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Volume 58 ▼ Number 6

DETROIT SECTION - SOCIETY OF PLASTICS ENGINEERS - "THE CHARTER CHAPTER"

April 2014

**SPE**

# TRENDS & TOPICS



# Agenda

- 7:30 AM **Registration & Continental Breakfast**
- 8:15 AM **Welcome:** Dr. Gary Kogowski, Ravago Holdings Americas / Entec Polymers, Conference Chair
- 8:30 AM **Opening remarks:** Kathy Minnich, Ford Motor Company, Conference Executive Chair
- 8:45 AM **State of the Industry & The Opportunity of New Technology Paradigms**  
Eric Fedewa, Director, Global Component Forecasts and Analysis, I H S Automotive
- 9:15 AM Sandra McClelland, Chevron Phillips Chemical Co., Technical Chair

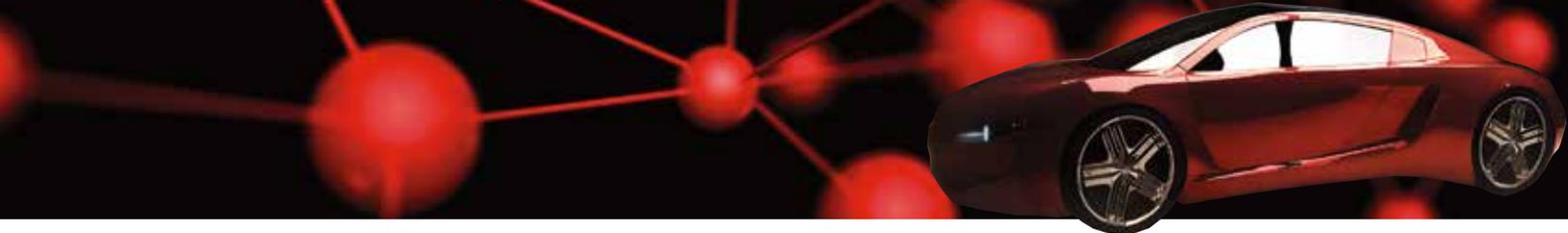
	Auditorium	Amphitheatre 101	Amphitheatre 102
	<b>I. Materials</b> Aubrey Flint Michigan State University	<b>II. Lighting and Laser Marking</b> Paul Woodson Kettering University	<b>III. Automotive Roadmap and Material Advances</b> Kyle J. Flint Saginaw Valley University
9:25 AM	<b>High Temperature Flexible PPS Products for Harsh Environments</b> Kent Miller, Ph.D Product Developer, Celanese	<b>Advances in Lasermarkable Engineering Resins</b> Bruce Mulholland, Global Color Technology Manager, Celanese	<b>Plastics and Polymer Composites Technology Roadmap for Automotive Markets</b> Matthew Marks - Chairman American Chemistry Council, Plastics Division, Automotive Group
9:55 AM	<b>Advances in Automotive powertrain development and its impact on polymeric material selection</b> Vikram Gopal, global technical and marketing director INVISTA Engineering Polymer	<b>Metal replacement with specialty thermoplastic solutions in heat sensitive automotive applications</b> Christopher Kimmet, Transportation Industry Specialist, PolyOne Specialty Engineered Materials North America	<b>Software for Creating and Managing Material Specifications</b> Hubert Lobo, President, DatapointLabs and Matereality, Ithaca, NY

10:25 AM Break (SPONSORED BY Entec Polymers)

10:55 AM	<b>PPS Keeps Taking the Heat</b> Mike Greer, Product Development Rep., Chevron Phillips Chemical Co.	<b>Innovative Material Solutions for LED Lighting Applications in Automotive</b> Jim Keeler, Business Development Manager, Albis Plastics Corporation	<b>Lightweighting of Styrenic Materials for Automotive Applications</b> Owen McGarel, Application Development Engineer, Styrolution America
11:25 AM	<b>Assessing Thermoplastic Performance Using the ARO (Absolute Real Operating) Principle</b> Russell Bloomfield, Sr. Application Development Engineer, DSM Engineering Plastics	<b>Newly Improved PCT Compound for LED Reflector Resin</b> Bing Lu, Senior Scientist, Celanese	<b>Advances in Colorability &amp; Weathering Resistance of COPE (Copolymer elastomer)</b> Bruce Mulholland, Global Color Technology Manager, Celanese

11:55 AM **Evolutionary vs Revolutionary Innovation in Materials**  
 Dr. Ashish K. Kulkarni, Celanese Corporation, Chief Technology & Innovation Officer  
 Chief Technology & Innovation Officer

12:25 PM **Lunch** (SPONSORED BY Celanese)



**1:15 PM Automotive Lightweighting – now more than ever**

Dr. Bob R. Powell, General Motors Corporation, Technical Fellow and Lab Group Manager, Battery Systems Group

	Auditorium	Amphitheatre 101	Amphitheatre 102
	<b>IV. Materials</b> Kelsey Luibrand University of Michigan	<b>V. Advanced Material Applications</b> Paul Woodson Kettering University	<b>VI. BioBased and Recycled Resin</b> Maheen Khan U Mass Amherst
1:50 PM	<b>Glass Fiber Reinforced Polyoxymethylene with Improved Mechanical Properties</b> Juan P. Toro Americas Platform Manager POM, Celanese	<b>Material Innovations for eMobility Applications</b> Mike Scarpatti, e-mobility Industry Manager, BASF Corporation	<b>High Performance BioBased Engineering Polymers in Automotive</b> Rick Bell – Development Manager, DuPont Performance Polymers
2:20 PM	<b>Benefits of using ZeMac® Copolymers in Nylon and Engineering Plastics for Automotive Applications</b> Dr. Ashok M. Adur, Commercial Development Director, Plastics , Vertellus Specialites, Inc.	<b>Lightweight Stanyl® PA46 Stator Concept for the Transmission Torque Converter</b> Peter Schmiegl / Sr. Application Development Engineer, DSM Engineering Plastics	<b>Bioplastics and Biocomposites for Automotive</b> Mihaela Mihai, Automotive & Surface Transportation, National Research Council of Canada

2:50 PM Break (SPONSORED BY Entec Polymers)

**3:20 PM Polymeric Materials for Automotive Applications: Past, Present & Future**

Ankil Shah, General Manager, Materials Engineering Department 1, Toyota Engineering & Manufacturing North America

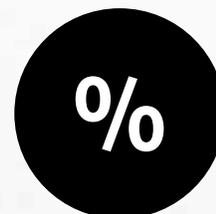
3:50 PM	<b>New Polyphenylene Sulfide Compounds</b> Ke Feng, Technologist, Celanese	<b>Evolution of Heat Exchangers and Their Use of Plastics in Automotive</b> Paul Wheeler, Plastics Technology Leader, Ascend Performance Materials	<b>The Resurgence of Cellulose Acetate as a Bioplastic</b> Naresh Budhavaram Advanced Engineer, Cellulose Derivatives, Celanese
4:20 PM	<b>Nylon based materials that compete with higher heat resins</b> Bryan Fox, Business Development. Radici Plastics USA, Inc.		<b>EcoLoy™ from Wellman Engineering Resins Introducing A New Family of Lightweight Polymer Alloys</b> Dr. Deen Chundury, Wellman

4:50 PM **Networking Reception: Sponsored by SPE Detroit Section & Automotive Division**

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# President's Message

Pete Grelle, President



As I wrap up my term as president of the SPE Detroit Section, it's time to reflect back on the journey the SPE Detroit Section Board has taken this past year and they have accomplished. Our team has built up a lot of momentum that will continue for the coming years. Here is a review of what this great team has achieved this past year.

## **Councilor**

Sandra McClelland did an excellent job this past year of representing the SPE Detroit Section at the SPE International Council Meetings and addressing issues pertaining to SPE policies and issues. She will continue to represent us through the 2014-2015 year.

This past year, Jon Ratzlaff, SPE International president, and Wim DeVos, SPE International CEO, attended two of our Board meetings in Detroit. Both Jon and Wim were very impressed by the activities the SPE Detroit Section.

