



**SOCIETY FOR THE ADVANCEMENT  
OF MATERIAL AND PROCESS  
ENGINEERING**

**MARCH 4, 2010 (1<sup>ST</sup> THURSDAY)**

**GROWING DEMAND FOR CARBON FIBER  
NANOTECHNOLOGY COMPOSITE PRODUCTS AND APPLICATIONS**

**DR. LOUIS A. PILATO  
PILATO - CONSULTING  
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Phone: 732-469-4057  
FAX: 732-764-9747  
Email: [Pilato-consulting@att.net](mailto:Pilato-consulting@att.net)**

**MEETING DETAILS**

Place: Bridgewater Manor, Bridgewater, NJ; (908) 658-3000  
Time: 5:30 Cocktails (Cash Bar); 6:15 Dinner; 8:30 Adjourn  
Cost: \$10.00 Advanced Registration; \$15.00 at Door; Students - Free

**This meeting is open to all SAMPE members, spouses, guests, and other interested parties**

Reservations please contact John Osterndorf at 973-248-5885 or by email at [sampejohn@yahoo.com](mailto:sampejohn@yahoo.com)  
by noon the Wednesday before the meeting.

**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.

**SAMPE Best Chapter Award Winner:**

**1990, 1991, 1992, 1993, 1995, 1996, 1997, 1998, 1999, 2000, 2001**

**SAMPE Chapter Service Excellence Award Winner:**

**2002, 2003, 2004, 2005, 2006** (award retired after 2006)

**SAMPE CHAPTER Sponsored Conferences:**

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

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

**ISEC** – 1994 ( Parsippany )



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**2009 – 2010 MEETING SCHEDULE**

September 10, 2009 – NDE of Multilayered Composites, Nicholas Gianaris, General Dynamics Land Systems, Sterling Heights, MI	March 4, 2010 – Growing Demand for Carbon Fiber Nanotechnology Composite Products and Applications, Dr. Louis A. Pilato, Pilato Consulting, Bound Brook, NJ
October 1, 2009 – Development and Testing of Prestressed Carbon Fiber Composite Overwrapped Gun Tubes, A. G. Littlefield, Benet Laboratories, Watervliet, NY	April 1, 2010 – TBD
October 19 – 22, 2009 41 <sup>st</sup> International SAMPE Technical Conference, Wichita, KS, Sponsored by the New Jersey and Wichita Chapters	May 6, 2010 – TBD
November 5, 2009 – UV Curing Technology Overview and Applications in Composite Structures, Jim Wittig- President- ACTEGA Radcure, Inc	May 17 – 20, 2010 – 54 <sup>th</sup> International SAMPE Symposium & Exhibition, Washington State Convention Center, Seattle, WA Sponsored by Seattle Chapter
December 3, 2009 – Immiscible Polymer Processing to Produce Structural Materials from Plastic Waste, Tom Nosker- Research Professor – Rutgers University	June 3, 2010 – Nanotechnology 2010, An Update, Dr. Louis A. Pilato, Pilato Consulting, Bound Brook, NJ
February 4, 2010 – High Performance Thermoplastics, Larry Stanislow- Sales Manager- Westlake Plastics	July 8, 2010 – 27 <sup>th</sup> Annual NJ SAMPE Golf Tournament, Picatinny Arsenal, NJ

**Notes ....** The NJ Chapter sponsors a student chapter at Drexel University.

**FEBRUARY MEETING**

At the February meeting, Mr. Larry Stanislow gave an excellent presentation entitled High Performance Thermoplastics. The New Jersey Chapter wishes to thank Mr. Stanislow for the excellent presentation.

**UPCOMING SAMPE CONFERENCEES**

**SAMPE Europe – Paris, France, April 12 – 14, 2010  
Sponsored by SAMPE European Chapter**

**SAMPE 2010 – ISS&E – Seattle, WA. May 17 – 20, 2010  
Sponsored by SAMPE Seattle Chapter**

**SAMPE 2010 – ISTC – Fall Technical Conference,  
Salt Lake City, UT October 11 – 14, 2010  
Sponsored by SAMPE Utah Chapter**



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**ABSTRACT:** Carbon Nanotubes (CNTs) and related materials, the smallest diameter carbon containing materials, are "riding a rising tide of Nanotech optimism!" Types and global producers of CNTs, carbon nanofibers, and graphene will be described along with the key application areas that are responsible for anticipated growth in market areas such as batteries, advanced polymers and composite materials, and electronics. Price performance characteristics of these carbon nanomaterials are advancing substantial growth and leading to the entry of additional producers, especially for CNTs. Proposed capacities of these carbon nanomaterials to 2015 will be discussed and those markets which will provide the greatest growth.

**BIOGRAPHY:** Dr. Louis Pilato is a Fellow of the Society for the Advancement of Material and Process Engineering (SAMPE) and a member of the American Chemical Society (ACS). He actively collaborates in Nanotechnology with Dr. Joseph Koo of University of Texas/Austin, a recognized expert in Nanotechnology. These many Nanotechnology studies involve both thermoplastic and thermosetting resins containing a variety of nanomaterials such as carbon nanotubes, carbon nanofibers, graphene, nanoclay, nanosilica, POSS, and n-SiC, and, in some instances, transformation into fiber resin reinforced composites for advanced composites systems for ablation, thermal management and other aerospace applications. He has presented several tutorials on Nanotechnology as well as Resin Matrix Systems during SAMPE international conferences. His other areas of technical research include Phenolic Resin Technology and Resin Matrix Systems for Composites.



