focus from Hyundai-Kia and General Motors
- **25th Anniversary Founders’ Roundtable**, featuring the leaders who started it all: Rose Ryntz, Norm Kakarala, Robert Eller, and William Windscheif
- **7 Technical Sessions with 63 Technical Papers** from leading industry, research, and academic global speakers
- An **Executive Marketing Forum** featuring 8 Sponsored Talks
- **2024 SPE TPO Global Automotive Conference Scholarship Program**, totaling **\$10,000** in scholarships awarded to PhD candidate students: Paula Hohoff - University of Wisconsin-Madison and Amit Deshpande - University of Delaware



- Elementary -to- High School student participation from Ecotek Lab in Detroit, MI, featuring a **Student Project Poster Competition** consisting of 7 innovative projects, with student awards totaling **\$2750** including “Attendees’ Choice”
- Sponsored **Evening Networking Receptions** from **Formosa Plastics Group** and **Advanced Composites**, and a **Networking Break** sponsored by **Sirmax**
- **Networking Lunches and Breaks** sponsored by the SPE Detroit Section

Complete conference details and technical content is available at www.auto-tpo.com.

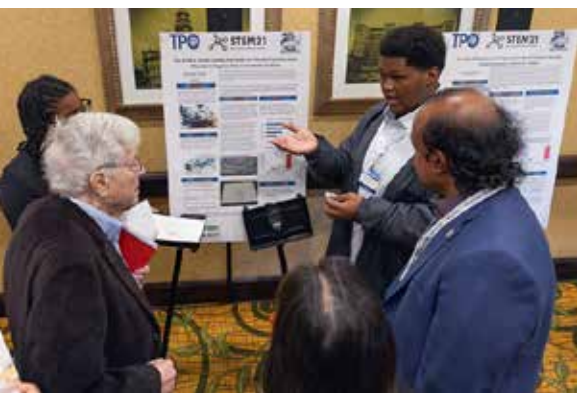
We’d especially thank the 53 Sponsors (Platinum, Gold and Exhibitors) that once again provide the perfect setting for our integrated expo space and, in addition to providing critical financial support, contribute considerable technical program content to enable all attendees to be surrounded by the key industry representatives and latest developments from the mobility/polymers space. As mentioned, networking throughout

the value chain has been a major core benefit of this event for 25 years! **Putting on a global conference event on this scale would not be possible without the valuable support of our Sponsors and Exhibitors.**

We are very happy to say that the conference came in under budget and we were once again able to raise considerable revenue for the SPE Detroit Section, with proceeds supporting the various educational programs on a regional and national level that the Detroit Section provides. This annual conference continues to remain the major financial contributor to SPE’s various educational programs and scholarships at all student levels ranging from elementary to post-graduate university levels. Over the last 25 years, the **SPE Detroit Section has proudly contributed over \$1.5 Million to education! In just the last 5 years alone, the SPE Detroit Section has contributed \$325,000 to the SPE Foundation (www.4spe.org).**

We welcome you to participate with us in the **2025 SPE TPO GLOBAL AUTOMOTIVE CONFERENCE**, coming up on **Sept. 29 – Oct. 1**. We are confident with your help and support we will continue to set the benchmark and once again exceed your expectations!





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Scholarship awards range from \$500 to \$4,000 annually at the discretion of the SPE Detroit Section Scholarship Committee. SPE Student Chapter officer participation can increase the amount of funds awarded. Special awards include: a \$6,000 Future Leaders scholarship for students with significant extracurricular involvement, solid internships and exceptional support of Detroit Section events; \$6,000 Women to Watch Scholarship awarded to a female with significant extracurricular involvement and solid internships; \$5,000 Dr. Reginald Bell Scholarship recognizing significant extracurricular involvement and solid internships; and a \$4,000 Delta Polymers scholarship awarded to students showing active involvement of their student chapter and support during Detroit Section events. Scholarships are valid for 1-year and recipients must submit a new application each year to be considered for future scholarship awards. All scholarships will be reimbursed once registered transcripts have been received from the university/college showing that all requirements have been fulfilled.

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HONORING MORE SPE DETROIT SCHOLARS

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SUJOY MONDOL, Michigan State University, Junior, Computer Engineering — \$1,500

AIDAN KELLER, College for Creative Studies, Sophomore, Computer Science - Product Design — \$1,000

AHMAD HASAN, Michigan State University, Sophomore, Mechanical Engineering — \$1,000

HONORING SPE FOUNDATION SCHOLARS

Dear SPE Detroit Section,

The SPE Foundation is delighted to present a report of your 2024 SPE Detroit Section Scholarships. We are grateful for your commitment to our future workforce and hope you take pride in seeing how your support drives these four scholars' education and career aspirations.

Together, we awarded our highest number of scholarships in the history of the SPE Foundation this year, totaling 112 scholarships to 75 individuals with \$262,250 in funds. Thank you for role in this achievement and for your continued investment in our future workforce!

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Eve Vitale, Chief Executive
SPE Foundation



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Total Scholars
Recognized
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2024 SPE Detroit Section Scholarships



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Norm Kakarala Scholar



Cassie Santelman
Tom Powers Scholar



Haley Dobbyn
Irv Poston Scholar



Arian Patel

Robert Dailey Scholar

Arian Patel, a Georgia Tech senior in Materials Science & Engineering, specializes in polymers. As a Georgia Tech student, he has participated in manufacturing research and co-invented a patented process to make tires more sustainable and affordable. He has additionally gained technical and global business experience studying polymer engineering in Germany as an exchange student. Arian has interned at Deloitte and Solvay, focusing on polymer applications and market strategies. In his free time, he works with the Georgia Tech Trailblazers to manage Atlanta's urban forest by leading volunteer events to remove invasive species, clear trash, and educate others about Atlanta's greenery.

I am grateful for the Detroit Section Robert Dailey Scholarship that has helped me pursue my passion for polymer science and engineering. This support has enabled me to travel to Germany and attend the K-show, gaining valuable experience and knowledge in the industry. It has also allowed me to work with Solvay in Brussels, shaping my career path. The scholarship will continue to aid in my studies and research, as well as in building the Georgia Tech Society of Plastic Engineers Chapter. Your generosity has not only eased my financial burden but also enriched my educational and professional development. I am committed to giving back to the community and staying connected with SPE.

