



**SOCIETY FOR THE ADVANCEMENT
OF MATERIAL AND PROCESS
ENGINEERING
NEW JERSEY CHAPTER**

MAY NEWSLETTER & MONTHLY NOTICE

MAY 1, 2008 (1ST THURSDAY)

**STRUCTURAL EVALUATION OF THE
SOLOMON R. GUGGENHEIM MUSEUM**

**MS. NANCY R. HUDSON, P. E.
ROBERT SILMAN ASSOCIATES
88 UNIVERSITY PLACE SUITE 10
NEW YORK, NY 10003-4542
Phone: 212-620-7970
Email: Hudson@silman.com**

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
by noon the Wednesday before the meeting.

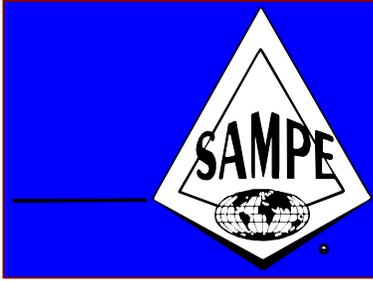
Directions to Bridgewater Manor: From I-287 north, take exit 22A (206 south). Go thru two lights, Bridgewater Manor is on right. From I-287 south, take exit 22. Make right at end of ramp. Make next left, a jughandle to cross 202/206 to go south on 202/206. Go thru three lights, Bridgewater Manor is on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



NEW JERSEY CHAPTER SAMPE MAY NEWSLETTER

Page 2

2007 – 2008 MEETING SCHEDULE

September 7, 2007 – Toward ‘Advanced Composites Green’, Professor Anil N. Netravali, Cornell University
October 4, 2007 – Plant Tour – General Magnaplate, Linden, NJ
October 29 – November 1, 2007 – 38 th International SAMPE Technical Conference, Cincinnati, OH Sponsored by Midwest Chapter
November 8, 2007 – The use of Titanates and Zirconates in Thermoset Composites with an Emphasis on Nanotechnology, Sal Monte, Kenrich Petrochemicals, Bayonne, NJ
December 13, 2007 – (Meeting Cancelled due to Snow Storm)
February 7, 2008 – Affordable Automation for Engineered Composite Structures, David Hauber, Automated Dynamics, Schenectady, NY
March 6, 2008 – “Composite applications in Infrastructure” for Alcan Baltek Corporation, Dr. Kurt Freichtinger, Alcan Baltek, Northvale, NJ
April 3, 2008 – Shuttle Imaging Radar Missions from a microwave Engineers Perspective, James Alford, Ad. Devel. Group, Somerset, NJ
May 1, 2008 – Election of Officers – Structural Evaluation of the Solomon R. Guggenheim Museum, Nancy Hudson, Robert Silman Assoc.
May 18 - 22, 2008 – 52 nd International SAMPE Symposium & Exhibition, Long Beach Convention Center, Long Beach, CA. Sponsored by Utah and Japan Chapters
June 5, 2008 – Fire Retardant Intumescent Polyamide 11 Nanocomposites, Dr. Louis A. Pilato, Pilato Consulting, Bound Brook, NJ
July 10, 2008 – 25 th Annual NJ SAMPE Golf Tournament, Picatinny Arsenal, NJ

THE NEW JERSEY CHAPTER HAS A STUDENT CHAPTER AT DREXEL UNIVERSITY

APRIL MEETING

At the April meeting, Mr. James Alford gave a presentation on Shuttle Imaging Radar Mission from a Microwave Engineer’s Perspective. The presentation discussed many interesting (from an engineer's perspective) aspects of a major space hardware development project that he contributed to in the late 80s and early 90s. Composite materials impacted this project in some unexpected ways.

The New Jersey Chapter wishes to thank Mr. James Alford for the excellent presentation.

