



# FOUNDATION

## IMPACT REPORT 2021



Jonathan Bryant and Victoria Hatchett  
Ecotek Lab Students, Detroit  
Recipients of Arkema Junior Research Awards

YOUR WORK MATTERS



Support the Future of Plastics

## LETTER FROM DAVID KUSUMA, PhD, SPE FOUNDATION CHAIR

To our SPE community and friends:

Our resilience through the pandemic has proven to be powerful as we continue to move our current and future programs forward in this ever-changing environment. The vision of the SPE Foundation Board, with support from our committee members and the SPE Executive Board, gives us great direction and capacity to accomplish our mission, which today is more important than ever.

Over the last 3 years we worked with SoundWaters in CT on their “One Million Bottle Caps” project with junior high school students from Stamford Public Schools, resulting in an amazing collaboration with the World Design Organization, Van Dyk Recycling Solutions, Penn State Behrend, Accudyn, Ampacet, Ultra-Poly Corporation, and Braskem. This project taught students the value of environmental sustainability and encouraged them to develop a new product using recycled materials.

We also kicked off our Diversity Educational Initiatives (DEI), in partnership with Ecotek Lab (and supported by PlastiVan®/PlastiVideo™), to inspire young students to become leaders through after-school SPE STEM Clubs and a junior researchers program.

I’m excited at what our Foundation can accomplish in 2022 and feel great about our programs. Because we have an excellent team and many dedicated volunteers, the Foundation is well positioned to continue our important work even while the pandemic persists. We are especially grateful for the generosity of our SPE chapters, industry sponsors, and individual donors, who support our mission and the SPE Foundation community! A strong people-oriented culture inspires engagement and high performance because students will excel when they enjoy what they’re doing, when programs are meaningful, and when they feel supported.

With your continued involvement and support, we will make 2022 a truly great year for the SPE Foundation!

David Kusuma  
Chair, SPE Foundation

## 2021 SPE FOUNDATION BOARD MEMBERS



**EVE VITALE**  
*SPE Foundation,  
Chief Executive*



**PATRICK FARREY**  
*SPE, CEO*



**DAVID KUSUMA, PhD**  
*SPE Foundation,  
Chair*



**JAIME GOMEZ, PhD**  
*SPE Foundation,  
Vice Chair*



**DOREEN BECKER**



**RAJ KRISHNASWAMY,  
PhD**



**BRIAN LANDES, PhD**



**LYNZIE NEBEL**



**LAURA SHEREDA, PhD**



**MAUREEN STEINWALL,  
PhD**



**KEISHA WALTERS,  
PhD**



**JEREMY  
DWORSHAK**



**MATTHEW  
HARTHCOCK, PhD**



## LETTER FROM DR. JASON LYONS, SPE PRESIDENT



It's hard to believe that 2021 is already in our rearview mirror. It would be an understatement and oversimplification to say that the past 2 years have been a challenge. We've been forced to redefine how we conduct business and serve our stakeholders. 2021 also presented each of us with a rare opportunity to define what is truly valuable and important and SPE was no exception. The SPE Foundation spent the year supporting workforce development through scholarships, grants, PlastiVan, and by crafting and delivering plastics STEM educational opportunities for diverse populations. Besides corporate partners, SPE Chapters were key contributors to those efforts. You are the backbone of our Society and the true embodiment of knowledge dissemination and generosity.

**Thank you for your continued support – your work matters.**

## MISSION

The SPE Foundation supports the development of plastics professionals by funding quality educational programs, grants, and scholarships emphasizing science, engineering, sustainability, and manufacturing while working to create inclusive opportunities for students around the world.

# #GIVINGTUESDAY

## LOVE YOUR PLASTICS!

Thanks to the generosity of our Giving Tuesday donors, the SPE Foundation can show plastics the love it deserves by bringing weekly plastics education to 200 students this academic year through SPE After-School STEM Clubs! These clubs engage students in curiosity-based investigation into the world of polymers, plastics, and career opportunities, giving them layered outlets to share their learnings – an essay contest, a polymer science fair, peer-to-peer education and presentations, meetings with industry professionals, field trips, and more.