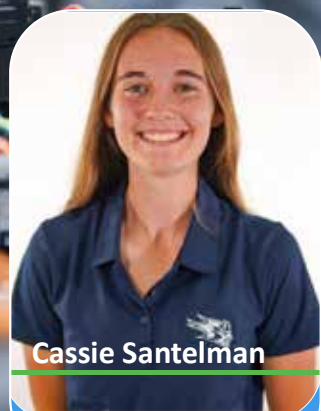


Daniel McDonnell

Norm Kakarala Scholar

Daniel McDonnell is a senior in the Plastics Engineering program at Ferris State University, where he is actively involved in the Society of Plastics Engineers. Daniel's dedication to both academics and extracurriculars extends to playing on several intramural sports teams, balancing teamwork and leadership skills with his studies. His passion for plastics engineering drives him to seek innovative solutions and contribute to advancements in the field. This scholarship significantly supports his academic journey and future career aspirations, allowing him to further immerse himself in research and practical experiences while continuing to contribute to campus life and community engagement.

I am so thankful to have received the SPE Foundation Detroit Section Norm Kakarala Scholarship. With this very generous scholarship it will allow me to pay for my schooling at Ferris State University by allowing me to finish off my senior year in the Plastics Program. This scholarship will help lead me to pursuing my dream of becoming a Process Engineer. So once again I am very grateful for this gift, and with it I am closer to achieving my goals.



Cassie Santelman

Tom Powers Scholar

Cassie Santelman is a junior majoring in Plastics Engineering at the University of Wisconsin Stout. Cassie is a member of the Women's Golf Team as well as an active member of the UW-Stout Student Chapter of SPE. This summer, she had an internship with Stratasys in the Quality department where she was able to learn all about additive manufacturing through 3D Printing. The internship allowed her to apply her learning to the corporate world.

I want to express my heartfelt gratitude for your support as I pursue my education in Plastics Engineering. Your encouragement means a great deal to me. As a student at UW-Stout, I am actively involved in various activities, including being a member of the Women's Golf Team, participating in the Student SPE Chapter, and working in the Machining Lab. This upcoming school year, I will continue taking program classes to deepen my understanding of plastics engineering. I have thoroughly enjoyed courses in materials, injection molding, and extrusion, particularly one that focused on testing different plastics to explore their unique characteristics. Looking ahead, I plan to seek another internship next summer to gain experience in a different area of plastics manufacturing. This will help me clarify my career interests and identify the type of company I want to work for after graduation. By engaging in two internships, I hope to build valuable connections and relationships with fellow plastics engineers. Thank you once again for your support!



Haley Dobbyn

Irv Poston Scholar

Haley Dobbyn is about to enter her first year as a graduate student at the University of Massachusetts Lowell, where she will be pursuing a Master's in Plastics Engineering. At UMass Lowell, she will be working as a Research Assistant (RA) under Professor Joey Mead. During her time as an RA, she hopes to focus more on the thermoset side of the industry and deepen her knowledge in this area. She graduated in May from Ferris State University, where she received her Bachelor's in Plastics Engineering Technology, along with a minor in Rubber Engineering Technology.

Thank you for the generous SPE Detroit Section Irv Poston Scholarship. This award will significantly aid my graduate studies at the University of Massachusetts Lowell, where I will pursue a Master's in Plastics Engineering, focusing on materials science or thermosets. I recently graduated from Ferris State University with a Bachelor's in Plastics Engineering Technology, a minor in Rubber Engineering Technology, and a Quality Technology certificate. I was actively involved in the Ferris State Chapter of the Society of Plastics Engineers, serving as Secretary, Vice President-Technical, and President. I plan to continue my involvement at UMass Lowell and seek Executive Board positions, as my SPE experience has provided invaluable educational and networking opportunities. I have completed four internships in the plastics and rubber industries, including process engineering roles at Lear Corporation and Royal Technologies, a materials science internship at Raumedica, and a rubber technologist internship at ACE Laboratories. These experiences have equipped me well for graduate school and my future career. Thank you again for your support, which has been instrumental in my educational journey!



SPE DETROIT 2024 WONDERS OF PLASTICS ESSAY CONTEST WINNERS

TODD HOGAN, SENIOR DEVELOPMENT SCIENTIST, DOW

SOUTH REGION HIGH SCHOOL WINNERS

1ST PLACE: "Plastics: Upcycling into a Bright Future" BY SYED JAMAL – Warren Mott HS

2ND PLACE: "Plastic's Usefulness In Society" BY ZEHNYIAA MOTLEY – East English Village Prep Academy

3RD PLACE: "Plastics – The Misunderstood Heroes of Society" BY JEFFREY CHAN – Warren Mott HS

4TH PLACE: "A Report on Recycling In Detroit" BY JACK JONES – American International Academy

5TH PLACE: "How Plastics Improve Our Lifestyle" BY SANDRA KENA – Warren Mott HS

SOUTH REGION MIDDLE SCHOOL WINNERS

1ST PLACE: "Sunrise of Plastics" BY KAMORA TAYLOR – American International Academy

2ND PLACE: "Ways to Protect the Environment and Improve the Quality of Life in My Community" BY KASEY HARRELL – American International Academy

3RD PLACE: "Turning Trash into Treasure: The Awesome World of Recycled Plastics" BY KEMA ANYADIKE – University Middle and High School Academy

4TH PLACE: "Recycling in our Community" BY LONDON WEST – American International Academy

5TH PLACE: "Ways to Protect the Environment and Improve the Quality of Life in my Community" BY ANNALISA BOOKER – American International Academy

NORTH REGION WINNERS

1ST PLACE: "Plastic Revolution: Reshaping Architecture and Construction" BY EMMA HUANG – Jefferson Middle School

2ND PLACE: "Medical Plastics: How Are They Used?" BY DAVID MCNUTT – Clare Middle School

3RD PLACE: "The Impact of Plastics" BY BRIANNA SMITH – Clare Middle School

4TH PLACE: "Myths About Plastics" BY ELISE RING – Clare Middle School

5TH PLACE: "Plastics: From World War II to the Kardashians – How We Got Here" BY WYATT HENNING – Freeland High School



TODD HOGAN
SPE DETROIT
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Pictured left:
Emma Huang, 1st Place
North Region with Todd Hogan

Pictured right:
Left to right:
3rd Place Brianna Smith,
4th Place Elise Ring,
and 2nd Place David McNutt



SOUTH REGION HIGH SCHOOL WINNING ESSAY

SYED JAMAL

Plastics: Upcycling into a Bright Future

As technology advances, the use of plastic increases too. Plastic is all around us; we use it in everyday items such as toothbrushes, cars, phones, and even clothing. However, as more plastic is being used, its reputation for ruining the environment increases. Why doesn't anyone see the benefits of reusing plastic? If we're meant to recycle items to give them new life, why doesn't the same sentiment apply to the tons of plastic piling up in landfills?