UPCOMING SAMPE EVENTS

2008 SAMPE International Symposium and Exhibition, Long Beach Convention Center, May 18 – 22, 2008

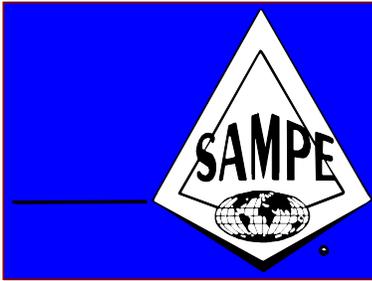
“MATERIAL AND PROCESS INNOVATIONS CHANGING OUR WORLD”

The Utah and Japan SAMPE Chapters are sponsoring the 2008 ISS&E

2008 International SAMPE Technical Conference, Memphis, Tennessee, September 8 – 11, 2008.

“MULTIFUNCTIONAL MATERIALS WORKING SMARTER TOGETHER: ”

The Michigan SAMPE Chapter is sponsoring the 2008 ISTC



NEW JERSEY CHAPTER SAMPE MAY NEWSLETTER

Page 3

STRUCTURAL EVALUATION OF THE SOLOMON R. GUGGENHEIM MUSEUM

**MS. NANCY R. HUDSON, P.E.
ROBERT SILMAN ASSOCIATES
88 UNIVERSITY PLACE SUITE 10
NEW YORK, NY 10003-4542
Phone: 212-620-7970
Email: Hudson@silman.com**

ABSTRACT:

Robert Silman Associates Structural Engineers was retained by the Solomon R. Guggenheim Foundation to conduct a comprehensive structural assessment of the museum focusing on the Main Rotunda. The Main Rotunda is a system of cantilevering sloped ramps supported by radial walls that define the distinct geometry of the museum. Exterior spiraling walls spring from the edge of the sloped ramps. The exterior ramp spiral diameter increases over the height of the building while the interior ramp spiral decreases over the height of the building. This complex geometry is an expression of reinforced concrete structural elements. The structure is comprised of both cast-in-place concrete (the ramps, interior walls and vertical exterior walls) and sprayed gunite concrete (the exterior curved walls).

The presentation is an overview of the components involved in our structural investigation, analysis, and repair design. I will discuss the investigation phase that included laser scanning, non-destructive evaluation, probes, material testing, and structural monitoring. The analysis phase included the creation

of a finite element model that mathematically reflects the existing geometry and material properties. This model was constructed from the laser scan data to include the as-built conditions. This cutting edge use of laser scanning was very complex. Conditions revealed from the probes were included in the model and monitoring data were used to correlate the model with the actual movements of the walls. The model was used to analyze the structure under dead loads, live loads, wind loads, temperature loads and the code required load combinations. Many challenges were faced during the design phase. Restrictions on changes to the exterior and interior lead to a design involving carbon fiber reinforcing on the interior of select walls. The restoration of the museum is expected to be completed this summer.

BIOGRAPHY:

Nancy R. Hudson, P.E. has more than 12 years of structural engineering experience. Ms. Hudson joined Robert Silman Associates in 2005 and was named an Associate in 2007. Ms. Hudson has worked on numerous renovation, stabilization and preservation projects. She is RSA's Associate in charge of the exterior restoration of the Solomon R. Guggenheim Museum in NYC. She has managed the non-destructive testing at more than 80 schools for the New York City School Construction Authority. Currently Ms. Hudson is Associate in charge of the Rehabilitation of and Addition to the Sterling Chemistry Laboratory building at Yale University and the Restoration of the New York Public Theater façade in New York. She is an active member of the Structural Engineers Association of New York (SEAoNY) and the Association for Preservation Technology (APT). Ms. Hudson has a Master of Science in Civil Engineering and a Bachelor of Science in Architectural Engineering from the University of Colorado at Boulder.



NEW JERSEY CHAPTER SAMPE MAY NEWSLETTER

Page 4

SAMPE 2008

**CONFERENCE AND EXHIBITION
LONG BEACH CONVENTION
CENTER
LONG BEACH, CA
MAY 18 – 22, 2008**

**SPONSORED BY THE UTAH &
JAPAN CHAPTERS**

Join us at SAMPE '08 for the world's largest advanced materials conference and exhibition. Providing the unique opportunity to attend seminars and presentations on cutting edge developments in the industry, SAMPE conferences are unparalleled in the industry.

Discover the new materials and applications that are shaping the marketplace at SAMPE '08. Featuring industry developments that are changing the field, the SAMPE '08 Conference offers solutions and insight that translate into efficiency and profitability when you return to work.