**\$25,526**  
total raised by

**52**  
donors

**Thank you to our dedicated donors whose support helped us exceed our goal, making 2021 our most successful Giving Tuesday yet.**

Chris Allen	Robert Guy	Jason McNulty	Kathy Schacht
Margaret Baumann	Patrick Harris	Daniel McWilliams	Saurav Sengupta
Doreen Becker	Matthew and Patricia Harthcock	Bruce Mulholland	Series One LLC
Tyler Bowen	Jennifer Hoffman	Lynzie Nebel	Laura Shereda
Nathaniel Brown	Greg Kerslake	Catherine Nestrick	Solutions by Harthcock Associates
Conor Carlin	Robert Kinsman	Raymond Pearson	SPE Automotive Division
Michael Donovan	David and Lynda Kusuma	Plastics Industry Association members	Azaz Vahora
George Duncan	Brian and Susie Landes	Plastics Pioneers Association	Eve Vitale
Jeremy Dworshak	Keith Luker	Katrina Rachmat	Keisha Walters
Elizabeth Egan	Jason Lyons	Erin Richards	Sue Wojnicki
Pat and Sharon Farrey	Mark MacLean-Blevins	Mark Richardson	Mark Wolverton
Kenneth Forziati	Michael Magaletta	John and Sherrika Sanders	Deb Zaengle
Ignacio Gonzalez-Ferreira	Albert McGovern		Katie Zahrt
Bernhard Groth			



# AFTER-SCHOOL SPE STEM CLUBS

The weekly and monthly SPE STEM clubs inform students about the plastics industry while building science skillsets, offering research opportunities, networking, and peer-to-peer and professional mentoring. We help students envision a successful science or engineering educational pathway and invite them to join our industry.

At the American International Academy in Inkster, MI, 7th and 8th grade SPE STEM Club participants held a Polymer Science event to teach their peers what they were learning. Twenty students worked at several tables demonstrating the cool tricks of polymer science and 3D printing. At first, they were nervous, but as we all know, teaching is one of the best ways to learn. By the end of the day, they had become “experts” by fielding questions, producing clearer explanations, and sharing their grasp of scientific and engineering principles. It was inspiring to watch. This equal access to STEM educational experiences will help these students lay claim to their abilities and if they so desire, become plastics professionals. We are privileged to partner with the families, schools, and community leaders so we can witness this flourishing of young minds and spirits.

The SPE Automotive Division and Plastics Pioneers Association each gave \$5,000 in matching funds to support our Giving Tuesday campaign. Their dedicated support helped us double our donor’s impact. Thank you, SPE Automotive and Plastics Pioneers Association!

“

“The SPE Automotive Division is very happy to support such a great initiative! We’re excited to work with the students to help them understand the opportunities in plastics engineering in the automotive industry.” - *Chuck Jarrett, The Materials Group, SPE Automotive Division Education Chair*

## SPONSORS:



**AUTOMOTIVE**



SINCE 1948  
**Plastics Pioneers Association**

### **SPE Automotive Division**

University Prep Science and Math High School – Detroit MI

### **Plastics Pioneers Association**

Detroit Edison Public School Academy

### **Giving Tuesday Donors**

Faxon Academy, American International Academy, BOK North



# ARKEMA JUNIOR RESEARCHERS AT

**ECOTEK**  
Science at Work!

This competitive program is a collaboration between Arkema, the SPE Foundation, and Ecotek Science at Work! Labs and awards \$500 research stipends to students in 8th through 12th grade who are doing applied research or investigation in polymer science or plastics engineering. The award requires budget reporting, submission of a research paper, and presentation of outcomes at an SPE conference or regional science fair.

## 2021 Arkema Junior Researchers

**Jonathan Bryant**, 11th grade, Renaissance High School, Designing and 3D Printing Universal Charging Adapters for Electric Vehicles

**Haley Christian**, 8th grade, Detroit Edison Public School Academy, Bioprinting Biobased Scaffolds for Use in Cell Culturing

**Victoria Hatchett**, 12th grade, Detroit Edison College of Excellence, Collection and Analysis of Microplastics in the Great Lakes

**Omaree Ishmail**, 11th grade, Davis Aerospace Technical High School, Application of Additive Manufacturing in the Design and Production of Lightweight Metal Components Used in Cessna 172 Skyhawk

**Drue Keys**, 11th grade, Renaissance High School, Application of Additive Manufacturing in the Design and Production of Lightweight Plastic Chassis Components Used in Autonomous Vehicles