> Well, companies like Conceptos Plasticos and UNICEF found a way to turn plastic waste into homes and schools, creating a fundamental reason as to the benefits of plastic in our world.

Companies worldwide are trying to solve their countries' housing crisis. Meanwhile in Columbia, up to 650 tons of plastic are thrown out in Bogotá every day and 40% of the population in parts of Latin America, Africa, and Asia don't have formal housing. This is where Conceptos Plasticos steps in and tackles both problems. They collect discarded plastic, shred and compact it into Lego-like bricks which are then used to build a house. As Isabel Gamez, The CEO of Conceptos Plasticos, puts it, "The heart of Conceptos Plasticos is the passion we put on helping the environment, reach out to vulnerable communities, and do our best changing the world." Since then, the company has collected 3000 tons of plastic and transformed it into new homes. This initiative shows that a positive change in people's lives can be made by repurposing something as detrimental as plastic into having a new purpose. The company gave people the opportunity of living safely and not worry about the destruction of their homes. Instead, create a brighter future for places that lack housing and evolve into a community of living a sustainable life.

In addition to the housing crisis, the global issue of children's accessibility to schools and their dilapidated conditions is another concern. In Côte d'Ivoire, over 2 million children are out of school, and some students are forced learn in hazardous learning environments. This is where a company called UNICEF partners with Conceptos Plasticos to create schools and give children

the opportunity to learn in clean and safe conditions. The same method Conceptos Plasticos uses to create houses is the same method they use for the schools. Marie-Pierre Poirer, UNICEF's Regional Director for West and Central Africa, explains, "By innovating in construction approaches, through the recycling of plastic waste that pollutes the country, UNICEF can support the government to build quality schools in a very short time and at a very interesting cost," As a result, 8400 Ivorian boys and girls now have access to better quality-schools and education.

Although it is argued that plastics have a negative impact on the environment, companies such as Conceptos Plasticos and UNICEF saw the negative factors of plastic found a way to turn it into something positive. They identified an issue affecting people and turned it into a way of saving them.

While most people think there are no benefits of using scrapped plastic, these companies showed us that regardless of where the plastic is from, it can be used to change lives and generations to come.

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SOUTH REGION MIDDLE SCHOOL WINNING ESSAY

KAMORA TAYLOR

Wonders of Plastic: Sunrise of Plastics

It is important to protect the environment because we are all living things / organisms and we also need a clean ecosystem to survive.

As human beings, the environment we live in is important to sustain life and choose sustainability.

If we reduce, reuse, and recycle to cut down on what we throw away and pollute into the environment. The natural environment gives us a wealth of resources that are difficult to measure in dollars. Natural areas help clean our air, purify our water, produce food and medicines, reduce chemical and noise pollution, slow floodwaters, and cool streets. Pollution is caused by human activity such as industrialization and urbanization, which would continue to damage the environment and human health. The air and water pollution would lead to respiratory and heart disease, and toxic chemicals would contaminate soil and water, making them unfit for human consumption.

> Nearly 22 million pounds of plastic enter the Great Lakes every year.

The waste and pesticides from surrounding cities, sewers, and industrial plants. In my community, which would probably be Inkster Michigan, I would say that there is a lot of plastic waste in our community. I say this because most people don't know that the waste they put into our community backfires and creates more issues than we are already aware of. The most plastic waste I see is mostly in public parks or even around my neighborhood, sometimes even in people's yards. The leaders in my community are not doing an okay job of recycling or even cleaning up the waste in my community. I feel like we as people should go out and help recycle the things that are polluting our community. If we don't act now, then there could be worse consequences that could affect us in horrible ways.

Plastic pollution can cause a significant threat to the environment in a lot of ways. Every year, 19-23 million tons of plastic waste leak into aquatic ecosystems, polluting lakes, rivers, and seas. This pollution can cause habitats, reduce ecosystems' ability to adapt to climate change, and directly affect livelihoods and food production. Some people are also a problem for our environment by littering all over the world. We as citizens should take pride in our environment. If we do, then we can have a healthier lifestyle, and improved productivity of workers and their families. People with low incomes are more likely to live in polluted areas and have

unsafe drinking water. And children and pregnant women are at higher risk of health problems related to pollution. This is why we should take care of our environment and help out as much as we can to keep it safe and pollution-free. There is a lot of plastic in our landfill every year.

> There is approximately 85 percent of plastic that ends up in landfills or as unregulated water.

In my everyday life, I use plastic a lot, but in my household, we have two separate trash cans inside our home to recycle goods. In the morning, I wake up and use my toothbrush which is made out of plastic, when making a sandwich I use a plastic bag to seal my food so that it does not go to waste. I use plastic cutlery when I am helping make dinner with my parents. Sometimes I take my plastic cup with me to school for lunchtime, gym, or practice, also I sometimes like to switch out my phone cases which are made of plastics. My purpose in writing this essay is to try to give others a better understanding of why we should recycle in our community. We should keep the world safe from being polluted and keep plastic waste to a minimum to help protect our environment. After reading my essay I feel as if the reader could get a better understanding of why we should reduce, reuse, and recycle for a better environment.

The Science of Plastic is the recycling process of converting waste materials into new materials into new objects. It has environmental, economic, and social benefits. There are three types of recycling, mechanical, energy, and chemical. Recycling reduces the demand for raw materials and energy, helping to conserve resources and protect the environment. The defined term plastics is a synthetic or semi-synthetic material typically derived from petrochemicals or substances such as cellulose or starch. Plastic is a synthetic material made from a wide range of organic polymers such as polyethylene, PVC, nylon, etc., that can be molded into shape while soft and then set into a rigid or slightly elastic form.