SAMPE Conference Program Descriptions

Sessions: Feature presentations by industry professionals, to share their research as it pertains to a new material, processor applications. Each presentation is based upon a full length technical paper, which is included in the Conference Proceedings.

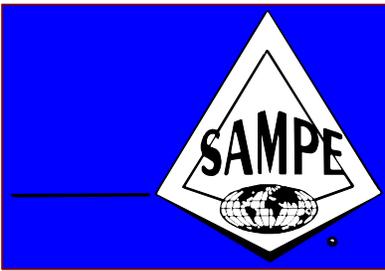
Panels: Discussions about a specific problem or issue concerning an aspect of the M&P Industry. These discussions often begin with a brief presentation by each panelist, followed by a period of discussion involving all in attendance.

Tutorials: Half-day training courses specifically designed to cover a single topic within the M&P field. These courses are best suited for professionals of all technical levels, as the courses feature comprehensive instruction. Tutorials require a separate fee, apart from conference registration.

Seminars: SAMPE is affiliated with many highly technical professional associations. These affiliates enhance the SAMPE Conference program with a half day seminar, course programming that does not fall under the organization of SAMPE. Seminars require an additional fee, apart from conference registration.

SAMPE strives to ensure that conference presentations are not marketing-oriented in nature. Our attendees come to learn and it is our mission to keep the conference completely educational.

Contact SAMPE IBO at 631-331-0616 for details concerning more details about the conference or at www.sampe.org.



NEW JERSEY CHAPTER SAMPE MAY NEWSLETTER

Page5

ELECTION OF OFFICERS

FOR 2008 – 2009 Fiscal Year

At the April Board of Directors Meeting of the New Jersey Chapter of SAMPE, the following slate of candidates were proposed for the next Fiscal Year 2008 – 2009:

Chairman: Ben Rasmussen

Vice Chairman: Gail DiSalvo

Treasurer: John Osterndorf

Secretary: Borys Schafran

Directors: Howard Kliger

Louis Pilato

Ben Rasmussen

Program: Tony Constantino

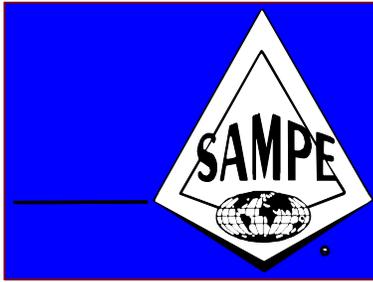
During the May Dinner meeting the slate of candidates will be presented to the general membership and voted on. Anyone wishing to submit a candidate for the position of an Officer of the Chapter, please be prepared to present it at the May meeting or contact one of the current Officers with the name.

25TH ANNUAL NEW JERSEY SAMPE GOLF TOURNAMENT

On July 10, 2008 the New Jersey Chapter of SAMPE will conduct its 25th Annual Golf Tournament. Beginning in July 1984, the golf tournament has been held as a chapter event for its members and guests to spend a relaxing day of fun in the sun.

The first few tournaments were held at the Picatinny Arsenal Golf Course, before having to move to another location due to new requirement of having 100 golfers for the tournament to be conducted at Picatinny. The Chapter then went to the Farmstead Golf Course in Sussex County, NJ for several years before moving to the Warren Brook Golf Course in Warren County, NJ, which was centrally located for the Chapter members. In 2002, the Chapter was able to return to the Picatinny Golf Course and has been there for the past several years and again at Picatinny this coming year. Picatinny Golf Course has a practice facility (chipping, putting, and driving into a net) at the Club House for golfers who arrive early. The course is well maintained and presents a good challenge for the golfer who plans to attend this tournament.

Please reserve July 10, 2008 to attend the Golf Tournament and help the Chapter celebrate the 25th Annual Tournament.