**Joshua Miller**, 11th grade, University Prep Science and Math High School, Recycling Toys and Athletic Equipment

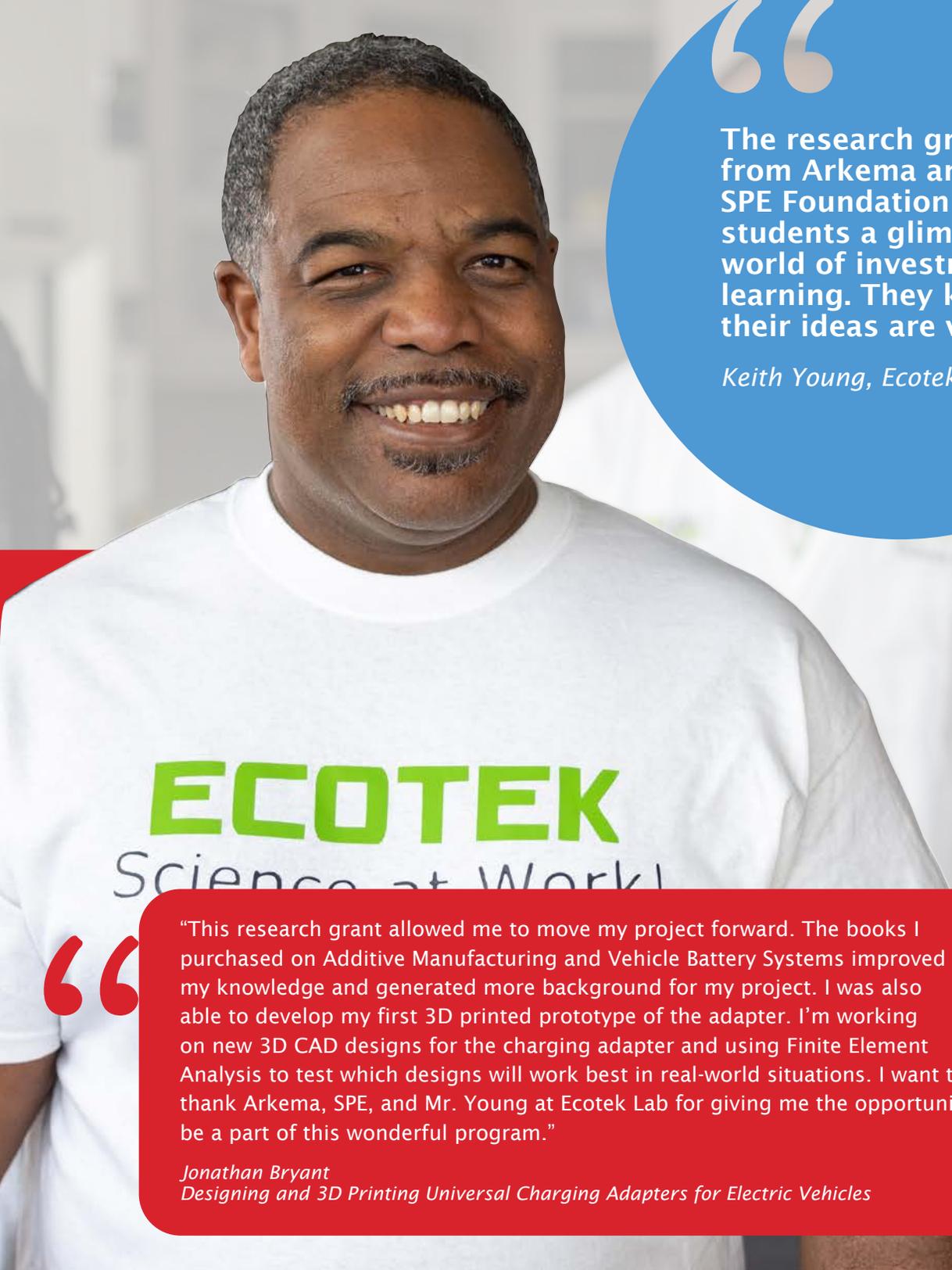


“I’m grateful to Arkema and the SPE Foundation for providing me with the resources to push my research further. I’ve purchased more books, expanding and solidifying my knowledge. I’ve also purchased more technology which has drastically changed the flow of the project. I was able to upgrade the GPS devices to track the buoy, making it easier to map its location and recapture it when needed.