Plastics are high molecular weight organic polymers composed of various elements such as carbon, hydrogen, oxygen, nitrogen, sulfur, and chlorine. They can also be produced from silicon atoms (known as silicone) along with carbon; a common example is silicone breast implants or silicone hydrogel for optical lenses. Some of the main ways that plastic is manufactured are plastics

that are made from natural materials such as cellulose, coal, natural gas, salt, and crude oil through a polymerization or polycondensation process. Plastics are derived from natural, organic materials such as cellulose, coal, natural gas, salt, and, of course, crude oil. Plastics are made from raw materials like natural gas, oil, or plants, which are refined into ethane and propane. Ethane and propane are then treated with heat in a process called “cracking” which turns them into ethylene and propylene. These materials are combined to create different polymers. Some of the well-known examples include LDPE, PE, Polyester, HDPE, PVC, LDE, PP, PS, PC, and more. Plastic isn’t as simple as you may think. Each plastic type is different from the others. Some are reusable, the others produce hazardous materials after plenty of uses.

The main types of plastics and their resin codes are Polyethylene Terephthalate (PETE or PET) - Resin Code, High-Density Polyethylene (HDPE) - Resin Code 2, Polyvinyl Chloride (PVC) - Resin Code 3, Low-Density Polyethylene (LDPE) - Resin Code 4, Polypropylene (PP) - Resin Code 5, and Polystyrene (PS) - Resin Code 6. The resin codes that I just listed are used to categorize different types of plastic for recycling purposes and are usually found on the bottom of plastic containers. Each code represents a specific type of plastic, and they are used to ensure consistency in plastic manufacturing and recycling processes. Some of the plastics that can be hard to reuse are Polyvinyl Chloride (PVC) - #3: PVC is difficult to recycle and often contains toxic substances, making it challenging to process, Low Density Polyethylene (LDPE) - #4: While LDPE can be recycled, it is less commonly accepted in municipal recycling programs, making it somewhat challenging to recycle, Polystyrene (PS) - #6: Polystyrene is not widely recycled and can be difficult to process, and it also contains toxic substances, Other/ Miscellaneous Plastics - #7: This category includes various types of plastics, and also some of which are extremely hard to recycle and may have toxic chemicals like bisphenol A (BPA). These plastics can be hard challenges to face for recycling due to their chemical composition, lack of recycling programs, and toxic substances.

Mechanical recycling of plastic waste is an environmental solution to the problem of waste plastic disposal and has already become a more common practice in industry. However, only a bit of information can be found on either

industrialized plastic recycling or recycled materials, despite the use of recycled plastics having already extended to automobile production. This study investigates the life cycle environmental impacts of the mechanical plastic recycling practice of a plastic recycling company in China. Waste plastics from various sources, such as agricultural wastes plastic product manufacturers, collected solid plastic wastes, and parts dismantled from waste electric and electronic equipment, are processed in three routes with products ending up in different markets. The results of life cycle assessments show that the extrusion process has the largest environmental impacts, followed by the use of fillers and additives. Compared to the production of virgin plastics and composites, mechanical recycling has proved to be a superior alternative in most environmental aspects. Substituting virgin plastic composites with recycled plastic composites has achieved the highest environmental benefits, as virgin composite production has an impact almost 4 times higher than that of recycled composite production in each recipe endpoint damage factor.

Now that we know what the importance of plastics is, let’s go over it is important to protect the environment because we are all living things/organisms and we also need a clean ecosystem to survive. There is a lot of plastic in our landfill every year. There is approximately 85 percent of plastic that ends up in landfills or as unregulated water. We should make sure to keep our planet safe and pollution-free. I’m very thankful for this opportunity.

If we reduce, reuse, and recycle to cut down on what we throw away and pollute into the environment.



My Resources:

Gu, Fu, et al. “From Waste Plastics to Industrial Raw Materials: A Life Cycle Assessment of Mechanical Plastic Recycling Practice Based on a Real-World Case Study.” *Science of the Total Environment*, vol. 601-602, 1 Dec. 2017, pp. 1192–1207, www.sciencedirect.com/science/article/abs/pii/S0048969717313980, <https://doi.org/10.1016/j.scitotenv.2017.05.278>. Accessed 6 Feb. 2024.

EuroPlas. “Chemicals Used in the Manufacture of Plastics.” EuroPlas, EuroPlas, 18 Jan. 2023, europlas.com.vn/en-US/chemicals-used-in-the-manufacture-of-plastics. Accessed 6 Feb. 2024.

NORTH REGION WINNING ESSAY

EMMA HUANG

Plastic Revolution: Reshaping Architecture and Construction

In the realm of architecture and construction, innovation is the cornerstone of progress. Throughout history, humanity has tirelessly pursued new materials, advancing from stone to bronze, iron, and beyond, in a relentless pursuit for better and stronger building materials.

> In the current era of architectural innovation, a new contender has stepped onto the stage, ready to revolutionize how we build and design – PLASTICS.

From insulation to structural components, glazing to piping, and even modular construction methods, plastics wield substantial influence in enhancing energy efficiency, durability, design flexibility, and environmental sustainability.

Plastics showcase impressive capabilities in insulation, particularly exemplified by expanded polystyrene (EPS) and extruded polystyrene (XPS). Crafted from recycled plastics, both materials are eco-friendly and offer effective thermal resistance properties. Despite its lighter weight, EPS provides substantial insulation, effectively curbing heat transfer and reducing energy consumption for heating and cooling systems. On the other hand, although heavier, XPS boasts greater durability and water resistance, ensuring long-term performance and comfort. Utilizing these materials yields a significant 59% reduction in carbon emissions compared to regular polystyrene, highlighting their sustainability in construction practices. (Green Insulation Group, 2023).

Furthermore, incorporating recycled polycarbonate and acrylic polymers into glazing and windows presents many advantages for building occupants and the environment. These materials not only facilitate ample natural light transmission but also provide superb insulation and impact resistance, lowering energy expenses and enhancing safety. Their exceptional strength surpasses standard glass, all while maintaining a lighter weight, making them ideal choices for architectural applications. Additionally, their high transparency, durability, and moldability enable diverse design possibilities, including adding color, further elevating their aesthetic appeal. Widely used in skylights, canopies, and window systems, these plastics offer easy installation and maintenance, alongside resistance to heat and UV light, ensuring long-lasting performance across various architectural environments.

Roofing applications benefit greatly from the utilization of polycarbonate panels and PVC (polyvinyl chloride) membranes derived from recycled materials. These innovative solutions provide unmatched resilience against adverse weather conditions and UV exposure, safeguarding buildings from environmental challenges while improving insulation and reducing energy costs. Their lightweight nature and simple installation process render them beneficial for a broad spectrum of construction projects, from residential homes to commercial construction projects. Moreover, their design flexibility facilitates versatile integration, accommodating various architectural styles. These roofing materials also excel in natural light diffusion, fostering well-lit and inviting interior spaces. Also, they exhibit remarkable durability, being resistant to bacteria, heat, fat, oil, fire, and chemicals, ensuring lasting quality and longevity for the structure.

