

## 2018 SECTION AWARDS

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MEETING LOCATION:



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Please RSVP by Thursday, Sept. 13

THURSDAY SEPTEMBER 20, 2018

4:00 PM Board Meeting  
5:00 PM (n/c) Tour

Followed by dinner at nearby restaurant - at attendee's expense

RSVP by Sept, 13 to Pete Hayles  
[peterhayles11@gmail.com](mailto:peterhayles11@gmail.com) 732-569-2368

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## TOUR OF CIMQUEST'S ADDITIVE MANUFACTURING TECHNOLOGY LAB

SEPTEMBER 20, 2018

Cimquest operates the largest Additive Manufacturing Technology lab on the East Coast at their Advanced Manufacturing Center in Branchburg, New Jersey, featuring a diverse line of 3D printers and associated products. The company's equipment includes systems for plastic, metal, and paper 3D printing. Cimquest has been one of the leading CAD/CAM, 3D Printing and Rapid Prototyping integrators and the leading resource for Mastercam software and a complete line of scanning products for over 27 years. Cimquest provides design and digital manufacturing products to customers along with all levels of training, serving the Mid-Atlantic and New England regions. Offices include the Corporate Headquarters located in Branchburg, NJ with regional offices in Harrisburg & Butler, PA, and Sterling, MA. <https://cimquest-inc.com/>

Attendees will have the opportunity to tour this lab and see additive manufacturing equipment first-hand. \*RSVP Required.

Palisades-New Jersey Section members are also invited to attend meetings at our neighboring Lehigh Valley Section. *See page 3 for details.*

### UPCOMING IMPORTANT DATES

Sept. 18	Lehigh Section Meeting
Sept. 20	Section Meeting, Cimquest Tour
Oct. 23-25	VinylTec, Chicago
Nov. TBD	Leistritz Tour
Jan. 17, 2019	Section Meeting, Medical Topics
Feb. 21	Section Meeting, Standards & Testing Topics
Mar. 18-21	ANTEC® Detroit, MI
April 3 (Wed.)	Palisades-NJ Meeting @ Rutgers
April TBD	3D Printing Clinic & Tour at Lehigh University
May 16	Awards Night

## PRESIDENT'S MESSAGE



The dynamics of the plastic industry can present just as many benefits as challenges. As we look at the M&A activity, outsourcing, tariffs, new materials, digital manufacturing and emerging technologies, we need to view these disruptions positively as a way to create new trade space. The global manufacturing market is estimated to be \$12 trillion with the formative molding (injection, extrusion, vacuum forming, blow molding and others) market valued at approximately \$600 billion with half that value being the injection molding business. The additive manufacturing or 3D printing (3Dp) market alone is estimated to be \$6 billion by year's end.

The questions are:

With many advancements in formative molding, how much will revenue grow in the next few years?

How much revenue will be obtained by additive manufacturing / 3Dp in the next few years?

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If the formative and additive market shares were to obtain a conservative 5% additional revenue from the overall global manufacturing market, both formative and additive would increase revenue by \$600 billion.

As always, we need to view these disruptive and emerging technologies as opportunities. The common thread through additive, formative and subtractive (CNC machining) production is digital manufacturing. Digital manufacturing is an integrated approach to mold, print or machine parts using computer systems. These computer systems model, simulate and analyze during the design phase and process monitor, slice / print or numerical control machine (CNC) parts in the production phase. Digital manufacturing shares the same goals as design for manufacturing (DFM) and computer-integrated manufacturing (CIM).

Our September meeting and plant tour of the Cimquest Digital Manufacturing facility in Branchville, New Jersey is an opportunity to learn first-hand about digital manufacturing and 3D printing. I hope to see you there.