*Victoria Hatchett  
Collection and Analysis of Microplastics in the Great Lakes*

“Arkema is proud to partner with SPE on their DEI Workforce Initiative to help advance diversity and inclusion opportunities and build the leaders of tomorrow in the world of plastics and specialty materials. The global demand for new, innovative, and sustainable materials is growing, creating many opportunities for students of all ages and backgrounds. Through SPE’s DEI efforts, Arkema and other companies are helping more students advance their STEM education.”

*Sandra Auffray, Arkema  
SVP, HR & Communications*



“

The research grant support from Arkema and the SPE Foundation provides students a glimpse into the world of investment-driven learning. They know that their ideas are valued.

*Keith Young, Ecotek Labs, CEO*



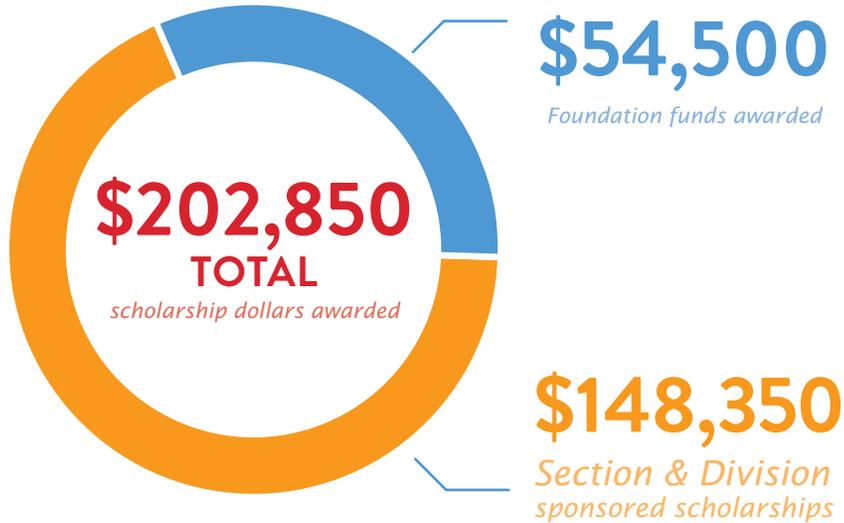
“

“This research grant allowed me to move my project forward. The books I purchased on Additive Manufacturing and Vehicle Battery Systems improved my knowledge and generated more background for my project. I was also able to develop my first 3D printed prototype of the adapter. I’m working on new 3D CAD designs for the charging adapter and using Finite Element Analysis to test which designs will work best in real-world situations. I want to thank Arkema, SPE, and Mr. Young at Ecotek Lab for giving me the opportunity to be a part of this wonderful program.”

*Jonathan Bryant  
Designing and 3D Printing Universal Charging Adapters for Electric Vehicles*

# SPE SCHOLARSHIPS

The SPE Foundation offers numerous scholarships each year to talented undergraduate and graduate students seeking careers in the plastics industry.



**51** SCHOLARSHIP RECIPIENTS *AT*  
**31** UNIVERSITIES

**\$22,690**  
ANNUAL COST OF ATTENDANCE  
at a public four-year in-state institution  
*\*according to Statista.com*



## THANK YOU TO ALL OUR SPE CHAPTERS AND OTHER ORGANIZATIONS THAT AWARDED SCHOLARSHIPS THROUGH THE SPE FOUNDATION IN 2021

TOGETHER, THEIR  
SUPPORT TOTALED

**\$148,350**

*in scholarship dollars*



- Arkema
- Automotive Division
- Blow Molding Division
- Cleveland Section
- Composites Division
- Crain Communications
- Detroit Section
- Extrusion Division
- Flexible Packaging Division
- Injection Molding Division
- Pittsburgh Section
- Polymer Modifier and Additives Division
- Product Design and Development Division
- Plastics Pioneers Association (PPA)
- Thermoforming Division
- Thermoplastic Elastomers Technical Interest Group
- Thermoplastic Materials and Foams Division
- Vinyl Plastics Division
- Western Plastics Pioneers (WPP)

FOR A FULL LISTING OF OUR SCHOLARSHIPS,  
PLEASE VISIT [WWW.4SPE.ORG/SCHOLARSHIPS](http://WWW.4SPE.ORG/SCHOLARSHIPS)



“ Thank you for making the most incredible difference in my life! Your scholarships allowed me to participate in thermoplastic and thermoset recycling research, and to mentor and provide instructional support to peers. Your contributions facilitated my engagement in a student outreach opportunity that prepares pre-major students for the transition into Western Washington University’s Plastics and Composites Engineering Major.