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**NEW NJ SAMPE WEBSITE**

Visit [www.NJSAMPE.org](http://www.NJSAMPE.org)

We now have a website. It still needs lots of improvement, but it's a start. We need lots of input and recommendations from you to make it useful. All of our sponsors have links to their sites. If you are a sponsor, please make sure it's linked to the right site. If you are a consultant and want your resume on line, we have a place for that too. Also on the website you will find a history of our chapter and even our Bylaws. There's also a history of the Bridge Building contest, going all the way back to when it was only a NJ high school contest.

So visit the website and get back to us with your recommendations and ideas and critiques. Please send them to [hskliger@comcast.net](mailto:hskliger@comcast.net).

## **27<sup>th</sup> ANNUAL NJ SAMPE GOLF TOURNAMENT**

**DATE: JULY 8, 2010  
PLACE: PICATINNY GOLF COURSE  
PICATINNY ARSENAL, NJ  
TEE TIME: 11:00 A. M.**

**COST: GOLF AND DINNER: \$60.00  
DINNER: \$10.00  
(Dinner at approximately 5:00 PM)**

**CONTACT JOHN OSTERNDORF  
BY E-MAIL AT [sampejohn@yahoo.com](mailto:sampejohn@yahoo.com)**

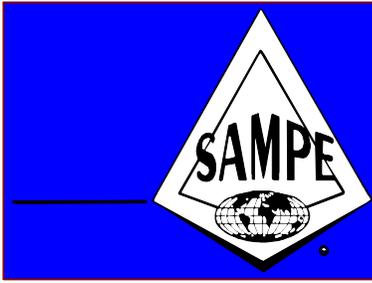


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### **CORPORATE SPONSOR – ALCAN BALTEK CORPORATION**

The first balsa cored composite bridge deck installed in Louisiana was opened to traffic over the Pierre Part Bayou in Assumption Parish, LA. While BALTEK® end grain balsa has been used previously for other commercial and military road and bridge deck projects, this installation is believed to be the very first balsacored composite deck project containing Single-Walled Carbon Nanotubes (SWCNT's) or "Buckytubes, as well as the largest Nanotube object molded to date. This project, an Investigational Bridge Research Deployment (IBRD) Grant originated with the Louisiana Transportation Research Center (LTRC). The development of the composite bridge deck was jointly undertaken by the Louisiana Department of Transportation and Development (LA DOTD), Louisiana State University (LSU), Crescent City Composites, and the Technical Services team of **ALCAN BALTEK Corporation**, a part of ALCAN COMPOSITES Core Materials.

Using balsa cored composite panels has many advantages. These light weight composite panels allow for fabrication off site and quick installation, which results in less "down time" for the bridge and substantially less traffic disruption, as well as less constriction on important evacuation routes during Hurricane season. Moreover, these panels are immune to corrosion which shortens the life span of steel structures, especially over brackish waters. Being replacement panels for existing steel construction means that the geometry, specifically the thickness of the panel, is dictated by the existing bridge structure. Therefore, to achieve the required stiffness within the restricted thickness, layers of Hardwire® high-tensile strength steel reinforcements were used in conjunction with conventional biaxial glass fiber in the structural skins. The core chosen for this application was a specific density range of BALTEK® end-grain balsa. Only end-grain balsa could absorb both the high compression loads required of a bridge designed to withstand the continuous punishment of fully-loaded sugarcane trucks, and the high shear loads imposed by the restricted thickness and highly-loaded metal and fiberglass skins. As a further long term research program, LSU has installed fiber optic strain gauges in the bridge panels to monitor the performance of the laminate over several years. The Technical Services Department of ALCAN BALTEK Corp. installed conventional strain gages on an adjacent deck plate, to compare load responses for both methods of monitoring. This monitoring is of particular importance because half of the composite panels on this bridge incorporate SWCNT's in the Vinylester resin of the laminate, resulting in significant increases in flexural strength and fatigue properties. All panels were vacuum-infused on site at the Crescent City lamination facilities in East Texas and trucked to the LA DOTD in Baton Rouge, where they were adhesively bonded to steel girders. For more information, visit: [www.corematerials.alcancomposites.com](http://www.corematerials.alcancomposites.com)



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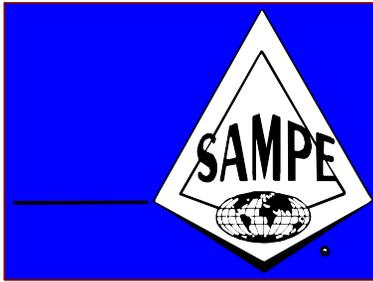
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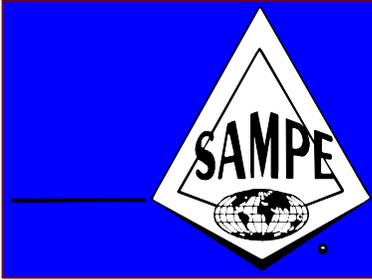
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