NEW JERSEY CHAPTER SAMPE MAY NEWSLETTER

Page 6

EXECUTIVE BOARD

CHAIRMAN:

Benjamin M. Rasmussen
BMR Associates
375 North Drive, Apt. C-8
North Plainfield, NJ 07060-3717
908-561-0796/fax: 908-753-7917
bmrassociates@netcarrier.com

TREASURER:

John F. Osterndorf
20 Memorial Court, Apt. 2C
Denville, NJ 07834-1755
973-248-5885 (cell)
sampejohn@yahoo.com

SECRETARY:

Gail D. DiSalvo
GTD Consulting
127 Rippling Brook Way
Bernardsville, NJ 07924-2036
908-953-0849/fax: 908-766-6373
disalvogail@aol.com

DIRECTORS:

Howard S. Kliger
H. S. Kliger & Associates, Inc.
20 Stryker Road
Somerset NJ 08873
732-469-7646/fax: 732-469-6641
hskliger@patmedia.net

Louis A. Pilato
Pilato - Consulting
598 Watchung Road
Bound Brook, NJ 08805-1746
732-469-4057/fax: 732-764-9747
Pilato-consulting@att.net

Benjamin M. Rasmussen
BMR Associates
375 North Drive, Suite C8
North Plainfield, NJ 07060
908-561-0796/fax: 908-753-7917
bmrassociates@netcarrier.com

PAST CHAIRMAN:

1977 – 1978 Raymond F. Wegman
1978 – 1979 William J. Russell
1979 – 1980 Michael Michno
1980 – 1981 Fred H. Ancker
1981 – 1982 Natalia Chujko
1982 – 1983 Robert J. Narsavage
1983 – 1984 Richard W. Reiter
1984 – 1985 Howard S. Kliger
1985 – 1986 John Burlage
1986 – 1987 John F. Osterndorf
1987 – 1988 Thomas J. Green
1988 – 1989 Harry S. Katz
1989 – 1990 Benjamin M. Rasmussen
1990 – 1991 Harry Tenney
1991 – 1993 Louis A. Pilato
1993 – 1994 John Burlage
1994 – 1995 Richard A. Walther
1995 – 1996 Frans van Anterpen
1996 – 1997 Kathleen A. Froelich
1997 – 1998 Gail D. DiSalvo
1998 – 1999 Ash Chopra
1999 – 2008 Benjamin M. Rasmussen

SAMPE FELLOWS:

1985 Raymond F. Wegman
1987 Dr. Carl H. Zweben
1989 Robert Pickney
1990 Dr. Frank K. Ko
1992 Fred H. Ancker
1993 Leonard Poveromo
1999 Dr. Howard S. Kliger
2001 Dr. Louis A. Pilato
2001 Harry S. Katz

SENIOR HONORARY MEMBERS:

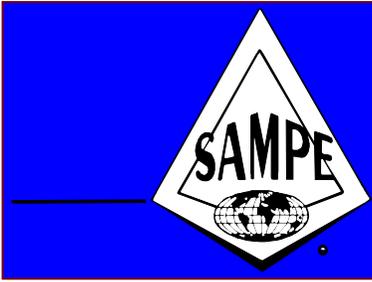
Richard G. Adams
Edward A. Gallagher
Charles N. Muldrow
William D. Timmons
Raymond F. Wegman