*Juliana Covarrubias is a Western Washington University senior majoring in Plastics and Composites Engineering and minoring in Material Science. In 2021, she received the Extrusion Division Russell Gould Scholarship, the WPP Scholarship, and the PPA Ruth Neward Scholarship. She is completing her thesis on processes and applications for the carbon fibers generated during composites recycling.*

“Juliana is a two-time winner of the Extrusion Division Scholarship and is everything SPE is looking for as we head toward the future! Juliana is smart, appreciative, ambitious, active in SPE, and our industry. We want to thank Juliana for her dedication to our Society and welcome her to the family. SPE’s doors are always open to you.”

*Paul Martin, Extrusion Division Scholarship Chair*

*Sai Aditya Pradeep is a Clemson University Ph.D. candidate studying Automotive Engineering with a Material and Manufacturing specialization. He has interned in the panel processing and optics group at Apple, Inc., working on their touch sensor team. He is very involved with SPE and is defending his thesis focusing on TPO foams.*

“ I was thrilled to be selected as the recipient of the prestigious Salvatore J. Monte Thermoplastic Materials & Foams Division Scholarship. This scholarship is one of the most prestigious awards in my field and extremely relevant to my Ph.D. research. This support has lightened my financial burden and allowed me to focus on my research. I hope one day I’ll be able to help SPE student members achieve their goals just as you have helped me.



# JUNE GIVING DAY

Because SPE Foundation Scholarship funds are limited, many worthy applicants go unrecognized. To increase awareness in 2021, we launched a one-day campaign on June 8th to make a larger impact for future plastics professionals.

## Thank you to our generous June Giving Day donors!

Accede Mold & Tool	Wolfgang Meyer
Maggie Baumann	Bruce Mulholland
Bekum America Corporation	Lynzie Nebel
Nathaniel Brown	Robert Render
Stephen Carr	Mark Richardson
Brenda Clark	Series One LLC
Pat & Sharon Farrey	Maureen Steinwall
Costas Gogos	Noel Tessier
Joy Johnson	Eve Vitale
Raj Krishnaswamy	Keisha Walters
David Kusuma	Tim & Barb Womer
Edwin Laird	Katie Zahrt
Jason Lyons	Shudong Zhou
Albert McGovern	



TOGETHER, 27 INDIVIDUALS AND BUSINESSES DONATED \$10,275 THAT WAS AWARDED DIRECTLY TO FOUR ADDITIONAL SPE FOUNDATION SCHOLARS.

*Zachary Newman is a junior at the University of Alabama at Birmingham majoring in Materials Science and Engineering. He is currently collecting data on rPET panels and looks forward to presenting his research at a conference.*

Thank you for choosing me to be the recipient of the generous \$2,500 SPE Foundation General Scholarship. I'm truly humbled and honored for this opportunity. I have submitted many different scholarship applications, but finally being selected makes me feel like all my hard work is paying off. Your award has lifted the financial burden for this upcoming school year and allows me to focus on study and research hours. I hope I can give back to the engineering community just as you have given to me.



If you are interested in supporting scholarships for future plastics professionals, email [foundation@4spe.org](mailto:foundation@4spe.org) or visit [give.4spe.org](http://give.4spe.org).

# DR. JACKIE REHKOPF ENDOWED SCHOLARSHIP

To create a legacy that honors Dr. Jackie Rehkopf's brilliance and devotion to the advancement of material science the SPE Automotive and Composites Divisions are working toward a \$100,000 endowment to fund an annual \$5,000 scholarship for a full-time graduate student whose research focuses on ground transportation composite technology.



I met Dr. Rehkopf at Ford Motor Company Research and often approached her for help with carbon fiber composites and fatigue testing. She was an impressive subject-matter expert and had a wonderful ability to listen. I considered her a dear friend. She helped advance innovations with the development, testing, and analysis of carbon fiber composites. Her contributions to the automotive industry are well documented.

*Glen Smith, Research Engineer, Ford Motor Company*

*Sara Andrea Simon is a PhD candidate at the Polymer Engineering Center (PEC), University of Wisconsin-Madison. Her research interests focus on the characterization and process simulation of discontinuous fiber composites.*

I am honored to receive the SPE Automotive & Composites Division Dr. Jackie Rehkopf Scholarship. ACCE has provided a great opportunity to establish professional connections. I strongly believe a fulfilling career requires both passion for your work and collaboration with the next generation of engineers. Thank you again for your generous support.

