

We are pleased to present the following speaker for our May 2nd Meeting:

Modification to Improve Performance of Polyamide Composites Reinforced with Glass Fibers and Other Functional Additives

Dr. Ashok M. Adur
Global Commercial Development
Director, Plastics
Vertellus

Abstract

The unique chemistry of ZeMac® alternating copolymers of ethylene and maleic anhydride is used as a critical part as a low dosage additive during the manufacture of glass fibers in the sizing emulsion. This provides reactive anhydride groups on the surface of the glass fiber modifying their

surface chemistry. When glass fibers with the modified surface chemistry are compounded with polyamides to form glass fiber reinforced polyamide composites, significant improvement in mechanical and thermal properties as well as hydrolysis resistance to radiator fuel are obtained. Due to the push from automotive OEMs for higher fuel efficiency this application is growing very fast as one of the primary enabling technologies. This technology can also be applied to the surface sizing of other functional additives such as other reinforcements, mineral and flame retardants for some of which we are introducing a new grade. Examples of specific applications as well as other benefits will also be presented.

Dr. Ashok Adur has over 35 years of experience in R & D, product, process & business development, sales & marketing, technical service, and management at chemical, plastics and packaging companies such as Chemplex Co, Air Products & Chemicals, BP Chemicals, International Paper, PolyOne and Crane Plastics.

He has published 15 papers in professional journals and presented over 80 papers at regional, national, and international professional conferences. Dr. Adur's areas of expertise include reactive extrusion, polymer compounding and compatibilization of multi-component systems, interfacial adhesion in coupling agents and tie layers in multi-layer extrusion, and microencapsulation. He is a Fellow of the SPE.

Meeting Details

Place: Bridgewater Manor, Bridgewater, NJ; (908) 658-3000

Time: 5:45 – 8:30 pm

Cost: \$25.00 at the door. Free for students. Cash, check and PayPal options are available. This meeting is open to all SAMPE members, spouses, guests and other interested parties. For reservations or questions, please contact Megan Casey at mbc872@gmail.com by noon Wednesday before the meeting. Meal options are available.

Directions to Bridgewater Manor: From I-287 north, take exit 22A (206 south). Go thru two lights, Bridgewater Manor is on right. From I-287 south, take exit 22. Make right at end of ramp. Make next left, a jughandle to cross 202/206 to go south on 202/206. Go thru three lights, Bridgewater Manor is on the right



2018 – 2019 Meeting Schedule

September 6, 2018 – Melissa Jaime, SolEpoxy

October 4, 2018 – Bob Lin, Evonik

October 15-18, 2018 – CAMX, Dallas TX

November 1, 2018– Louis Pilato, Pilato Consulting

December 6, 2018 – Hitesh Soni, Emerald Materials

February 17, 2019 – Joint meeting with ASM, Bo Sutch, 3HTi

March 7, 2019 – Todd Rumbaugh, Hadland Imaging (Shimadzu)

April 4, 2019 – Students Night

May 2, 2019 – Ashok Adur, Vertellus

Upcoming Events

May 20-23, 2019 – SAMPE 2019, Charlotte NC

June 14, 2019 – NJ Additive Manufacturing Symposium, at Rutgers Weeks Eng. Building

September 19, 2019 – 36th Annual Golf Outing, at Picatinny Arsenal Golf Club

September 23-26, 2019 – CAMX, Anaheim CA

See our newly re-launched [NJ SAMPE website](#) for more information about these events

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ISSE – 1990 (Anaheim), 1994 (Anaheim),
1996 (Anaheim), 1998 (Anaheim), 2002 (Long Beach)

ISTC – 1981 (Mt. Pocono), 1989 (Atlantic City),
2006 (Dallas), 2009 (Wichita), 2012 (Charleston)

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Sponsor of the Month: Broadview Technologies

Since 1970, Broadview has been a leader in the material science industry, providing high quality products and unparalleled service. Broadview develops and manufactures the world's largest variety of anhydrides for curing epoxy resins, as well as a wide range of flexibilizers and fire retardants.