Regards,

*Jack Dispenza*

President, SPE Palisades-New Jersey Section  
Society of Plastics Engineers, Fellow

## CALL FOR PAPERS



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### YOU ARE INVITED TO SUBMIT A PAPER FOR PUBLICATION & PRESENTATION

FOR MORE INFORMATION PLEASE CONTACT

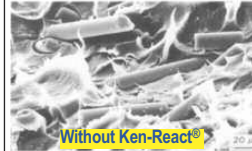
[Donna Davis](#), Technical Program Co-Chair

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A full manuscript submission is required and will be due by October 19, 2018. Your paper will be published as part of the ANTEC® 2019 proceedings.

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## LEHIGH SECTION MEETING INVITE

Palisades–New Jersey Section members are invited to attend meetings at our neighboring Lehigh Valley Section, which meets on/near the Lehigh University campus. Below is information about their upcoming meeting. Contact Paul Brigandi for more information, [pjbrigandi@gmail.com](mailto:pjbrigandi@gmail.com).

**September 18, 2018**

**Dinner:** 6:00 pm

**Location:** Campus Pizza, 22 E 4th St Bethlehem, PA 18015

**Presentation Following Dinner:** 7:00 pm

**Location:** Lehigh University Whitaker Lab 5 East Packer Ave. Bethlehem, PA 18015

### Technical Presentation by SPE Fellow from The Dow Chemical Company

A novel concept is described for enhancing the sag-resistance of electrical insulation compositions for use in certain extrusion processes that are employed to make medium- to extra high-voltage cables. Blends of polypropylene with ethylenic polymers are used to make peroxide-containing compositions. The PP is present as a dispersed phase in the ethylenic polymer, and the use of compatibilizer yields a finer dispersion. Since extrusion occurs at temperatures above the melting point of the ethylenic polymer, but below that of polypropylene, the latter acts as a "solid" filler to boost melt extensional viscosity. Crosslinkability of the compositions is satisfactory, as are mechanical and electrical properties.

#### *About the Speaker*

**Dr. Bharat Chaudhary** is a Principal Research Scientist at The Dow Chemical Company and a Fellow of Society of Plastics Engineers (SPE). He obtained his Ph.D. and M.Sc. from Imperial College, London (U.K.) and a B.Eng. from the University of Benin (Nigeria), all in Chemical Engineering. He has 29 years of experience leading research and development in a variety of areas related to polymer modification (such as blends, functionalization, crosslinking, plasticization and foaming). Bharat has driven collaborations with several universities/institutions in Germany, Scotland, USA, Canada and China. He is author of 33 journal papers, 24 conference/technical presentations and 2 book chapters, as well as inventor on 66 U.S. granted patents, 35 European granted patents and numerous other patents and patent applications.



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## IN MEMORY OF ROBERT MACFARLANE

Robert MacFarlane Jr. Robert MacFarlane Jr. of Madison, N.J., formerly of Fanwood, N.J., passed away at home on June 28, 2018, following a brief illness. The first member of his family to attend college, he was a proud alumnus of Brown ('52) and Yale, where he earned a doctorate degree in 1956. He had a distinguished career as a research chemist working primarily with polymer manufacturing, with an expertise in quality and standards, and was noted for his achievements, leadership and integrity.

He was founder and director of THO Services in Madison. He also held positions at Allied Signal/ Honeywell, ExxonMobil, and U.S. Rubber. Bob was Chairman of the D20 Subcommittee of the American Society for Testing and Materials (ASTM) for 23 years. In 2013, D20 honored him with an award for 34 years of Outstanding Achievement which he happily and proudly accepted. He also served over 28 years as chairman of the International Organization of Standards (ISO) Subcommittee on Thermoplastics. In 2005, Technical Committee 61 honored him as its first recipient of the Award for Outstanding Service. Bob was an enthusiastic world traveler for both business and pleasure, embracing new cultures, experiences, and cuisines. He also enjoyed photography and was a generous patron of the visual and performing arts, as well as other causes. He will be greatly missed for his intellect, compassion, warmth, wit, and sense of fun.