*Each year, many SPE chapters award scholarships named after friends and colleagues from the plastics industry. If you are interested in creating a scholarship to honor your friend or colleague and assist our future plastics professionals, contact us at [foundation@4spe.org](mailto:foundation@4spe.org).*





changing the perception of plastics one classroom at a time

Sponsored in part by Braskem

PlastiVan had to roll with the flow of the continuing COVID challenges in 2021. Fortunately, our PlastiVideo resources helped us to visit classrooms serving up multiple days of positive plastics education and we were able to get into the classroom during the lulls in the pandemic.



**110**  
TOTAL  
VISITS

**12,250 STUDENTS**  
impacted by PlastiVan & PlastiVideo

Dakar, Senegal,  
Africa

Thank you to our generous 2021 PlastiVan and PlastiVideo sponsors:

- |   |                                    |
|---|------------------------------------|
| Bekum America Corporation               | SPE Akron Section                  |
| Braskem                                 | SPE Automotive Section             |
| Chicago SPE Educational Foundation      | SPE Blow Molding Division          |
| Colortech                               | SPE Chicago Section                |
| Chevron Phillips Chemical               | SPE Color and Appearance Division  |
| Davis-Standard                          | SPE Composites Division            |
| iD Additives                            | SPE Detroit Section                |
| John Deere                              | SPE Milwaukee Education Foundation |
| LB Worldwide                            | SPE Palisades-Mid Atlantic Section |
| Plastics Industry Association           | SPE Thermoforming Division         |
| Plastics Pioneers Association           |                                    |
| SPE Additives and Color Europe Division |                                    |

## COMING SOON!!

Thank you to the SPE Color and Appearance and the Additives and Color Europe Divisions for their support of our newest PlastiVideo, *The Color of Plastics*.





Thanks to the generous sponsorship of the SPE Color and Appearance Division, Evan Morton, SPE Foundation programs and sustainability coordinator, spent virtual time with 7th grade students at the International School of Dakar in Senegal in 2021. He worked with students on impacts of ocean debris and practical solutions, utilizing PlastiVideos as a learning tool and answering questions. Students' learning included:

- Plastics are ubiquitous and important to our modern lifestyles
- What are thermoplastics and how they are mechanically recycled
- How the plastics industry is combatting marine debris through projects and innovation
- What they can do to help in their own communities
- Careers in the plastics and polymer industry

Students worked in project groups and gave their final presentations to their classmates, Mr. Morton, and Eve Vitale, SPE Foundation Executive. As an example, one 7th grade student used plastic bag pollution in the ocean as an opportunity for community beach clean-up.

Thank you



**PlastiVan Educators work to foster a positive perception of plastics so students can envision creative futures and become local leaders with a newfound understanding and passion for sustainability projects.**

*Evan Morton  
SPE Foundation, Programs and  
Sustainability Coordinator*



# SPE CHAPTERS GIVE GENEROUSLY

Numerous SPE Sections, Divisions, and Technical Interest Groups support plastics education with generous scholarships and grants each year, assisting hundreds of students pursuing an education beneficial to the plastics industry.

Look at the impact your work has made for our future plastics professionals. These Chapters awarded their own scholarships or grants in 2021.