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For more information,
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New Jersey Additive Manufacturing Symposium June 14, 2019

New Jersey Additive Manufacturing Symposium Rutgers University – New Brunswick Richard Weeks Hall of Engineering June 14, 2019

The NJ Chapter of SAMPE, in cooperation with the Rutgers School of Engineering, is sponsoring a one-day symposium at Rutgers highlighting additive manufacturing technology, research, and collaboration in the Greater New Jersey metropolitan area. This will be an opportunity for material and equipment suppliers to showcase their products and for researchers to present their ongoing projects and interests and explore collaboration and sponsorship opportunities.

Technical sessions will include:

- Processes and research
- Materials development
- Equipment development
- Production experience and applications

We have invited participants from universities and research institutions to submit extended abstracts. We have also invited equipment and material suppliers to present information about their products, and their expectations and needs for future development.

Submission Deadline: April 30, 2019

There will also be a separate area for table top displays for material and equipment suppliers. A box lunch will be served with ample opportunity for side discussions and introductions.

See [event website](#) for more information

Registration Fees:

SAMPE Members - \$100

Non-Members - \$150*

*Fee credited towards a one- year professional membership to North American SAMPE

Students - \$25

Sponsorship Opportunities:

Symposium sponsor - \$300

Company in the program and 1 attendee incl.

Table top display - \$500

Company in the program and 2 attendees incl.

NJ SAMPE Corporate sponsors receive 20% discount on all registration fees



More on Additive Manufacturing – A Course at Rutgers in September

Prof Howon Lee is teaching an Additive Manufacturing course for entry-level graduate students and advanced undergraduate students, from 6:40pm to 9:30pm every Tuesday (class meets only once a week) so people in industry can take the class. Non-matriculated option is available, so no need to enroll a degree program. Below is a tentative syllabus.

Additive Manufacturing (AM), often referred to as 3D printing, is manufacturing techniques in which a three-dimensional (3D) physical object is created by directly joining materials. AM has received significant attention due to its unique advantages of rapidly fabricating objects in complex shapes. Recent advances in AM processes and materials have been creating unprecedented applications as well as transforming how products are designed and manufactured.

The goal of this course is to provide (i) a comprehensive overview of various AM technologies, (ii) fundamental physics, material science, and process models of major AM techniques, and (iii) existing and emerging applications of AM. Students will have opportunities to use AM techniques to build their own 3D design projects.

Prerequisite: No formal prerequisite. However, this course is designed for engineering graduate students. Students are expected to have understanding of undergraduate level engineering mathematics, physics, chemistry, and mechanics. Undergraduate and non-engineering students may register, but should contact the instructor for permission numbers.

The Rutgers Mechanical and Aerospace Engineering Department is also seeking sponsors for senior student year-long capstone design projects starting next fall. Details are available [here](#)



Course Topics

Introduction to Additive Manufacturing	1 week
- AM technologies and underlying physics	
- Stereolithography (SLA and DLP)	2 weeks
- Fused Deposition Modeling (FDM)	1 week
- Direct Ink Writing (DIW)	1 week
- Direct Laser Writing (DLW) and Two Photon Lithography (2PP)	1 week
- Selective Laser Sintering (SLS) and Selective Laser Melting (SLM)	1 week
- Polyjet and Binder Jetting	1 week
- Emerging applications of AM	
- Smart materials and 4D printing	1 week
- Micro/nano AM and architected materials	1 week
- Bio-printing	1 week
- 3D scanning and reverse engineering	1 week
- Lab tours and hands-on sessions	½ week
- Guest lectures	
- Professor Aaron Mazzeo: Extrusion-based AM	½ week
- Professor Jonathan Singer: Laser-based AM	½ week
- Professor Rajiv Malhotra: Powder-based AM	½ week
- Professor Yuebin Guo: metal AM	½ week
- Project presentation	1 week