## **Technical Conferences**

This past year was another great year for Technical Conferences sponsored by the SPE Detroit Section.

Last April 30th, the 8th Annual SPE AutoEPCON was held at the Michigan State University (MSU) Management Education Center. A record number of nearly three hundred (300) people attended this conference to hear the latest in engineering thermoplastics for automotive applications. This conference, chaired by Gary Kogowski and Sandra McClelland, will be held again this year on Tuesday May 6th again at the MSU Management Education Center in Troy, MI.

Last June 18th, the Turner Alfrey Visiting Professor Program became part of the SPE Detroit Section event schedule and was held at the Michigan Molecular Institute (MMI) in Midland, MI. This seminar was a great success. This event invites speakers from around the world to present the latest, most up to date information in a particular polymer expertise area. The guest speaker for the 2013 event was Kenneth

Schull of Northwestern University. Chairpersons Steve Keinath and Adrian Merrington have scheduled this year's event at MMI from June 9-12th. Professor Axel Mueller of Johannes Gutenberg University, Mainz, Germany is the guest speaker. His topic is "Complex Polymer and Hybrid Architectures".

From October 7th-9th, the fifteenth (15th) Annual SPE Automotive TPO Global Conference, chaired by Bill Windscheif with a team of thirty-five (35) volunteer committee members, was held at the Marriott Hotel in Troy, MI. The conference attracted a record number of more than seven hundred (700) attendees, seventy-two (72) papers, and more than fifty (50) exhibitors. Planning is underway for the 2014 TPO Conference which will be held from October 5th through 8th at the Marriott in Troy, MI.

## **Technical Programs**

Sassan Tarahomi once again organized several highly successful Technical Meetings and Plant Tours over the past year. Attendance for these meetings showed a big increase from the previous year.

On September 16th, the Kick-Off meeting was held at Schoolcraft College, Livonia, MI. where the guest speaker was Dr. Robert Leadley, Dean of Occupational Programs and Economic Development at Schoolcraft College. The topic that evening was "The New Plastic Technology Program at Schoolcraft." Approximately seventy (70) people attended this Kick-Off Meeting.

Over the next few months, Technical Plant Tours were held in the Detroit and Mid-Michigan areas. On October 21st, a tour was conducted at Reliable Analysis in Madison Heights, MI. On February 21st, ACI, a processor, compounder, and recycler of engineering thermoplastics located in Flint, MI., was the site of an exciting plant tour with more than forty (40) attendees present. About ten (10) days later, on March 1st, a second tour was scheduled in the Flint, MI. area, this time at Kettering University. The thirty-five (35) attendees took part in a tour of the plastics facilities and listened to several Kettering students

present their projects in plastics. The final tour of the 2013-2014 year will be held on Monday May 5th at Solid Concepts Inc., in Troy, MI. The topic that evening is "Rapid Prototyping Plastics."

## **Membership**

This past year, the SPE Detroit Section and SPE Mid-Michigan Sections merged increasing the geographic area from Detroit to the Upper Peninsula to Lansing. As a result, the membership of the Detroit Section increased substantially.

As Membership Chairperson, Marc Bahm continued his work on increasing the membership of the SPE and the Detroit Section with table top exhibits at several area events.

## **Education**

This past year, an increased emphasis was placed on education by the SPE Detroit Section Board of Directors. Education Co-Chairpersons Sandra McClelland and Jim Keeler lead a great effort which resulted in a number of accomplishments;

- Contact was made with a number of universities and colleges to develop new student sections. This past year, Michigan State University and Kettering University established Student Sections within the SPE Detroit Section, joining Ferris State University. More SPE Student Sections are currently in development.
- New programs to increase participation between the SPE Detroit Section and Student Sections were initiated such as the Newsletter Contest.
- The establishment of a number of SPE Detroit Section Board members as Student Chapter Representatives to various colleges and universities.

This past year, the SPE Detroit Section Scholarship Committee, headed by Tom Miller, awarded \$27,400 in scholarships to fifteen (15) students pursuing careers in the plastics industry.

The Detroit Section continued support of the SPE Plastivan Program, headed by Tom Miller and Todd Hogan. Approximately twenty-four (24) schools were visited within the Detroit and Mid-Michigan areas. A lot of positive feedback was received by schools visited by Plastivan.

Both Tom and Todd also led the Annual Detroit Section Essay contest. Submissions were divided into geographic regions: the North Detroit Section (north of Flint) and the South Detroit Section (SE Michigan). A record thirty-eight (38) essays, from both geographic areas, were submitted to the Essay Contest. This year's awards went to

- North Section- Samantha DuLong of Freeland High School.
- South Section- Steven Trajkovski of South Lyon High School.

A new plastics technology program was started this past year at Schoolcraft College in Livonia, MI. Armando Sardanpoli and Sassan Tarahomi developed this new program. The first class was held in May, 2013 with additional classes held in September, 2013 and January, 2014. This program has grown from fourteen (14) students to thirty (30) students in less than a year.

Another education program supported by the SPE Detroit Section this past year included the ESD Future Cities Program held in Novi, MI. on January 27th. Wayne Hertlein, Sassan Tarahomi, and Patricia Ewald participated as judges for this event. This year's SPE Detroit Section Special Award for the "Incorporation of Plastics Materials" was presented to Trinity Lutheran School, Team 1 from Utica, MI.

## **Material Auction**

The SPE Detroit Section Material Auction was held at a different time this year, on March 28th, at the MGM Grand Hotel & Casino. Co-Chairpersons Chris Surbrook and Dawn Cooper headed a seven (7) person committee for this very successful event. More than four -hundred thousand (400,000) pounds of material was auctioned off that evening. The proceeds from this event are used for education and scholarship opportunities for students pursuing a career in the plastics industry.

## **SPE Golf Outing**

On June 18th, the SPE Golf Outing returned to the SPE Detroit Section schedule for first time in many years. Nippani Rao was the chairperson for this event. This event held at Greystone Country Club in Macomb, MI. was well attended. This event will be held once again on Tuesday June 24th at Bay Pointe Golf Club in West Bloomfield, MI. Mark this date on your calendar.

More news on this exciting event will follow over the next few weeks.

### **Community Programs- SPE Toys for Kids Program**

In December, the SPE Detroit Section, along with support from Chevron Phillips Chemical Company, American Plastic Toys of Walled Lake, MI., Maple Press of Madison Heights, MI., and E.L. Hollingsworth of Plymouth, MI. donated time and materials to produce thirty thousand (30,000) toy Plastivans to Detroit area kids. Since this program began in 2000, more than three-hundred thousand (300,000) toys have been donated. Chairperson Dawn Cooper organized and coordinated this effort which continues a sixteen (16) year tradition by the SPE Detroit Section of continuing support to the local community.

### **Newsletter**

The Detroit Section continues to keep all its members well informed and “in the loop” by both written and electronic communications. Gary Kogowski did a great job this past year by coordinating the development and organization of our award winning newsletter.

Bob Petrach continues to lead our advertising efforts. This past year showed an increase in advertising to our newsletter. This effort benefits section members and provides them a chance to promote their companies, businesses, and services throughout the Detroit, Mid-Michigan and Upper Michigan areas.

### **SPE Detroit Section Website**

Marc Bahm, Webmaster of the Detroit Section, is currently developing a new and updated website for the SPE Detroit Section and is in the process of launch. This new website will provide easier and more user friendly access for our members to conference registrations, newsletters, and other information on Detroit Section news and events.

### **E-Communications**

Irv Poston continued his great work and effort on electronic communications, such as E-Blasts and News Briefs. Working with Irv, Adrian Merrington established new tools such as Linked-In and Facebook to reach our membership through social media. The efforts made in communications resulted in the SPE Detroit Section once again receiving the 2014 SPE Communications Award. This award will be presented on April 27th at the 2014 SPE ANTEC in Las Vegas, NV.