Similarly, in structural engineering, fiber-reinforced polymers (FRPs) such as fiberglass and carbon fiber composites, made from recycled materials, emerge as indispensable solutions. These advanced materials exhibit exceptional strength-to-weight ratios, corrosion resistance, and superior structural performance, making them invaluable in beams and columns in buildings, bridges, and other structures. Their adoption accelerates construction timelines and diminishes environmental impact, consequently reducing carbon emissions. Furthermore, FRPs offer a multitude of benefits, including prolonged lifespan, non-conductivity (magnetically and electrically), low maintenance requirements, chemical and fire resistance, and ease of assembly. Their flexibility, thermal conductivity, energy efficiency, durability, strength, and lightweight nature further underscore their suitability for structural applications.

Cladding and facades are improved significantly by the use of aluminum composite panels (ACP) and fiber-reinforced plastic panels (FRP), both incorporating recycled materials. ACP combines aluminum with recycled plastic, while FRP is produced from carbon fiber-reinforced polymer (CFRP) and glass fiber-reinforced polymer (GFRP) waste. These materials offer unparalleled design versatility and durability while prioritizing fire safety and environmental sustainability. With their low initial cost and minimal gas emissions, ACP and FRP panels emerge as the preferred options for architectural applications. These plastics offer strength, corrosion resistance, chemical resilience, weatherproof

attributes, and low maintenance. Additionally, their wide array of available colors, finishes, and textures enable architects to achieve distinctive aesthetic effects while ensuring structural integrity and longevity.

Moreover, in piping and plumbing systems, utilizing recycled PVC and polyethylene offers numerous benefits. These materials not only provide corrosion resistance and ease of installation but also guarantee long-term reliability and contribute to the efficiency of water supply, sewage disposal, and heating systems in buildings. Additionally, their resistance to chemicals, lightweight nature, and reduced susceptibility to blockages enhance their functionality, while their positive environmental impact underscores their sustainability. Furthermore, PVC and polyethylene are nontoxic and offer flexibility, all at a relatively low cost, making them preferred choices for plumbing solutions.

The emergence of modular construction methods, driven by advancements in 3D printing technology, highlights the pivotal role of plastics in transforming construction processes. Through the production of building components using recycled plastic composites or biodegradable polymers in 3D printing, construction processes become more streamlined, costs are reduced, and waste generation is minimized. This approach accelerates construction, offers design flexibility, and encourages eco-friendly building practices. Moreover, the use of plastics ensures quality and precision in the manufacturing process, facilitating easy modifications in the future.

> Within the domain of green building materials, recycled plastic composites and biodegradable polymers play a crucial role in mitigating environmental impact, conserving natural resources, and minimizing carbon footprint.

Plastic lumber, derived from recycled plastics, serves as an exemplary illustration, finding applications in decking, fencing, and landscaping, further promoting sustainable building methods. Renowned for their strength, durability, and cost-effectiveness, these materials offer flexibility and versatility while boasting extended lifespans, cementing their importance as key elements in sustainable construction.

As technology continues to advance and environmental concerns take center stage, the use of plastics in architecture and construction is set to undergo further development. Embracing new materials and environmentally conscious approaches will be crucial in shaping a resilient and environmentally aware world for the generations to come. Plastics, with their inherent versatility and benefits, will undoubtedly continue to play a pivotal role in this transformative journey toward a more sustainable future.



References:

Acme Plastics - <https://www.acmeplastics.com/content/advantages-acrylic/>

Colony Roofers - <https://colonyroofers.com/learningcenter/pvc-roofing-membranes-guide>

Utilities One - <https://utilitiesone.com/harnessing-the-strength-of-carbon-fiber-in-construction>
<https://utilitiesone.com/3d-printing-for-modular-construction-enhancing-efficiency-and-flexibility>

Npj Materials Degradation - <https://doi.org/10.1038/s41529-022-00277-7>

Green Insulation Group - [Using Recycled Insulation Can Reduce Your Carbon Footprint](#)



CALL FOR ESSAYS & JUDGES FOR THE 29TH ANNUAL WONDERS OF PLASTICS

TODD HOGAN, NORTH CONTEST CHAIR; TOM MILLER, SOUTH CONTEST CHAIR

The Detroit Section of Society of Plastics Engineers (SPE) presents the 29th Annual “Wonders of Plastics” Essay Contest. Open to all middle/junior high and high school students, The contest is divided into North and South regions. The essay must meet the requirements outlined below. **The deadline is February 28, 2025!**

The essay contest was established to help bring awareness among students of all ages and to promote the positive aspects of plastics in our modern world.

TOPICS TO CONSIDER:

- > Advantages of Plastics in Food Packaging
- > Creative Use of Recycled Plastics
- > How Plastics Benefit Humankind
- > Myths about the Bad Reputation of Plastics
- > Plastics in the Environment
- > Plastics Usefulness in Society
- > What Plastics Have Done for Me
- > How Plastics Improve our Lifestyle

ESSAY CONTEST APPLICATION: <https://spedetroit.org/education/essay-contest-application/>

REQUIREMENTS FOR SUBMISSION:

Between 500 – 1,000 words. Essay to be written in English, title to appear as heading on each page; no name on any page except the entry form that must accompany each essay.

The organization structure of the essay should be “logical,” including the following considerations: Introduction, Development, Thesis and Conclusion.

MECHANICS: Spelling should be correct; syntax should be readable; punctuation should be conventional. Essay should be free of sentence fragments. Diction (word choice) should be appropriate to the subject and the writer’s understanding of the topic. Point of view should be appropriate to the topic/subject and remain constant and consistent. Footnotes and references must be included when necessary.

QUESTIONS OR MORE INFORMATION CONTACT:

Todd Hogan – North Contest Chair
tahogan@dow.com, (989) 636-5303

Tom Miller – South Contest Chair
millertl@comcast.net, (810) 986-6131



VOLUNTEERS NEEDED TO JUDGE THE 2025 SPE DETROIT WONDERS OF PLASTICS ESSAY CONTEST

We typically receive 50 - 100 essays (1,000 words maximum) each year which are divided between judges. You can plan to review between 10-20 essays before the top five essays are selected to receive awards ranging from \$50-\$500. Judging will occur between March 5 - 22 and shouldn’t take more than 4-5 hours to judge depending on the number of essays received. A rubric will be provided to help you with scoring the essays.