He is survived by his dear friend, Barbara Murphy; former wife, Janet; children, Joan (Paul), Susan (Paul), Kurt (Elva), Beth (Bill), Laurie (Ruben); five grandchildren, Shaun, Kathryn, Charles, Molly, Cielo; two great-grandchildren, Cora Lee and Gianna; brother, James (Donna); sister-in-law, Patricia; many much-loved nieces and nephews, and lifelong friend, Kurt F. Wissbrun. He was predeceased by his beloved brother, Raymond.

*\*obituary originally printed in The Star Ledger*



Bob previously served as president of the Newark Section of SPE and most recently was the chairman of the Palisades-New Jersey Section's Rules & Organization Committee. Bob's knowledge of rules and his smile will be missed.

*Sending warm thanks to the SPC Palisades for the beautiful flowers you sent to Robert MacFarlane's (our Dad) memorial service. They were a breathtaking surprise when we entered the room and the thoughtfulness of the gesture began our day perfectly.*

*When sorting through Dad's things we came across a lot of SPC things, and were especially happy to see the scholarship related papers. That must have been right up Dad's alley!*

*It was wonderful to meet some of his SPC colleagues at the service and learn so much about our Dad through them.*

*We thank you for your kindness as I'm sure Dad was so thankful for your organization and friendship.*

Beth, Laurie, Joan, Susan and Kurt

## STUDENT CHAPTER NEWS

The new executive board of the SPE Rutgers Student chapter for the 2018-2019 academic year is as follows:

President: Martine V. Delgado

Outreach Chair: Emma R. Florentine

Secretary: Payal Kapadia

Vice President: Alexandra Spitzer

Treasurer: Sean P. Darst

ECG Representative: Maggie Sagui  
(class representatives TBD)

At present, there are only tentative event plans for the Fall semester. However, the executive board intends on having at least one crossover event with the Rutgers Materials Advantage club, one movie night featuring a Claymation film, a potential crossover event with a biomedical engineering club concerning 3D printing and prosthetics/biopolymers, and free donuts and to celebrate the last day of classes for the Fall semester. More concrete plans to follow.

### My Experience at ANTEC® as an Undergraduate

By Martine V. Delgado, President of SPE Rutgers Student Chapter



It's considerably easy to feel isolated from the engineering world outside of my 100-person major at Rutgers; I study Materials Science and Engineering (MSE), with a concentration on polymers. MSE is commonly overshadowed by the reigning Mechanical and Aerospace Engineering and other such engineering majors, so much so that I didn't even know it existed until I came to Rutgers University. Even more esoteric than my major is the facet of my major which has my primary focus: polymers. Of the 100 undergraduates in MSE, I am one of about five who concentrates on polymers. Within the four walls of my institution, I am often met with the opinion that polymer production is a stagnant field with little to offer. Tired of hearing my favorite class of materials being maligned, jumped at the chance to attend ANTEC® 2018.

At ANTEC®, not only was I granted the privilege of learning materials science in a hands-on manner, but I was also able to connect and network with other students and professionals interested in polymers and materials science. While I'm already enthusiastic about polymers, my passion was further stoked by being gifted the chance to attend this conference. My normally unparalleled thirst for knowledge on polymers was met by the vendors' enthusiasm and willingness to answer any questions I had concerning their products. ANTEC® put on an overwhelmingly mammoth display of the wealth of applications that polymers have. Despite my preexisting support of polymers, this conference broadened my horizons of applications. I entered being interested almost exclusively in textile applications and developing more sustainable plastics, and I left with a nearly fanatical interest in additive manufacturing and medical applications.

Being able to see and explore all that polymers offer in a modern world was priceless to me. At ANTEC®, my fellow undergraduates and I were captivated by monumental machinery, excited by seeing our major in action, and afforded the chance to experience an otherwise unknown sense of belonging. This was the first conference I attended, and it set a very high benchmark for future conferences I will attend.



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