### **Awards & Recognitions**

Finally, a number of SPE Detroit Section Board Members have been recognized for their valuable contributions to the Detroit Section and SPE.

The SPE Detroit Section is the recipient of the 2014 SPE International Gold Level Pinnacle Award which recognizes Sections & Divisions that work to create and deliver member value in four categories of achievement. These categories include organization, technical programming, membership, and communication. This award will be presented on April 27th at the 2014 SPE ANTEC in Las Vegas.

Both Jim Keeler and Todd Hogan were the recipients of the SPE Detroit Section Outstanding Member Award which recognizes many years of contributions to the SPE Detroit Section.

Tom Miller is a recipient of the prestigious SPE Honored Service Award, which recognizes years of contributions to SPE International. This will be presented to Tom at the 2014 SPE ANTEC later in Las Vegas this month.

Both Irv Poston and Sassan Tarahomi are recipients of the prestigious SPE Fellow of the Society Award, which recognizes major contributions to the plastics industry. These awards will also be presented to both at the 2014 SPE ANTEC in Las Vegas later this month.

Over this last year, the SPE Detroit Section has accomplished a great deal and has built a lot of momentum going into the future. If you wish to join this great team and are interested in providing suggestions on how we can grow our section, we invite you to attend one of our Board meetings. The next meeting is scheduled for Monday May 12th at ACC Headquarters in Troy, MI.

As I mentioned earlier in this message, this president's message is my last. Over the past year, I enjoyed and been blessed to have lead a great team of people in the SPE Detroit Section Board of Directors and an outstanding section. I would like to thank the members of the SPE Detroit Section Board of Directors for all their support, guidance, dedication, and passion for all the hard work over this past year. Lastly, I would like to thank the members of the Detroit Section who attended and supported many of our activities. I wish you all the best for the future. It has been a great journey.



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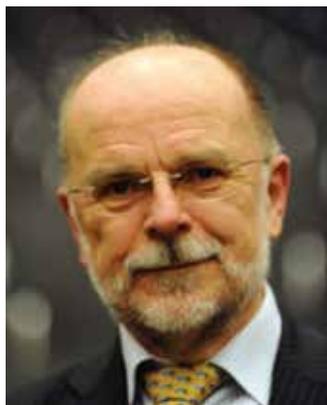
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# 2014 Turner Alfrey Visiting Professor Information

## Steve Keinath – Michigan Molecular Institute

### MMI Announces 2014 TAVP Program and Visit Dates

Steve Keinath, TAVP Program Coordinator



The Michigan Molecular Institute (MMI) is pleased to announce that Professor Axel H. E. Mueller from Johannes Gutenberg University, Mainz, Germany will be the 2014 Turner Alfrey Visiting Professor (TAVP). The full details for the 2014 TAVP course, *Complex Polymer and*

*Hybrid Architectures* (pre-registration required no later than one week in advance, June 2nd), and for the joint technical society dinner meeting, *A Zoo and Garden of Nanoparticles: Tales of Worms, Caterpillars, Bamboo, and Clover* (RSVP deadline one week in advance, June 11th), is available at <http://www.mmi.org/about-us/turner-alfrey-visiting-professorship/>.

Professor Mueller's former (University of Bayreuth) website (<http://www.chemie.uni-bayreuth.de/mcii/?lang=en>) will also give you a more thorough view of the breadth and depth of his current R&D activities and interests.

Professor Mueller will be in residence at MMI from Monday, June 9, through Wednesday, June 18. The first week (June 9–13) will be the week in which he will give a series of five afternoon course lectures (3:00–6:00 PM, each day), plus make quick visits to a couple of the TAVP program sponsors, and participate in an opening reception at MMI, and a joint technical society dinner meeting (June 11, 6:30 PM). The second week (June 16–18) will be dedicated to full-day site visits to additional TAVP program sponsors. Please mark your calendars with the 2014 TAVP visit dates now, and sign up early for the course lectures and for the dinner meeting.

Contact Steve Keinath, TAVP Program Coordinator, at [keinath@mmi.org](mailto:keinath@mmi.org) or 989-832-5555 x 588 for any questions.

### Course 1041: COMPLEX POLYMER AND HYBRID ARCHITECTURES, June 9-13

#### Lecturer

Professor Axel H. E. Mueller, Professor and Fellow of the Gutenberg Research College, Institute of Organic Chemistry, Johannes Gutenberg University, Mainz, Germany

#### Location

Lecture Hall, Michigan Molecular Institute, 1910 West St. Andrews Road, Midland, MI 48640

#### Date and Time

Formal lectures: Monday-Friday, June 9–13, 2014, 3:00–6:00 PM

#### Course Fee

There is no fee for auditors if they belong to organizations that are financial sponsors of the Turner Alfrey Visiting Professor program: The Dow Chemical Company, Dow Corning Corporation, Central Michigan University, Michigan State University, Saginaw Valley State University, Detroit Section of the SPE, and Midland Section of the ACS. For all others, a course fee of \$400 will be required at registration. All participants, however, must pre-register.

#### Registration

Pre-registration is required no less than one week in advance with the Registrar by visiting <http://www.mmi.org/about-us/turner-alfrey-visiting-professorship/>, e-mailing [registrar@mmi.org](mailto:registrar@mmi.org), or by calling (989) 832-5555.

#### Course Description:

The series of lectures in this course deals with the synthesis, properties, and applications of various complex polymer and hybrid structures. The first and shorter part will cover the general techniques of living/controlled polymerizations with a focus on anionic and radical polymerizations. The second and longer part will

show how we can use “macromolecular engineering” to synthesize complex architectures, including block copolymers, and polymers with non-linear topologies, e.g., stars, brushes, or hyperbranched polymers. Finally, we will show how these polymers can be converted into organic or organic-inorganic nanoparticles. All examples will be complemented by the properties and applications of these structures. Applications cover a large number of fields, e.g., dispersants, thermoplastic elastomers, adhesives, nanoporous and stimuli-responsive membranes, bottom-up nanolithography, drug and gene delivery, plastic electronics, medical implants, catalysts, etc.

### **Lecture Topics Outline:**

#### ***Introduction***

Definition of polymer architecture: Topology, placement of comonomer and functional groups, molecular weight distribution, microstructure

Relevant literature

#### ***Mechanisms of Living/Controlled Polymerizations***

Basics of living/controlled polymerizations

Anionic and group transfer polymerization

Cationic polymerization

Ring-opening polymerization (anionic, cationic, ROMP)

Controlled/living radical polymerization

Similarities and differences of mechanisms

#### ***Selected Architectures: Synthetic Strategies, Properties, and Applications***

Polymers with functional end groups, macrocyclic polymers

Random, gradient, and block copolymers

- Synthesis
- Self-assembly in bulk: Morphologies
- Self-assembly in solution: Micelles and vesicles
- Applications

Branched polymers

- Star-shaped polymers
- Comb-shaped polymers and graft copolymers
- Planar, spherical, and cylindrical polymer brushes
- Hyperbranched polymers

Organic nanoparticles

- Core-shell particles
- Multicompartment micelles
- Janus particles

Organic-inorganic hybrid structures

- Inorganic nanoparticles within polymer brushes
- Sol-gel reactions to convert organic material into inorganic material
- Polymers grafted from inorganic nanoparticles

### **Joint Technical Society Dinner Meeting, June 11**

#### **A Zoo and Garden of Nanoparticles: Tales of Worms, Caterpillars, Bamboo, and Clover**

Professor Axel H. E. Mueller, Professor and Fellow of the Gutenberg Research College, Institute of Organic Chemistry, Johannes Gutenberg University, Mainz, Germany

#### **Abstract**

This lecture will cover the synthesis, properties, and applications of a number of nanoparticles, both soft (organic) and hybrid (organic-inorganic). These nanoparticles resemble natural objects and are made either from molecular brushes or by self-assembly of block copolymers. They have a large number of interesting properties, such as stabilizers for emulsion polymerization, compatibilizers for polymer blends, or transport vehicles for multiple different types of payloads, such as drugs, DNA, or fluorescent dyes.