Please consider volunteering your time to support the contest this year!

If you’re interested in serving as a judge this, please contact Todd Hogan or Tom Miller.

Sustainability World Congress



Detroit

Sustainable Plastics for All

June 10-12, 2025
Huntington Place, Detroit, MI

Call for Presentation

DEADLINE FOR ABSTRACT March 31, 2025

DEADLINE FOR PRESENTATIONS April 30, 2025

Submit Abstract or Presentation to SWC@spedetroit.org

2025 SWC SESSIONS, TOPICS, AND LEADERS:

Sustainability for Bio-based Materials, Applications and Processing

Dr. Leonardo Simon, University of Waterloo;
Dr. Omar Faruk, Ford Motor Co.

Automotive Applications

Keith Siopes, SPE Detroit ;
Andrew Geda, Hyundai-Kia America
Al Chan, Retired Geon

Life Cycle Assessment (LCA)

Sue Kozora, IAC Group;
Gabi Bueno, IAC Group

From Linear to Circular Economy

Bernd Henkelmann, Radici Group

Recycling - Mechanical, Chemical and others

Chris Surbrook, Midland Compounding;
Bill Schreiber, Retired

Sustainability Regulation /Law and regulations relevant to Sustainable Products, Inventions and Business

Christopher G. Darrow, Darrow Mustafa PC

Sustainability Applications - Student Session

Amir Muhammad, Alex Graham and Paul Garrison, Ecotek Students;
Drue Keys & Kayla Young, Michigan State University Students

Contacts

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+1.989.335.0060
starahomi@gmail.com

CONFERENCE ADMINISTRATION

Karen Rodes-Parker
+1. 248.244.8993 ext. 3
Karen@spedetroit.com

<https://spedetroit.org/events/sustainability-world-congress/>



Detroit

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- 1/4 page ad in the SWC proceedings(\$500)
- 1/2 page ad in the SWC proceedings(\$1,000)
- 1 Page ad in the SWC proceedings(\$2,000)
- Back of front cover page of SWC proceedings(\$3,000)
- Back of rear cover page of SWC proceedings(\$2,500)
- Rear cover page of SWC proceedings(\$3,500)

CFP Rev5.0

Nov 15, 2024



DETROIT SPE SUPPORTS THE PLASTIVAN® PROGRAM IN MICHIGAN

The SPE Detroit Section supported **Positive Plastics Education™** for almost 5,000 middle and high school students in Michigan in 2024. As far north as Beaverton, as far south as Taylor, to the West in Jackson, and to the East in Clinton Township. PlastiVan® served 300 young children and their families at a hands-on learning fair; 30 Kettering University engineering students; middle school science classrooms and high school chemistry classrooms. The program delivered expanded PlastiVan® curriculum covering material science and manufacturing to students at the William D. Ford Career-Technical Center.

With the continued support of the SPE Detroit Section and the dedication of its volunteers, tens of thousands of students, teachers, and their families have learned about the benefits of plastics to our modern lifestyles and the career opportunities available to them.

Thank you!

POSITIVE PLASTIC EDUCATION HEROES

SPE DETROIT CELEBRATED AS OVERALL TOP DONOR

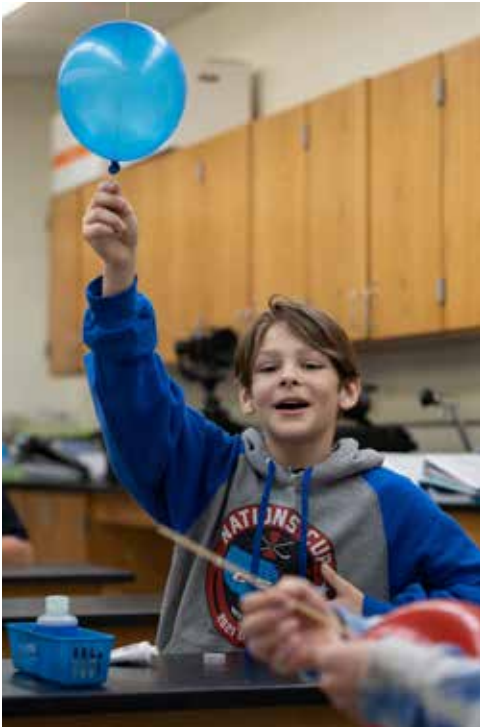
SPE Detroit, where it all began 82 years ago, has donated more than \$675,000 to the SPE Foundation, giving them the honor of being our most dedicated and generous supporter. They have earned the Visionary Level in our Ambassador Giving Society, and we are proud to partner with them in this important work.



In 2023, the SPE Detroit Section continued to support the work of the Foundation with an impressive gift of \$75,000 for the PlastiVan® Program in Michigan. They have also endowed four scholarships over the years and were the major funder of our PlastiVideo™ Program which helped us to continue serving students with Positive Plastics Education™ during the pandemic.

The Detroit community possesses untapped potential for future plastics professionals. Together, we are bridging the gap and extending our industry's exciting work and opportunities to thousands of individuals. We couldn't do it without Detroit SPE!







SPE CEO THANKS THE SPE DETROIT SECTION FOR CONTINUING SUPPORT OF PLASTIVAN®

July 3, 2024

Rob and Sandra,

Thank you!!! I heard about your new commitment to the SPE Foundation. Your generous support of PlastiVan is simply amazing!!!

The work of the Foundation is truly impactful. Every program, every event, positively impacts another student in ways beyond which we could ever measure.

I am so grateful for your leadership and continued financial investment in the Foundation programs. On behalf of the SPE Board of Directors, please convey our sincere appreciation to the entire SPE Detroit Section team.

Let me know if I may be of service.

Pat

Patrick Farrey
CEO



Visit the main Society of Plastics Engineers' website for up-to-date information on training, seminars, and other career-enhancing information.



BECOME A MEMBER TODAY
<http://www.4spe.org/membership/>

2024 ENGINEERING SOCIETY OF DETROIT'S FUTURE CITIES COMPETITION

BOB PETRACH, SPE DETROIT SECTION SECRETARY



The Engineering Society of Detroit hosted the **Michigan Future Cities Competition** Tuesday January 23, 2024. Due to the inclement weather, seven of the twenty-eight schools that had prepared for months could not attend. Many judges were also absent including our SPE Detroit judges. That made judging a bit more challenging.

