

We are pleased to present the following three speakers for our April 4th Student Night Meeting:

4D Printing Reconfigurable, Deployable and Mechanically Tunable Metamaterials

Chen Yang

Ph.D Candidate

Rutgers Univ, Mech Engineering

Abstract

Exotic properties of mechanical metamaterials emerge from the topology of micro-structural elements. Once manufactured, however, metamaterials have fixed properties without the ability to adapt and adjust. In this work, we present geometrically reconfigurable, functionally deployable, and mechanically tunable lightweight metamaterials created through 4D

printing. Using digital micro 3D printing with a shape memory polymer, dramatic and reversible changes in stiffness, geometry, and functions of metamaterials are achieved.

Student Sampe Chapter Activity at NYU

Kaylee Dunnigan

Student Chapter President

NYU Tandon School of Engineering

Abstract

In this presentation, we will cover recent achievements of the New York University SAMPE Student Chapter. We have

recently teamed up with the Tandon School of Engineering to make NYU SAMPE part of the Vertically Integrated Project curriculum, whereby students can participate in SAMPE activities for school credit. In addition, we have held upwards of five workshops and lecture events, including our first ever Nanodays event that was held for a local girl scouts troop. Finally, we are looking to enter about 6 different beams for competition at SAMPE 2019 in Charlotte and have had various ongoing projects that will be discussing tonight!

We are pleased to present the following three speakers for our April 4th Student Night Meeting:

Novel Mechanical Properties of 2D Materials and a Prospective on Their Future Applications

Francesco Lavini
Ph.D. Candidate

NYU Tandon School of Engineering

Abstract

The study of the nanomechanical behavior of 2D materials' thin films has led to the discovery of novel mechanical properties deeply interesting for their application in innovative technologies. This research on graphene and its pressure-induced transition to an ultra-stiff, ultra-hard diamond-like structure (known as diamene), whose

discovery opened to a new class of light, thin active protective coatings, and on transition metal dichalcogenides (TMDC) solid lubricants, and in particular MoS₂ thin films frictional properties, whose understanding its fundamental in MEMS and tribological applications.

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 – Naman Buch, Broadview Tech.

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

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

New Jersey Chapter

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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), 2012 (Charleston)

ISEC – 1994 (Parsippany)

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Sponsor of the Month: Composite Prototyping Center

The demand for products utilizing composite materials such as carbon fiber, fiberglass and aramid is growing exponentially. Competing in today's brave new world of Advanced Composite Manufacturing requires vision and expertise as well as a trained workforce. The Composite Prototyping Center, CPC, offers services to include full prototype manufacturing, hands-on technical training from professional materials manufacturing experts, workforce development protocols and training, a full array of advanced state-of-the-art systems and equipment, education and implementation of the latest technologies, comprehensive production line technologies, testing capabilities, R&D support and new composite material

evaluation, all in a 25,000 sq ft facility. Additionally, Abaris Training conducts all of their east coast courses at the CPC facility. On site equipment includes an Automated Dynamics Fiber Placement Robot, a Bondtech 8x20 ft autoclave, two Wabash presses, 100 and 250 ton, a Stratasys 3D Printer, a Mark One Composite3D printer, a Wisconsin walk-in oven, a 1200 square foot Clean Room, a walk-in freezer, an Instron Universal Test Machine, and a Thermwood 5 Axis CNC router.

For more information,
please contact:

Composite Prototyping Center

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New Jersey Additive Manufacturing Symposium Jun14, 2019

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

The NJ Chapter of SAMPE(Society for the Advancement of Material and Process Engineering), 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 for this initial symposium. We have also invited equipment and material suppliers to present information about their products, and their expectations and needs for future development. The Symposium will collect and distribute all presentation materials. No formal papers are required for presentations.

In addition to the symposium, there will 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.

Registration Fee: \$150, to be credited towards a one- year professional membership to North American SAMPE (no charge for students). There will be a separate charge for table top displays.

Sponsorship Opportunities: Symposium sponsorship is available for \$300 for which your company will be featured in the program. Table top displays are available for \$500 which also includes the same sponsorship benefits