#### **Date**

Wednesday, June 11, 2014

#### **Time**

Social 6:30 p.m. • Dinner 7:00 p.m. • Program 8:00 p.m.

#### **Location**

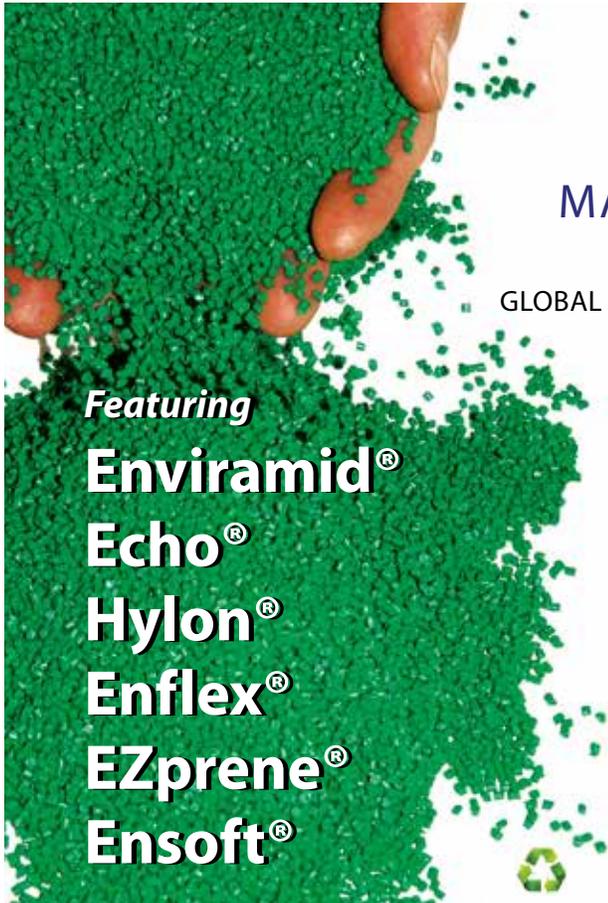
NADA Center, Northwood University, 4000 Whiting Drive, Midland, MI 48640, Phone: (989) 837-4277

#### **Cost**

\$25 for SPE and ACS members (or members of other professional societies such as AIChE, ASM, etc.) and guests, \$15 for students. Note: Individuals who make reservations for the dinner meeting and do not attend will be charged the same as if they had attended the meeting.

#### **Reservations**

Reservations can be made via phone, fax, or e-mail to Molly Warren-Haycock at MMI. Reservations must be received no later than Wednesday, June 4, 2014. Phone: (989) 832-5555, ext. 554, Fax: (989) 832-5560, or E-mail: [warren-haycock@mmi.org](mailto:warren-haycock@mmi.org)



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*Coming Events*

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# Great Time at the 20th Annual Material Auction

Chris Surbrook

A great time was had for all those who attended this year's Detroit Section SPE Materials Auction. It was held on Friday, March 28th, at the Detroit MGM Grand Casino. It was a wonderful night of food and friends with entertainment provided by Patrick the Magician. The event started at 4:30 with cocktails and hors d'oeuvres, followed by a delicious dinner at 6:00, and the auction starting at 7:00. Thirty-three people turned out to have fun (*and maybe find a good deal*).

It was also a very successful auction, with a record setting amount of donated materials. This



Everyone enjoying dinner and conversation at the MGM Grand Casino for the 20<sup>th</sup> Annual Materials Auction

year bidders had 120 items totaling over 400,000 pounds of material to bid on. Going into the auction we had bids for 101 of the 119 items available for pre-bidding. At the auction, there were 8 bidders present, buying up all but 10 of the items. McDunnough, Inc. was the lucky winner of the only non-plastic item, Opening Day tickets for the Detroit Tigers donated by JM Polymers. The total amount invoiced to all bidders is \$84,593.96, and there was another \$1,090 raised with admission and 50/50 sales. We will report the final contribution to the Education Fund once all the accounts are settled up.



Pete Grelle presents Greg Thebo of Alloy Exchange with the 2013 Top Bidder

Pete Grelle, current President of the Detroit Section, passed out awards for the 2013 Top Donors and Top Bidders. Jerry Cook and Greg Thebo were present for Alloy Exchange to accept the award for 2013 Top Bidder. The award for 2013 Top Donor was won by Sabic Innovative Plastics. Dawn Cooper and Chris Surbrook, co-Chaired this year's event, and were very pleased how well it all turned out.

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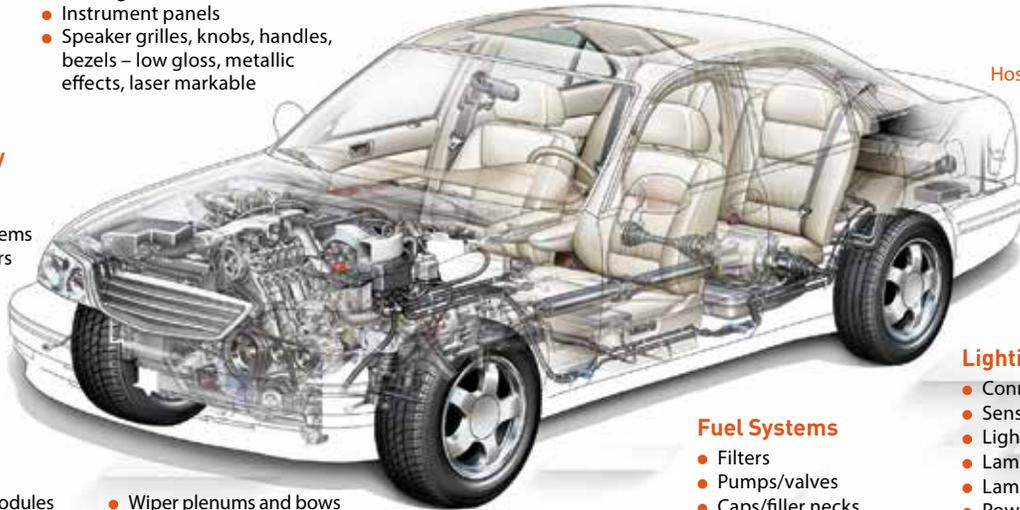
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- Mirror housings



### Fuel Systems

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- Lamp wedge base
- Power distribution

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- Celstran® CFR-TP
- Fortron® PPS
- GUR® UHMW-PE
- Hostaform®/Celcon® POM
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- Thermx® PCT
- Vandar® PBT Alloy
- Vectra®/Zenite® LCP

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## **SPE Detroit Technical Program Solid Concepts Rapid Prototyping**