I was blessed with sitting down to breakfast at a table with three civil engineers from NCEES - who are surveyors and professional environmental engineers. Since it is really good to have five or six people split up and "triage" the schools and narrow focus for team judging they asked if I'd be interested in collaborating with them. I gave them each a copy of our judging sheet and a little of what I was looking for and they gave me their rating sheet for the "Best Land Surveying Practices" award. We divided up the schools, three of us took five schools and one of them took six schools, and prescreened schools for each other. We met back at our table after an hour with recommendations on which schools to focus on. The three of them recommended one school each to me and I had only one school to recommend to them.

They reported an almost complete lack of any plastics knowledge as well as little understanding of materials and manufacturing. I also found that the competitors had almost no knowledge or understanding of surveying and the actual layout to build a city. So, we are not alone in our educational/awareness problems.

For the **Incorporation of Plastics Materials Award** sponsored by SPE Detroit, I chose the team from **Joseph K Lumsden Bahweting Anishnabe Academy, Sault Sainte Marie - NeoOrleans Team**. I also listed a second and third choice to allow the ESD judges to balance special recognition awards in case one team was taking many and other teams were shut out.

But I was pleased to see they stuck to my pick and even more pleased when the NeoOrleans Team won the Michigan Future Cities Competition and went to Washington D.C. February 16-19 during Engineers week to represent the region.

This is the second straight year that a team from Joseph K Lumsden Bahweting Anishnabe Academy, Sault Sainte Marie has won the Michigan Regional award ahead of St. John Lutheran School in Rochester which had won five years in a row (and fifteen of the last twenty-one years) until dethroned by Joseph K Lumsden Bahweting Anishnabe Academy. St. John Lutheran School in Rochester has also won the national competition twice in the past.

Mark late January on your calendar to judge at the 2025 Michigan Regional Future Cities Competition.

Bob



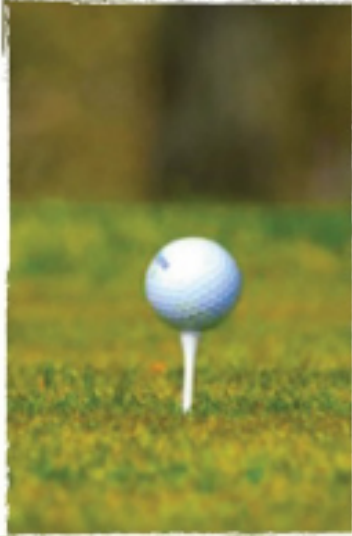
Dear SPE Detroit Section,

Thank you so much for being a sponsor for the **Michigan Future City Competition** and for coming out to judge on Tuesday, January 23, 2024. Here are some photos below, from the competition. More can be found on our Flickr account, which you may download for free. <https://www.flickr.com/photos/engineeringsociety/albums/72177720314323134>

Incorporation of Plastic Materials Award
Society of Plastics Engineers Detroit Section

Joseph K Lumsden Bahweting Anishnabe Academy, Sault Sainte Marie - NeoOrleans Team

2025



SPE DETROIT

Annual Golf Outing



Pine Trace Golf Club

3600 Pine Trace Blvd., Rochester Hills, MI

When: 2025 Date to be Announced

Time: 11:00am - Shot Gun Start!

Format: Four person scramble, best ball.

Cost: \$160/person, \$700/Foursome includes Hole Sponsor, Optional Hole Sponsor Only \$150.

Includes: 18 Holes & Cart, Grilled Lunch, & Dinner (Buffet Style), Contests, Prizes, 50/50, and auction!

Reserve Your Spot: Contact: Karen Rhodes-Parker
Email: karen@spedetroit.com Phone:
248-244-8993 ext. 3.
www.spedetroit.org

2024 SPE DETROIT GOLF OUTING RECAP

The 2024 SPE Detroit Golf Outing was a success!
A special thanks to the committee members:
Dawn Cooper, Karen Rhodes-Parker, Tom Miller
and **Scott Nakon**.

The 2024 event sponsors were:
SPE Automotive Division was the lunch sponsor.
Other sponsors were: **Entec Polymers, TeknorApex,**
BA Polymers, BASF, RCO Engineering, McDunnough,
Chem-Materials, Spartan Polymers, Midwest Resins,
RPS Tools & Engineering, Techno-UNG MRC
Polymers, Radici Group and **SR Injection Molding**.

**WE HOPE TO SEE EVERYONE
AGAIN NEXT YEAR!**



**1ST PLACE: Dave Okonski, Phil Benedict,
John VanNoord and Chasen Massey**



**2ND PLACE: Eric Parrell, Jim Clements,
Kevin Bingham and Jason Newman**

THE 2024 SPE DETROIT TOY DONATION WAS A HUGE SUCCESS!

The Detroit Section teamed up with the **Engineering Society of Detroit (ESD)** and provided new toys for kids of all ages at two local agencies that support children without parents, the **Methodist Children's Home Society (Redford, MI)** and

the **Ennis Center for Children (Port Huron, MI)**. Most of the toys - ranging from play vehicles, playsets, plush animals, and sports equipment were manufactured from **100% recycled plastic**.

A special thanks to the committee members:

Robert Petrach,
Neil Fuenmayor and
Karen Rhodes-Parker





AUTOMOTIVE COMPOSITES CONFERENCE & EXHIBITION

Novi, MI • September 3-5, 2025
Presented by SPE Automotive and Composites Divisions

WORLD'S LEADING AUTOMOTIVE COMPOSITES FORUM

25th

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PRESENT YOUR TECHNOLOGIES that are advancing the industry at the **25th Anniversary ACCE 2025**. Topics include: Composites in Electric Vehicles; Advances in Thermoplastic Composites; Advances in Thermoset Composites; Additive Manufacturing & 3D Printing; Enabling Technologies; Sustainable Composites; Bonding, Joining & Finishing; Carbon Composites & Reinforcements; AI (Artificial Intelligence), ML (Machine Learning) and Data-Driven Solutions; and Design, Modeling and Simulation of Composites. Those interested in presenting are encouraged to send Titles and/or Topics to intuitgroup@gmail.com. **ABSTRACTS** are due **April 26, 2025** and **FINAL PAPERS AND/OR PRESENTATIONS** are due **June 28, 2025**.

SPONSORSHIP & EXHIBIT OPTIONS offer companies the opportunity to support the event and promote their products and services to a very targeted and interested OEM audience. Contact Teri at intuitgroup@gmail.com or **248.701.8003** and see our website <https://speautomotive.com/acce-conference/> for more information.