Akron Section

ASEAN Section

Australia-New Zealand  
Section

Automotive Division

Blow Molding Division

Central Indiana Section

Chicago Section

Cleveland Section

Color and Appearance  
Division

Composites Division

Connecticut Section

Detroit Section

Extrusion Division

Flexible Packaging Division

Golden Gate Section

Injection Molding Division

Milwaukee Section

Northwestern Pennsylvania  
Section

Oklahoma Section

Palisades-MidAtlantic  
Section

Piedmont Coastal Section

Pittsburgh Section

Polymer Modifiers and  
Additives Division

Quebec Section

Rotational Molding Division

South Texas Section

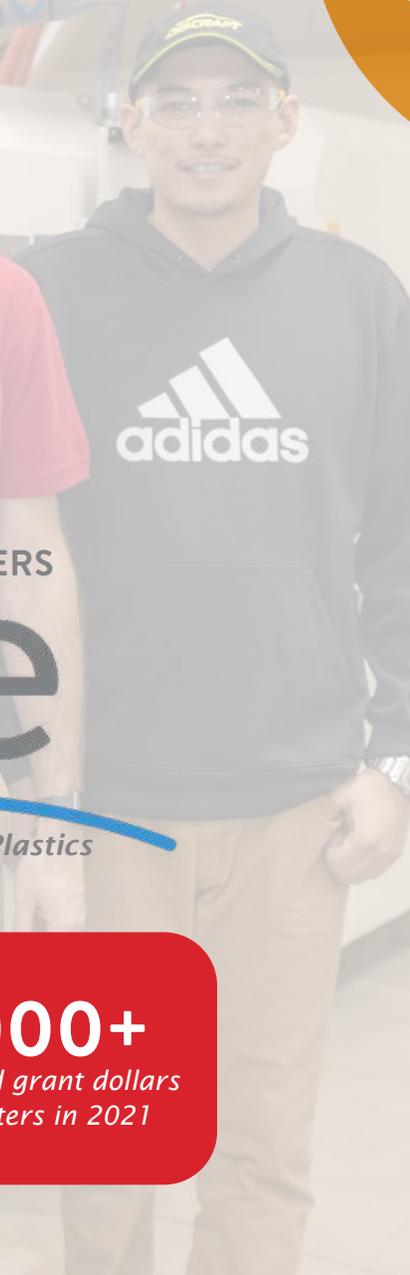
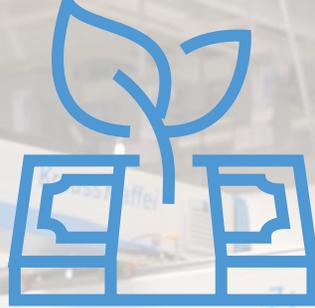
Thermoforming Division

Thermoplastic Elastomers  
Technical Interest Group

Thermoplastic Materials and  
Foams Division

Tri-State Section

Vinyl Plastics Division



YOUR WORK MATTERS

**spwe**  
*Support the Future of Plastics*



**\$390,000+**  
*total scholarship and grant dollars  
given by SPE Chapters in 2021*

# YOUR WORK MATTERS



**\$202,850**

*in scholarships awarded to*



**51**

*students at*



**31**

*universities*



**\$88,000**

*total grant dollars awarded*



**\$34,367**

*raised from SPE membership renewal donations*



**\$499,000**

*generously given to support the work of the SPE Foundation*

**52** *donors gave more than*

**\$25,500**

*for After-School SPE STEM Clubs on Giving Tuesday*

**27** *donors gave*

**\$10,275**

*for scholarships on June Giving Day*

*PlastiVan® and PlastiVideo™ served over*

**12,250 students**

*on 2 continents, 2 countries, 15 states, 51 cities*



**THANK YOU FOR SUPPORTING  
AND INSPIRING FUTURE PLASTICS  
PROFESSIONALS**

For more information on how you can support positive plastics education and workforce development, contact us at [foundation@4spe.org](mailto:foundation@4spe.org).

# YOUR WORK MATTERS



## HELP A STUDENT

Donate to the general scholarship fund to support high achieving students seeking a plastics education.



## SPONSOR A VISIT

Expose young students to the wonders of plastics by sponsoring a PlastiVan or PlastiVideo visit.



## BECOME A DONOR

Pay forward your success in the plastics industry by becoming a monthly donor. Gifts large and small support the next generation of plastics professionals.



## BUILD A LEGACY

Include the SPE Foundation in your trust or will as a meaningful way to help us continue to promote plastics education and support workforce development.



## PUT PLASTICS IN THE CLASSROOM

Help us fulfill requests for 3D printers in junior, middle, and high schools by supporting our grants program.



## START A MEMORIAL

Remember and recognize someone influential to you or your career by creating a memorial fund to support PlastiVan or a scholarship.



## NAME A SCHOLARSHIP

Honor a colleague, friend, professor, or someone important to you by creating an endowed scholarship. These funds provide vital financial support to students seeking a plastics education.



## SUPPORT WORKFORCE DEVELOPMENT

Gifts to the SPE Foundation directly impact the next generation of plastics professionals. Your work matters, and your support helps us inspire young students to carry it forward.



## MAKE A DIFFERENCE

Support underrepresented and under-resourced students with plastics STEM education by partnering with us on SPE STEM Clubs.

FOR MORE INFORMATION, CONTACT US AT [FOUNDATION@4SPE.ORG](mailto:FOUNDATION@4SPE.ORG)