**NEW JERSEY CHAPTER
MAY NEWSLETTER
CHAPTER SPONSORS**

Page 7

<p>Airtech International, Inc. Peter Grantham 5700 Skylab Road Huntington Beach, CA 95647 714-899-8100 Fax: 714-899-8179 pgrantham@airtechintl.com www.airtechintl.com</p>	<p>Alcan Baltek Corporation Marc A. Anderson 108 Fairway Court Northvale, NJ 07647 201-767-1400 Fax: 201-387-6631 marc.anderson@alcan.com www.alcanbaltek.com</p>	<p>Evonik Degussa Corporation Borys Schafran 379 Interpace Parkway Parsippany, NJ 07054 973-541-8172 Fax: 973-541-8161 borys.schafran@evonik.com www.evonik.com</p>
<p>Argosy International Inc. Paul Marks 14 Penn Plaza New York, NY 10001 (212) 268-0003, X101 pmarks@argosychemical.com www.argosychemical.com</p>	<p>Bryte Technologies Chuck Chakrabarti 1235 Beacon Hill Crossing Alpharetta, GA 30005 (770) 475-7977 Fax: (770) 475-7477 cchakrabarti@brytotech.com www.brytotech.com</p>	<p>Fabric Development Inc. Mary P. Shafer 1217 Mill Street Quakertown, PA 18951 215-536-1420 mshafer@fabricdevelopment.com www.fabricdevelopment.com</p>
<p>Automated Dynamics David Hauber 407 Front Street Schenectady, NY 12305 518-377-6471, X226 Fax: 518-377-5628 dhauber@automateddynamics.com www.automateddynamics.com</p>	<p>Coast-Line Int'l Heather O'Rourke 274 Bangor Street Lindenhurst, NY 11757 631-226-0500 X25 Fax: 631-226-5190 heathero@coast-lineintl.com www.coast-lineintl.com</p>	<p>General Magnaplate Edmund Aversenti 1331 US Route 1 Linden, NJ 07036 908-862-6200 Fax: 908-862-6110 eaversenti@magnaplate.com www.magnaplate.com</p>
<p>A & P Technologies Andrew A. Head 4595 East Tech Drive Cincinnati, OH 45245 513-688-3200 Fax: 513-688-3201 ahead@braider.com www.braider.com</p>	<p>Engineered Fibers Technology Robert E. Evans 25 Brook Street Shelton, CT 06484 203-922-1810, X335 Fax: 203-922-1814 efiberstec@aol.com www.EFTfibers.com</p>	<p>Gerber Technology Inc Dudley Fenn 24 W. Industrial Park Road Tolland, CT 06084 860-871-8082 Fax: 860-871-3730 dfenn@gerbertechnology.com</p>



**NEW JERSEY CHAPTER
MAY NEWSLETTER
CHAPTER SPONSORS**

Page 8

<p>GTD Consulting Gail DiSalvo 127 Rippling Brook Way Bernardsville, NJ 07924 908-953-0849 Fax: 908-766-6373 gail.disalvo@att.net</p>	<p>Loctite Aerospace Robert Golick 16 Union Street Medford, NJ 08055-2438 609-654-1651 Fax: 609-654-1151 rgolick@loctitite.com www.aerospace.henkel.com</p>	<p>Northern Fiber Glass Sales Richard Hewitt PO Box 2010 Hampton, NH 03843-2010 603-926-1910, ext. 16 Fax: 603-926-0598 rvh@nfgsales.com www.NFGSales.com</p>
<p>Gentex Corporation PO Box 315 Carbondale, PA 18407 717-282-2814, X214 www.gentex.com</p>	<p>Loctite Corporation Larry Nativi 1524 Valhalla Drive Denver, NC 28037 704-489-8737 Fax: 704-489-8738 larry.nativi@us.henkel.com www.loctite.com</p>	<p>Prince Sports Incorporated Steve Davis One Sportsystem Plaza Bordentown, NJ 08505-7620 609-291-5800 stevedavis@princesports.com www.princesports.com</p>
<p>Johnson & Johnson Dr. Anthony L. DiSalvo 199 Grandview Road Skillman, NJ 08558-9418 908-874-2548 Fax: 908-874-1688 adisalv@cpcus.jnj.com www.jnj.com</p>	<p>Lonza Group Sajal Das 90 Boroline Road Allendale, NJ 07401 201-316-9218 sajal.das@lonza.com www.lonza.com</p>	<p>Utility Development Harry Katz 112 Nylon Road Livingston, NJ 07039-1006 973-994-4334 Fax: 973-994-3341 Harryskatz@aol.com www.udccorp.com www.radcure.com</p>
<p>Kenrich Petrochemicals Mr. Salvatore J. Monte 140 East 22nd St., POB 32 Bayonne, NJ 07002 201-823-9000 Fax: 201-823-0691 sjmonte@4kenrich.com</p>	<p>Mektech Composites Inc. Aram Mekjian 40 Strawberry Hill Road Hillsdale, NJ 07642 201-666-4880 Fax: 201-666-4303 mekmail@prodigy.net</p>	<p>3M Aerospace Renee Rainboth 3M Center St. Paul, MN 55144-1000 (856) 769-8565 Fax: (856) 769-8566 rarinboth@mmm.com www.3m.com</p>