**Date:** Monday, May 5, 2014

**Time:** 5:00 – 8:30 PM

**Location:** Solid Concepts Inc.  
2701 Industrial Row Dr.  
Troy, MI 48084  
Ph: (248) 280-5905

**Max Attendance:** 50

**Agenda:**

5:00 – 6:00    Networking, pizza & refreshment

6:00 – 7:00    Rapid Prototyping Presentation

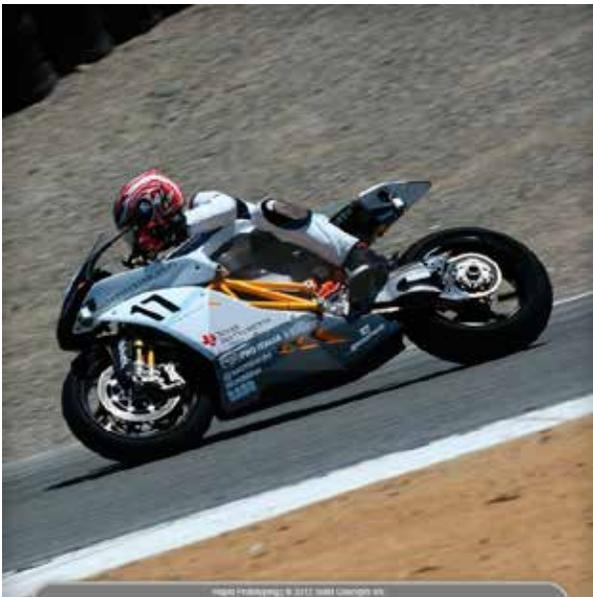
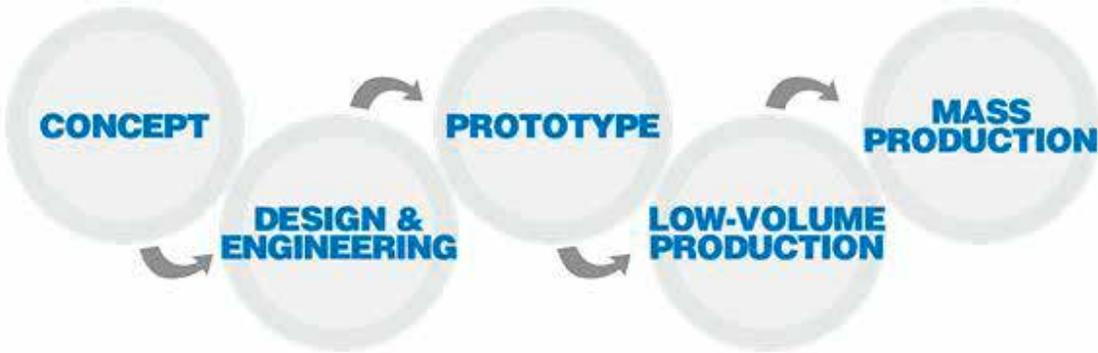
7:00 – 8:30    Plant Tour

**Program Topic:** Rapid Prototyping Technology

**Please RSVP with Ms. Karen Rhodes-Parker at [Karen@spedetroit.com](mailto:Karen@spedetroit.com) or call at 248-244-8993 Ext. 3**

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JUNE  
**24**



# **SPE DETROIT**

## **Annual Golf Outing**

**June 24, 2014**



## **Bay Pointe Golf Club**

**4001 Haggerty Rd. West Bloomfield, MI**

**When: June 24th, 2014**

**Time: TBD Shot Gun Start!**

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[karen@spedetroit.com](mailto:karen@spedetroit.com) Phone: 248-244-8993**



# 2013-2014 Technical Program Report

Dr. Sassan Tarahomi, IAC Group

My dear friends Detroit SPE Section members, I am so happy to let you know that we had several great events in the last several months. Back in February 19th we visited the ACI facility in Flint and on March 3rd we had a superb visit of Kettering University. Both events were so popular that over 50 people attended the ACi event and possibly close to 60 people attended the Kettering University event. We may have to re-visit these two places again to make sure all of our members get a chance to know about them.

I hope at least you had a chance to read my past newsletter articles and solved the puzzles.

Answers to my puzzles are:

Puzzle #1 – The person in the front table sitting in the middle was Mr. Dick Billings from Americhem.

Puzzle #2 – Picture was taken at Reliable lab.

Unfortunately nobody emailed their answers to Ms. Karen Rhodes-Parker at [karen@spedetroit.com](mailto:karen@spedetroit.com) and therefore no one was qualified to receive “the great prize”. Keep reading the future newsletters especially my articles and answer the puzzles in a timely manner and you may find yourself enjoying a game of baseball with a friend.

Now back to business, we have three more exciting events planned for you and I hope to see many of you there. As always, all you have to do is to call or send an email to Ms. Karen Rhodes-Parker and sign up for the event. Her phone # is 248-244-8993 ext. 3 and her email is [karen@spedetroit.com](mailto:karen@spedetroit.com). We are all looking forward to see you in the upcoming events.

Here are list of the upcoming events. Please add it to your calendar and see you there.

<b>Detroit SPE 2013 - 2014 Technical Dinner/Plant Tour Events</b>			
<b>Group Name</b>	<b>Event Title</b>	<b>Event Description</b>	<b>Start Date / Day</b>
<b>SPE Detroit Section</b>	<b>Solid Concepts Rapid Prototyping</b>	Rapid Prototyping Plastics	<b>May 5, 2014 Monday</b>
<b>SPE Detroit Section</b>	<b>Turner Alfrey Visiting Professor Program</b>	Complex Polymer and Hybrid Architectures Prof. Axel H. E. Mueller Gutenberg University, Mainz, Germany	<b>June 9 -13, 2014 Monday - Friday 3:00 - 6:00 PM</b>
<b>SPE Detroit Section</b>	<b>Turner Alfrey Visiting Professor Technical Dinner Program</b>	A Zoo and Garden of Nanoparticles: Tales of Worms, Caterpillars, Bamboo and Clover Prof. Axel H. E. Mueller Gutenberg University, Mainz, Germany	<b>June 11, 2014 Wednesday 6:30 - 9:00 PM</b>

Yours truly,  
Dr. Sassan Tarahomi, Detroit SPE Technical Program Chair



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## Membership Note

Even though you are a member of SPE International, you are not a member of the Detroit Section unless you have selected Michigan-Detroit as one of your technical groups. Members of SPE are entitled to select two Sections and/or Divisions at no charge, and to add additional groups for only \$10/year. There are many benefits in having Michigan-Detroit as one of your groups.



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Would you like the Plastivan to visit the school in your area?

Please contact Tom Miller at [thomas.miller@basf.com](mailto:thomas.miller@basf.com).

Schedules for this school year visits are being made now.

# Current Student Chapters

Sandra McClelland  
Chevron Phillips Chemical Company LP



As the school year winds down this has been a great year for the student chapters. We have 3 student chapters in good standing: Michigan State University, Ferris State University, and Kettering University. The new design of the student chapters is working well. I coordinate the current student chapters and Jim Keeler coordinates the universities where we are working on future student chapters. Sassan Tarahomi is responsible for working with universities that are working to start new plastic programs. Both Jim and I have liaisons to work with each of the universities. For the current student chapters those are:

Michigan State University – Nippani Rao, Fred Deans

Ferris State University – Tom Miller, Mike Wendt

Kettering University – Steve Keinath.

These are the people that work directly with the student chapter, and they all do a great job. They make sure the student chapters are informed about SPE Detroit events and opportunities within the plastic industry.

With this being the last newsletter of the year, it will end the current year newsletter contest. Pete Grelle, Sassan Tarahomi, and of Gary Kogowski will vote for the student section that has the best newsletter article for the year. That student chapter will receive a free dinner. We will do this again next year so look forward to more news from the universities.

Tom Miller has updated the scholarship form, so if you are a student or now of a student planning to go into the plastic industry, please go to our website to get a copy of the form.

<http://spedetroit.org/>

If you would like to volunteer to work with the student chapters please contact me.

Sandra McClelland  
Transportation Business Development Manager  
Chevron Phillips Chemical Company LP  
586-264-0063 office | 586-292-1794 cell  
email: [mccles@cpchem.com](mailto:mccles@cpchem.com)



Our **QR Code** takes you to our website [www.SPEdetroit.com](http://www.SPEdetroit.com) where you will find our Newsletters, News Briefs, Upcoming Events, Scholarships, Essay Contest, PlastiVan, Photos, and info on other Detroit Section activities.

# SPE Detroit Section Visiting Kettering University

Dr. Sassan Tarahomi, IAC Group



Last February 19 SPE Detroit Section members and many of the Kettering University students including the SPE student chapter members gathered at the Kettering University's Sunset Hall for great presentations by Professor Reginold Bell, his students and a tour of Plastic Processing and Organic Chemistry lab. Event started by eating a very delicious pizza and pop curtsey of Gary Lawrence from Techno Polymer while listening to a great welcome speech by the University Provost Dr. Robert Simpson.

This was a great testimony to the strength and depth of Professor Bell's polymer class for teaching polymer chemistry to non-polymer majors and seeing them first hand "loving it" and enjoying so much talking about it.