THANK YOU TO OUR 2024 ACCE EVENT SPONSORS:

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2025 PLANNED EVENTS

For more information please contact Karen Rhodes-Parker at 248-244-8993 ext.3 or karen(at)spedetroit.com

DATE	EVENT	LOCATION
February 17, 2025	SPE Detroit Section Board Meeting	ACC/Virtual, Troy, MI, 5:30-7:30pm
March 17, 2025	SPE Detroit Section Board Meeting	ACC/Virtual, Troy, MI, 5:30-7:30pm
April 21, 2025	SPE Detroit Section Board Meeting	ACC/Virtual, Troy, MI, 5:30-7:30pm
May 19, 2025	SPE Detroit Section Board Meeting	ACC/Virtual, Troy, MI, 5:30-7:30pm
June 10-12, 2025	Sustainability World Conference (SWC)	Huntington Place, Detroit, MI
June 23, 2025	SPE Detroit Section Board Meeting	ACC/Virtual, Troy, MI, 5:30-7:30pm
September 15, 2025	SPE Detroit Section Board Meeting	ACC/Virtual, Troy, MI, 5:30-7:30pm
Sept 29-Oct 1, 2025	SPE TPO Global Automotive Conference (TPO)	Metro Detroit area, MI
October 20, 2025	SPE Detroit Section Board Meeting	ACC/Virtual, Troy, MI, 5:30-7:30pm
November 17, 2025	SPE Detroit Section Board Meeting	ACC/Virtual, Troy, MI, 5:30-7:30pm
December 8, 2025	SPE Detroit Section Board Meeting	ACC/Virtual, Troy, MI, 5:30-7:30pm

2025 SPE CHAPTER & SPE HQ PLANNED EVENTS

In the spirit of collaboration to promote the good work of SPE chapters and SPE HQ we will be listing events and conferences which may be of interest to our members and friends.

DATE	EVENT	LOCATION
Mar 3-6, 2025	ANTEC® 2025	Sheraton Philadelphia Downtown Philadelphia, PA
April 8-10, 2025	SPE Thermoplastics Elastomers Conference	Hilton Garden Inn, Akron OH
April 15-16, 2025	SPE Automotive Plastics in Electric & Autonomous Vehicles Conference (EAV)	Detroit Marriott Troy Troy, MI
April 28-30, 2025	TopCon 2025 Rotational Molding: Solving Complex Problems with Sustainable Solutions	Doubletree Pittsburgh Downtown Pittsburgh, PA
May 6-8, 2025	SPE FlexPackCon® 2025	Rochester, NY
May 13-14, 2025	SPE Thermoset TOPCON 2025	Monona Terrace and Convention Center Madison, WI
Sept 3-5, 2025	SPE Automotive Composites Conference and Exposition (ACCE)	Suburban Showplace Diamond Center Novi, MI
Nov 5, 2025	SPE Automotive Innovation Awards Gala and Competition (IAG)	Laurel Manor Livonia, MI

Some SPE Chapter newsletters which may be of interest:

[SPE Automotive Fall 2024 Newsletter](#)

[SPE Composites Winter 2025 Newsletter](#)



DETROIT SECTION
 SOCIETY OF PLASTICS ENGINEERS, INC.
 5750 New King Dr, Suite 120
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Nominations/Elections	OPEN			
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Public Interest	Dawn Cooper	Dynamic Polymer Solutions	248.390.2499	dcooper1010(at)gmail.com
Scholarships	Tom Miller	Celanese	810.986.6131	millertl(at)comcast.net
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The SPE Detroit Section – “Where It All Began!”

The Detroit Section (#001) is the birthplace of the Society of Plastics Engineers. Fred Conley, our Section’s first president was also the 1942 SPE President. We’re proud to be the charter chapter of this global organization. In 2013 we merged with the Mid-Michigan Section and we serve 63 of Michigan’s 83 counties and 600+ members.

The Detroit Section is proud of its 21 Fellows of the Society, 37 Honored Service Members and its five distinguished members: Fred Conley, 1942 SPE President; Henry Wojtaszek, 1979 SPE President; Greg R. Thom, 1986 SPE President; Dr. Brian G. Landes, 2019 SPE President; Irv E. Poston - one of only six Distinguished Members who were not President of the Society.

The Detroit Section’s Mission is to be active in educating, promoting, recognizing, and communicating technical accomplishments for all phases of plastics and plastic based-composite developments – particularly in the automotive industry.

Detroit SPE works tirelessly to deliver successful programs, gaining funds for our educational initiatives. In the last 20 years our contribution to plastics education has grown well over \$1,000,000.

SPE® TPO Global Automotive Engineered Polyolefins Conference The SPE® TPO Global Automotive Engineered Polyolefins Conference began in 1999 and has become the world’s leading automotive polyolefins forum, drawing 900 attendees from 20 countries on four continents. The conference provides the latest innovative developments in polyolefin materials, processes, and application technologies, as well as a growing range of TPEs and TPVs.

AutoEPCON First held in 2006, the Automotive Engineering Plastics Conference features technical presentations on the newest advances in materials technology, predictive engineering, process enhancements, and application developments for thermoplastic and thermoset engineering plastics for the automotive industry and includes plenary and keynote addresses from industry leaders.



SPE Detroit Section Scholarships To support the future of plastics, the Section consistently awards \$30,000-\$60,000+ in annual scholarships to local students. Our named scholarships range from \$4000 to \$6000: the Future Leaders Scholarship, the Women to Watch Scholarship, the Professor Reginald Bell Scholarship, and the Delta Polymers Scholarship.

SPE Foundation Scholarships The Detroit Section has funded four SPE Foundation Scholarships honoring Norm Kakarala, Thomas E. Powers, Robert G. Dailey, and Irv Poston

PlastiVan® SPE Detroit has consistently been the largest sponsor of PlastiVan® giving over \$500,000 to the program, and in 2020 contributing \$60K to the PlastiVideo™ program, earning co-branding rights to help change the perception of plastics one classroom at a time.

“Wonders of Plastic” Essay Contest With the Mid-Michigan Section merger, the SPE Detroit essay contest has grown to include northern and southern divisions. Middle and high school students compete for cash prizes by writing an essay on a plastics subject of their choice.

Christmas Toy Program The initial collaboration with American Plastic Toys, Inc. to manufacture toys for Toys for Tots led to a significant milestone in 2016 when after 18 years the 1,000,000th Toy was presented to a 3-year-old girl.

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