

Society for the Advancement of Materials and Process Engineering New Jersey Chapter 35th Anniversary



Pleased to Present the Featured Guest Speaker for our November 1st Meeting:

Stress Rupture Failure of a Continuous Fiber Composite Water Holding Tank

John DeFranks
IMR Test Labs
Lansing NY

ABSTRACT

Stress rupture failure of a large (20 foot diameter, 24 foot high), continuous fiber composite water holding tank occurred just hours after the initial fill at a power plant. The manway, located near the bottom of the tank, completely separated at the tank-to-manway joint. Furthermore, the pressure resulting from water rushing out of the tank caused extensive secondary damage to the upper portions of the composite tank, which collapsed inward. The failure resulted in significant schedule delays and repair costs. The tank was fabricated from a fiberglass / vinyl ester system and the manway was attached using a fiberglass / epoxy system. Extensive visual examination, thermal analysis, chemical analysis, mechanical testing, and materialography were performed to characterize the tank failure.

BIOGRAPHY

John holds a B.S. in Applied Physics from the State University of New York at Geneseo, and a M.S. in Materials Science and Engineering at the Rochester Institute of Technology. John initially started at IMR in the Nonmetallics department and has since developed a variety of test procedures while overseeing IMR's composite testing capabilities. Past projects include polymer testing, material identifications, failure analyses and long-term test plan design and execution for clients ranging from the consumer product industry to aerospace.

MEETING DETAILS

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

Time: 6:15 – 8:30

Cost: \$10.00 Advanced Registration at Door; Students – Free

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

Reservations please contact John DeFranks at 973-248-5885 or by email at sampejohn@yahoo.com by noon Wednesday before the meeting.

Directions to Bridgewater Manor: From I-95 north, take exit 22A (206 south). At the first lights, Bridgewater Manor is on route 202/206 south, take exit 22. Make right on route 202/206. Make next left, a jughandou on route 202/206. At the third lights, Bridgewater Manor is on the right.



2013 Meeting Schedule

October 8, 2012 – Multi-Scale
and Penetration Mechanics of
Composites, Bazle Z. Haque,
University of Delaware Center for
Advanced Materials

November 22 – 25, 2012 – 44th International
Technical Conference.
Charleston, SC. Sponsored by NJ Chapter

November 1, 2012 – Stress Rupture
of a Continuous Fiber Composite
Welding Tank, John DeFranks, IMR

November 6, 2012 – TBD

February 7, 2013 – TBD

March 7, 2013 – TBD

April 4, 2013 – TBD

May 2, 2013 – TBD

May 6-9, 2013 – 57th Intl SAMPE Symp &
Exhib, Long Beach Convention Center,
Long Beach CA

June 6, 2013 – TBD

July , 2013 – 30th NJ SAMPE
Tournament, Picatinny Arsenal

Please Note:

The NJ chapter is sponsor of the
International SAMPE Technical
Conference, Charleston Con
vention Center, Charleston, SC. – Oct
2012.



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1990, 1991, 1992, 1993, 1995, 1999, 2000, 2001

SAMPE Chapter Service Excellence

Winner:

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

SAMPE Chapter Sponsored Conferences

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NEWSLETTER

October, 2012

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Identifying a NJ SAMPE Company Sponsor

Each month we will spotlight one of our
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to John Osterndorf to be included.