Welcome introduction by Kettering University Provost Dr. Robert Simpson, Provost and Senior Vice President for Academic Affairs

Next, Professor Reg Bell gave a great speech about his start at Kettering University known as GMI back then and a brief talk about his polymer course. After Prof. Bell, 4 of his students gave an exciting presentation about Polysulfone and Polyamide 4/6. One of the presenters was a mathematics major, It was great to see a math student being so comfortable with polymer chemistry.



Prof. Reg Bell, Professor of Polymer Chemistry at Kettering University admiring his student's knowledge on polymer chemistry



Prof. Bell and his students after a great presentation



Professor Bell and two of his favorite students

Immediately after student presentation, Mark Richardson, a graduate of Kettering university and current faculty of Industrial and Manufacturing Engineering at Kettering University invited everyone to a tour of his plastic processing lab and gave everyone a great update on various polymer processing equipment as well as the status of the latest plastic processing equipment installed in his lab. To further enhance student's knowledge in plastics and in response to the Automotive Industry need in better trained engineers in plastics engineering discipline, Kettering University is building a plastics processing lab in the same area. Anyone interested in donating funds, equipment or time in making the plastic test lab a reality should contact Mark Richardson at [mrichar1@kettering.edu](mailto:mrichar1@kettering.edu).

Next stop was organic chemistry lab, two of the students working in the lab talked briefly about their projects "Improving Scratch Resistance of Plastics" and "Plastics Application in Medical Industry" and gave a detail tour of their lab to all visitors.



Mark Richardson receiving the SPE Detroit Section appreciation plaque



Picture of some of the attendees



Picture of SPE Board Members and Kettering University Provost Dr. Simpson, Mark Richardson, Faculty Member and Eve Vitale, Director of Philanthropy at Kettering.

If you missed this event, do not worry, we will be having more visits to local Colleges and University in the near future. Tour of EMU plastics program is in planning stages for September 15, 2014 and Mid Michigan Community College tour has already been planned for March 23, 2015. Hope to see you all there and in many more activities planned by SPE Detroit Section board and committee members for advancing the knowledge of plastics.

Yours truly,

Dr. Sassan Tarahomi, IAC Mat. Eng. Mgr.  
Detroit SPE Technical Program Chair

# INTRODUCTION TO PLASTIC MATERIALS AND PROCESSING

Register online at <https://webadvisor.schoolcraft.edu>



Designed especially for individuals working in the plastics industry who want to increase their understanding of plastic materials and applications, this course provides an understanding of plastic materials, tooling, processing and testing, with an emphasis on injection molding. Participants will learn about different types of plastic materials and how material choice relates to part performance. Participants will apply knowledge gained to improve day-to-day work and be able to communicate effectively with various disciplines within the industry.

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 tthomson@schoolcraft.edu or visit [www.schoolcraft.edu/plastics](http://www.schoolcraft.edu/plastics)



# INTRODUCTION TO PLASTIC MATERIALS AND PROCESSING

**Dr. Sassan Tarahomi** has been a member of the Society of Plastics Engineers (SPE) for 24 years, is currently a Fellow of SPE and serves as President Elect (June 2013-June 2014) of the Detroit Section. Over the past 26 years, Dr. Tarahomi has held various engineering leadership positions in the **Plastics and Automotive industry**. He has taught plastics material, design and processing to automotive designers and engineers for over 15 years and has been instructing this course at Schoolcraft College since the spring of 2013. Dr. Tarahomi is currently the **Advanced Engineering Material Manager** at **International Automotive Components Group** Headquarters in Southfield, Michigan. He has extensive knowledge of plastics tooling and die design, plastic parts design and assembly, plastic materials, processing and testing, rapid prototype materials and processes, engineering simulation and analysis, geometrical dimensioning and tolerancing, program management, and Six Sigma methodology. He has been certified as a green belt Six Sigma since 2006. Dr. Tarahomi has a **B.S. in Mechanical Engineering** from Florida Institute of Technology, a **M.S. in CAD/CAM** from Eastern Michigan University and a **Doctor of Engineering in Plastics Engineering** from University of Massachusetts at Lowell. Dr. Tarahomi has received 14 patents in the United States and other countries.

---

## **Upon completion of the course students will be able to:**

1. Identify characteristics of different types of plastic materials that make it appropriate for the application.
2. Discriminate between the advantages and limitations of common plastic molding processes.
3. Relate application test requirements to material and process choice.
4. Demonstrate the ability to identify various features of a plastic part.
5. Understand how various material choices and processing techniques can affect the molded part.
6. Illustrate various material, design and process options affecting part mass, cost and performance.
7. Apply background concepts and knowledge of materials to tool design.
8. Apply background concepts and knowledge of processability to part design.
9. Apply plastic part design knowledge into tooling.
10. Apply engineering fundamentals to plastics part design.



# e-Communications

Irv Poston – General Motors (retired)

## Great Expectations!

A lot of new things are happening in e-Communications for the Society of Plastics Engineers and the Detroit Section. At the time of this writing, many of them are under construction. We expect these new happenings will prove to be of great value to our members.

### *Websites*

The new SPE International website was to be launched on [www.4spe.org](http://www.4spe.org) on Tuesday April 1 but has been delayed until most of the general information is transferred from the old site to the new one. The Detroit Section has been given one of the microsites on the 4SPE website. (The automatic redirect on [www.SPEdetroit.com](http://www.SPEdetroit.com) will be changed to this new address when the new site is launched.) Marc Bahm, our Webmaster, is working with SPE HQ to populate our new site which, at present, is quite bare.

Check these websites often and see the changes as they occur. Eventually, we hope that these new websites will provide easier access to more information. They are designed to appear differently on mobile devices and on computers so that they will be very readable and usable. Remember that they are both “under construction” even now, so don’t expect everything all at once.

### *Smartphone Apps*

A new free smartphone app is “SPE Events” and it is useful for having complete conference information on your phone plus syncing with your other devices. It was very helpful for the Advanced Composites Conference last year, and it is being fully utilized for this year’s ANTEC. We hope to use it for the AutoEPCON and TPO Conference that we sponsor in Detroit.

Another great free app is “SPE Mobile” which takes you to the SPE website, contact info, e-News, and Industry Resources. The Categories and Product Showcases are multi-layered and searchable.

Many other “plastic” apps are available, and others are being developed. Stay tuned!

### *Detroit Section News*

All issues, including this printed and mailed issue, of our *Trends & Topics* newsletter are posted on the web so that hyperlinks and bookmarks can be used. In addition, all issues of our monthly *News Brief*, which is emailed to our members, are posted on the web.

There are some SPE members in the Detroit area that are not members of the Detroit Section and, therefore, the Newsletters and *News Briefs* are not sent to them. There is also a large number of people in the plastics field that would benefit from membership in the Society. All of our members are encouraged to forward our news items to their friends and associates with a personal note to become active in the SPE Detroit Section.

### *Social Media*

Our Detroit SPEaker, Adrian Merrington, is up and running on the major social networks. While our other e-Communications systems are being upgraded, you can find a lot of our current information on these sites. Apps and icons are readily available. SPE International is establishing a site for discussions among SPE members. It should have some unique features. Look for it!

You should join and follow the Detroit Section sites on LinkedIn, Twitter, and Facebook; configure them to receive email notifications when new postings are made; and click through to the information being provided on the web. Be sure to “like” and comment on the postings since this extra action on your part will keep the postings popular and active.

### *Important Links*

#### Society of Plastics Engineers

- SPE International [www.4SPE.org](http://www.4SPE.org)
- Detroit Section [www.SPEdetroit.com](http://www.SPEdetroit.com)
- Automotive Division [www.SPEautomotive.com](http://www.SPEautomotive.com)
- AutoEPCON [www.speautoepcon.com](http://www.speautoepcon.com)
- Material Auction [www.spematerialauction.com](http://www.spematerialauction.com)
- TPO Conference [www.auto-tpo.com](http://www.auto-tpo.com)

#### Detroit Social Media

- LinkedIn [www.linkedin.com/groups/Society-Plastics-Engineers-Detroit-Section-4404194](http://www.linkedin.com/groups/Society-Plastics-Engineers-Detroit-Section-4404194)
- Twitter [www.twitter.com/detroitsspeaker](http://www.twitter.com/detroitsspeaker)
- Facebook [www.facebook.com/detroit.speaker](http://www.facebook.com/detroit.speaker)

#### Related Technical Groups

- Engineering Society of Detroit [ww2.ESD.org](http://ww2.ESD.org)
- ESD Future City Competition [ww2.esd.org/EVENTS/futurecity.htm](http://ww2.esd.org/EVENTS/futurecity.htm)
- SAE-Detroit [www.SAE-Detroit.org](http://www.SAE-Detroit.org)
- Michigan Molecular Institute [www.MMI.org](http://www.MMI.org)
- MMI Visiting Professor Program [www.mmi.org/about-mmi/turner-alfrey-visiting-professorship](http://www.mmi.org/about-mmi/turner-alfrey-visiting-professorship)

Please contact Irv Poston at [ieposton@juno.com](mailto:ieposton@juno.com) with any suggestions, comments, or questions about any aspect of e-communications.

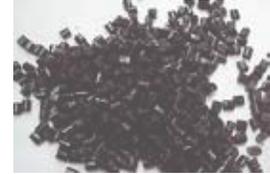


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- JPG Files:
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# Student Essay Contest Winner, First Place - South

## How Plastic Feeds the World

by Steven A. Trajkovski

10th Grade, South Lyon East High School

Teacher: Mr. Schmitz, Analytical Chemistry

In the past, tons of food went to waste because most food could only be preserved for a couple of days. So, over time humans invented new techniques and products to help preserve our food longer. Some of these products and techniques include: the refrigerator, the freezer, the process of smoking (meats), drying and brining. But, there is another product that has a major role in preserving our food that many people don't suspect. This product is plastic. We use it every day in food packaging because of its unique properties which gives it a major advantage over other products.

An important aspect to packaging food and preserving the food is to keep it sanitary. Keeping our food sanitary is a very difficult task because our whole world is full of bacteria that can contaminate our food. Even the air we breathe has bacteria, so how do we keep all our food sanitary? With plastic of course; plastic creates the perfect barrier between our foods and contaminants. (The Safety of Plastic in Food Packaging 1). Plastic's ability to keep contaminants out is due to its molecular structure. Plastic has been changed on the molecular level to create thousands of types of plastics which have allowed us to create a type of plastic for food packaging. This type of plastic we created for food packaging was designed so it is strong enough to hold a vacuum seal to preserve the food. (The Safety of Plastic in Food Packaging 1).

Another important part of the food packaging industry is the cost. Cost is a major concern for many industries, so companies try many different products in their effort to try and keep costs low. But, in order to keep costs low the food packaging industry uses plastic because it serves more purposes than just keeping food sanitary. The plastic they use is designed not only to be able to be vacuum sealed but stacked. It has one side made of harder plastic allowing them to stack the items. (The Safety of Plastic in Food Packaging 1). And, since they are able to stack the items they can transport more items at once, this allows them to save gas which

means more money for them. Not only does it save money for the food packaging industries, it also saves money all the way down the line to the consumer. The stores are able to save money because they can stack the food so they can have more items in their store which means more products and more sales. Another reason plastic is cost effective is because it helps sell itself. Plastic's nice clean look helps to convince people in to buying certain products. Plus, the plastic the food packaging companies' use is clear; the reason for this is because people are more likely to buy a product they can see. (The Safety of Plastic in Food Packaging 1). And the consumers are able to get the product at a decent price because plastic is easily mass produced making it cheaper for the consumer.

Today many companies are trying to reuse and repurpose used products. (Plastic in Food Industry 2). They do this because it is good for the environment and it can save money. This is another reason plastic is used in the food packaging industry. They can use recycled plastic which can cut costs because used plastic is sometimes cheaper than creating new plastic. And, often the plastic packaging they make can be recycled and repurposed for other things. (Plastic in Food Industry 2). This is beneficial to the environment because there is less waste going into landfills. Whereas, if other materials were used in food packaging they could only be used once then discarded in a land fill.

One unique thing about plastic is we can change it almost any way we want. We can change its size, shape, color and the many other physical and chemical properties. This is what gives it an advantage in the food packaging industry. We can make it do whatever we want for a low cost and still protect the environment.

### Works Cited

- 1) "The Safety of Plastic in Food Packaging." SPI The Plastics Industry Trade Association. Trust Wave, 25 Jan 2014. Web 25 Jan 2014. <http://www.plasticsindustry.org/AboutPlastics/content.cfm?ItemNumber+515>
- 2) "Plastic in the Food Industry". Connecticut Plastics. N.p., 25 Jan 2014. Web 25 Jan 2014. <http://www.connecticutplastics.com/resources/connecticut-plastics-learningcenter/plastics-in-the-food-industry/>

Pictured from left to right: Tom Miller, Megan Renehan (2nd Place), Steven Trajkovski (1st Place) and Peter Schmitz - South Lyon East Chemistry Teacher



clean. But now, we feel safe buying foods from the grocery store in their individually wrapped packages, which – although they do have expiration dates – last much longer than before; airtight freezer packages allow us to store foods in our freezers for a long time without worrying about something like freezer burn. Also, we can enjoy quick and easy frozen-food dinners or microwavable bags of food. Another advancement is “active” packaging; this type of packaging doesn’t just store the food, but it fights against the growth of harmful microorganisms, thus keeping the food fresh much longer. While plastics have been a huge benefit to our foods, they have also helped in a completely different but almost equally important aspect of our lives: cars.

Automobiles have become a necessity for many people, and they would not be as state-of-the-art as they are today without plastic. Plastic has a variety of functions in cars, such as safety, weight, fuel efficiency, and even design. Plastic has increased the safety in cars significantly; it is responsible for providing us with seat belts, air bags, and child safety seats. While we don’t realize it when we buckle our seat belts every day, plastic is saving our life. Another feature of the car plastic has improved upon is weight. Without plastic, cars would be made of heavy metals and glass. Components of a car made of plastic can be 50% lighter than if they were made of another material. This also adds to the safety of a car as, in the event of an accident, we would rather have plastic on top of us than heavy metals. With lighter cars, there is also more fuel efficiency. Despite people believing that plastic is only bad for the environment, it reduces the weight in cars by an impressive amount, resulting in more fuel efficient cars, which has led to less CO<sub>2</sub> emissions. Lastly, plastic has provided us with inventive new designs and ideas for cars that would otherwise seem impossible. Not just the exterior has improved; plastic helps provide the comfortable interior in cars that we all enjoy. The auto industry would not be at the level it is today without plastic at its side.

Many things have contributed to the modernized world we know today, and plastic is one of the most important ones. Covering a wide variety of aspects in our daily lives – like food and transportation – the world would not be where it is without plastic pushing us forward. Because we tend to forget its importance, plastic has greatly improved our lives right under our nose, and it has been one of the leading contributors in boosting the growth of our world.

## Student Essay Contest Winner, Second Place - South

### Plastics: Bringing Society to the 21st Century

by Megan Renehan

11th Grade, South Lyon East High School

Teacher: Mr. Schmitz, AP Chemistry

While many people view technology as the main advancement in society, they tend to overlook the importance of plastic. From keeping our food fresh to making our cars safer, plastic has had a significant impact on our everyday lives. Although we tend to take it for granted, plastic is one of the single most important advancements society has made to improve lifestyle.

Packaging foods, in grocery stores or as leftovers after a meal, has become a common practice in our world. Before plastics were advanced, foods could only stay fresh for a few days, storage of food was more difficult, and it was much harder to keep foods

# Student Essay Contest Winner, First Place - North

## The Miracle Substance

Samantha DuLong – Freeland HS

What is the most important and influential human invention? Competition for the prestigious title of “most important invention” include candidates such as antibiotics and the wheel, but the truly deserving invention is plastic. Plastic has improved the standard of living and revolutionized life in many aspects, such as health or education. What led to the ascension of plastic?

Plastic has a long history. The Old Testament, created roughly 3,500 years ago, contains allusions to natural substances with properties of rubber and plastic. Some of the most commonly used plastics, which include polyethylene terephthalate (PETE or PET), polystyrene, and high and low densities polyethylene, are relatively new substances in the United States. Mainstream plastics were fundamentally distributed and used starting in the 1930’s.

Polyethylene terephthalate, more commonly known as PETE or PET, is used to package food and hygiene products, such as peanut butter and shampoo. Packing peanuts and food containers are just a couple of items from the plethora of polystyrene polymers. The first type of polyethylene, invented in 1934, was low density polyethylene, and this polymer can float in a liquid mixture of alcohol and water. High density polyethylene was created during the 1950’s, and sinks in a mixture of alcohol and water, giving way to the “high density” aspect of the name. All of these plastics are renowned substances due to their economical and non-reactive properties.

Plastics have made everyday life easier, due to their versatility and portability. They lend those characteristics to packaging. Packaging, as many people don’t realize, enhances our quality of life. It makes more products accessible, economical, and sanitary. Almost any product in your kitchen probably uses plastic in its packaging. Eggs have a foam carton, and milk jugs are made from HDPE. Personal care products are also much more accessible than they ever would be without plastic. Shampoo, for example, would have to

be stored-in a different type of container if it were not in HDPE containers. Using other substances, such as metal, would cause the price of an item to rise and the efficiency of packaging it would lower.

Plastics also have created cheaper and more effective alternatives for electronics and home appliances. It has made appliances 25 percent less expensive, 30 percent more energy efficient, and increases the longevity of the appliance by 50 percent. Plastics do everything from coat wires to acting as the body for many devices. Plastics are also used to insulate appliances, such as refrigerators. Children’s electronic toys, kitchen appliances, and computers are just a few items among many that are less costly and more efficient due to plastic.

Plastic, as aforementioned, is the most deserving of the title “most important invention” because of its use in the medical field and sanitation. Plastics are used for covering medical tools to being the medical tools themselves. Plastics prevent infections and spread of bacteria because each medical tool can be individually wrapped, creating a barrier between the tool and the outside world. Plastic also can be used for prosthetic devices or as replacement joints. These improve the quality of life because someone can have a brand new body part that the body will most likely not reject, and will act very similar to the real body part.

All plastics have had a greatly positive impact on the quality of life. Without them, our food and health tools would not be as sanitary, and we’d have to use more pricey and inefficient substitutes. Plastic is an item that is so ingrained into our everyday lives, that we often forget how amazing it actually is. Plastics have shaped and molded our world, due to how easy it is to shape and mold them into what we need. This miracle substance truly can be considered the most important invention in human history.

The purpose of the Society of Plastics Engineers Scholarship is to provide funding for college scholarships to students demonstrating a high level of career interest in the Plastics Industry.

## Eligibility Criteria:

1. Students enrolled at either a four-year college/university or two-year community college degree program (minimum requirements of six credit hours per semester) pursuing a career directly related to plastics (i.e. Plastics Engineering, Polymer Engineering/Science, Packaging Engineering, Material Engineering/Science, Composite Materials and Structures, Chemical Engineering, Chemistry or Mechanical Engineering).
2. Active SPE student member including active membership in your schools SPE Student Chapter if applicable.
3. Applicant has not received or anticipates receiving any other scholarship from the SPE during the current award year.
4. Applicants must maintain a minimum cumulative grade point average (GPA) of 2.8 (4.0 scale) from the prior school year.
5. Applicants must demonstrate a high degree of intent to pursue a career in the Plastics Industry.

## Colleges/Universities:

College for Creative Studies

Delta College

Eastern Michigan University

Ferris State University

Focus Hope University

Kettering University

Lawrence Tech University

Macomb Community College

Michigan State University

Michigan Technological University

Other schools inside/outside of Michigan that meet eligibility requirements

Mid-Michigan Community College

Oakland Community College

Oakland University

Saginaw Valley State University

Schoolcraft College

St. Clair County Community College

University of Detroit Mercy

University of Michigan

Western Michigan University

## Application Procedure:

To be considered for a SPE Detroit Section Scholarship, applicants must submit a complete application package (electronic copy preferred) by August 7<sup>th</sup>, 2014 as outlined in the application checklist. Application and all checklist documents must be sent at the same time via hard copy or eMail to the contest Chairperson.

## **Awards:**

Scholarship awards will 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. 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.

All Society of Plastics Engineers Detroit Section scholarships are rewarded without regard to race, sex, religion, age or national origin. The Society of Plastics Engineers Detroit Section will not award scholarships to applicants whom they deem are not qualified and reserve the right to not award scholarships in any given year as it so chooses.

## **Application Checklist:**

Please submit a complete application package (all checklist documents must be sent at the same time via eMail or hard copy) by August 8<sup>th</sup>, 2014 to:

Tom Miller - BASF Performance Materials  
1609 Biddle Avenue  
Wyandotte, MI 48192  
[Thomas.Miller@basf.com](mailto:Thomas.Miller@basf.com)  
586-291-5289

- Completed SPE Detroit Section Application Form***
- Copy of resume showing work experience, school and community activities & honors***
- Official transcripts from all colleges and universities attended***
- A 500 word essay (1 page maximum) on your career aspirations in the Plastics Industry***
- Two letters of recommendation: one from a teacher or other school official and one from a previous/current employer or non-relative.***



## 2014 Society of Plastics Engineers Detroit Section Application Form

**Name:**  **SPE Membership #:**

**Home Address:**  **School Address:**

**Phone #:**  **eMail:**

**Name, Address & SPE Member # of parent/relative that is an active member of the Detroit Section SPE:**

**Citizenship:**

### Education Information:

- School you attended last year & major:
- What was your GPA last semester (4.00 scale):
- What is your cumulative GPA (4.00 scale):
- School you will attend in the Fall of 2014 & major:
- Highlight the class that applies to you for the Fall of 2014:  
 Graduate     5<sup>th</sup> Year Senior     Senior     Junior     Sophomore     Freshman
- Highlight your living arrangements for the Fall of 2014:  
 On Campus     Off Campus     With Parents
- Does your school have an active SPE Student Chapter:    Yes    No
- If your school has an active SPE Student Chapter, confirm your membership status, list any offices held and provide contact information for your Student Faculty Advisor:

### Financial Information:

Anticipated expenses for the 2014-2015 school year:

Tuition & Fees  
 Room & Board  
 Books & Supplies  
 Personal Expenses  
 Other

**Total Expenses:**

Anticipated income for the 2014-2015 school year:

Family Contribution  
 Student Contribution  
 Financial Aid & Grants  
 Scholarships  
 Other

**Total Income:**

## **Application Statement:**

The information provided in my application is, to the best of my knowledge, complete and accurate. I understand that false statements on this application will disqualify me from a scholarship award.

By submitting this application to the SPE Detroit Section for consideration, I give permission for any college or school to release any information necessary to process my application to the Society of Plastics Engineers Detroit Section Scholarship Committee.

Electronic Signature

Date

## **Application Checklist:**

Please submit a complete application package (all checklist documents must be sent at the same time via eMail or hard copy) by August 8<sup>th</sup>, 2014 to:

Tom Miller - BASF Performance Materials  
1609 Biddle Avenue  
Wyandotte, MI 48192  
[Thomas.Miller@basf.com](mailto:Thomas.Miller@basf.com)  
586-291-5289

- Completed SPE Detroit Section Application Form***
- Copy of resume showing work experience, school and community activities & honors***
- Official transcripts from all colleges and universities attended***
- A 500 word essay (1 page maximum) on your career aspirations in the Plastics Industry***
- Two letters of recommendation: one from a teacher or other school official and one from a previous/current employer or non-relative.***

## **Application Essay:**

No more than 500 words and 1-page maximum

## **My Career Aspirations in the Plastics Industry**



Detroit Section  
**SOCIETY OF PLASTICS ENGINEERS, INC.**  
 1800 Crooks Road  
 Troy, MI 48084

**FIRST CLASS MAIL**



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