



The Materials Information Society

LONG ISLAND CHAPTER

METALLAGRAM



Volume 53 Issue 3

Chapter website: <http://www.matscieng.sunysb.edu/asm/>

Next Meeting Wednesday, November 16, 2011

**Where . . . Charles B. Wang Center, Zodiac Lobby,
Stony Brook University, Stony Brook, NY**

******* Student Night *******

Oral and poster presentations by Stony Brook University Seniors

Joint Meeting with and ESG/ESM Programs

6 pm...Posters Start 6:30 pm...Buffet Food/Posters 7:30 pm...Two Oral Presentations

Members ... FREE! Guests ... FREE! ASM 25 years ... FREE! Students ... FREE!

(For ASM members, there will also be a free (within a limited budget) happy hour (5 pm-6 pm) in the University Cafe, located on the first floor of the Stony Brook Student Union, just a short walk from the Charles B. Wang Center).

Directions to Stony Brook University and the Charles B. Wang Center

Take the Long Island Expressway (LIE, I-495) to Exit 62, and follow Nicolls Road (Route 97) north for 9 miles. The main entrance to the University is on the left (do not take the south entrance, which occurs about ¾ of a mile before the main entrance). Turn left into the campus. Proceed to the parking garage to the left of the Administration Building. The Charles B. Wang Center is located directly across from the parking garage. It is the large gray building with red entryway fencing, and is also noted for the modern representation of a Pagoda on the rooftop. The telephone number at the Wang Center is 631-632-6320.

The Presentations

Tim Ela, Andy Hsiao - *"Heavy Metal Detector"*

Heavy metal contamination in food can cause illness and death and is widespread across the world. A fast, portable and affordable method for detecting the concentration of these toxins is needed. The goal is to create a low cost, handheld device that is capable of detecting concentrations, and sending the information to a cellular device for processing and digital display.

Gordon Chin, Calvin Ng - *"LifeBand"*

A heart rate/blood pressure monitor band worn on the upper arm could record the raw data in the form of blood flow velocity and frequency of pulses onto a flashdrive. The raw data can be synced onto a computer at the user's request and be analyzed to obtain heart rate and blood pressure for diagnostic purposes. Another function of the device would be to alert users via their cellular device of their condition (silent heart attacks) and their contacts as well as emergency responders if a cardiovascular event were to occur.


Giorgio Guidi, Carolina Jakob, Jill Geraghty, Steve Knox - *"Automotive Cooling System Locking Radiator Cap"*

A radiator cap is being designed that prevents removal when high temperature and pressure are present in the cooling system (radiator) of an automobile. Removal of said cap in these conditions can result in the release of hot pressurized steam which can cause harm to operators. Introduction of an elastomer in the design of the standard cap will create a locking mechanism that prevents the removal at high internal temperatures as a safety measure. In addition, the locking elastomer will be designed with a method for safe removal by a knowledgeable operator or technician.

Kayleigh Reamy, Deanna Quickle, Matthew Ross, Tom Kirshenheiter - *"Bump-It: A Portable, Energy-Generating Speed Bump for Construction Zones"*

Numerous vehicular deaths and injuries in construction zones necessitate a system to increase driver awareness and control speed. This speed bump's design is portable for ease of transport and installation. The top crest also collapses under the weight of the car, transforming the potential energy into electricity which will be utilized to power warning lights, aiding to increase awareness without further straining the power grid.

Continued→




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The Presentations (continued)

Ben Li, Qiyuan Wu, Panagiotis Orkopoulos, Radu Thomas, Zhihao Chen – “*Oil Skimmer Project*”

Oil spills such as the 2010 BP spill in the Gulf of Mexico underline the need to contain the disastrous leaks that accompany deep-water drilling. A new oil skimmer design, particularly of the drum and scrapper components, can improve the efficiency of this process. By optimizing the surface area, the skimmer can take a better advantage of the different viscosities of oil and its properties with respect to water, leading to a bigger oil quantity/time ratio versus that of existing skimmers.

Alyson Slanover, Aswitha Vempati, Chris Solomon – “*Panic Cane*”

Physically immobile and constrained people with dementia may wander and need to be located by a caregiver or emergency personnel. The goal of this project is to create a multifunctional assistive cane which includes an in-built tracking device to notify quickly the location for immediate response. Additionally, a light and panic button will be incorporated and easily accessible in state of distress promoting security and safety of the user.

Jialiang Xian, Gordon Chen, Jack Yu, David Yao – “*Cane/Reacher*”

Our design is a cane with a built-in reacher that will eliminate the need for the user to bend down to pick up items. The reacher will be fully enclosed inside the cane and the cane handle will be coupled with a lever to initiate the push-and-pull mechanism for the reacher. The reacher will expand from the bottom half, allowing the user to retrieve hard to reach items. The handle design will implement ergonomics for maximum comfort.

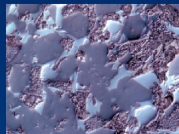
Umair Syed, Bradley Lesperance, Meng Li, Calvin Leung, Poornima Peiris – “*Power Step: The Battery Charging Shoe*”

The aim of this device is to transfer the energy produced by the walking/running movement to generate electricity, through the use of piezoceramics embedded in the heel of the shoe and protected by a gel-like substance. The impact/vibrations from running/walking will activate the piezoelectric material to generate electrical energy. In turn this energy would be used to charge handheld devices such as cell phones, iPods, GPS units, etc. Our design will encourage people to be healthy while they help make clean energy.

Daniel Ross, Daniel Migiorino, Krista Jados – “*Modular Piezoelectric Mats*”

Our project consists of a regenerative power mat that generates electricity for charging either batteries or large capacitance capacitors that would then be put to use for other needs. The mat will generate electricity through the use of piezoelectric materials embedded in the mat. Piezoelectric materials generate electricity when compressed or otherwise strained. By placing the mat where there is high foot traffic, such as the entrance of a building it could be used to generate electricity, through having many people walk over it, straining the material embedded into the mat. The mat could also be placed in areas of high vibration to generate electricity through the same means.

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2011 John R. Weeks Scholarship Winners

Octavia Williams of William Floyd High School (Mastic Beach) and Ethan Madigan of Bay Shore High School (Bay Shore) have been announced as the winners of 2011 John R. Weeks Scholarship, sponsored by the Long Island Chapter of ASM International. Both received a check for \$500 and a Joint ASM/TMS Student Membership. The scholarship is renewable for up to a total of four years.



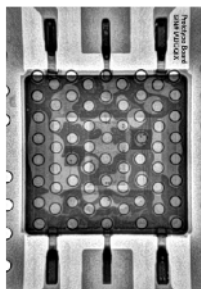
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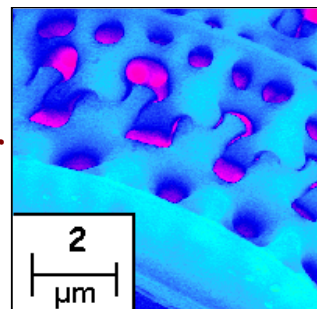
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WELCOME TO THE CHAPTER!

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Alex Fiakos, Metal Improvement Co. Yajie Liu, SBU Ross Lunato and Tim McCreight, Sulzer-Metco

Janice Meraglis, Applied DNA Sciences Stanley Michaud, DCMA Shawn Pottorf, Selden

Yang Tan, SBU Jason Trelewicz, MesoScribe

All new members, including those who have transferred in from another Chapter, are invited to dine free at a regular meeting of their choice. Please take us up on this offer - come along to the meeting and introduce yourself. This is an excellent way to meet with other Chapter members and to establish new business and social relationships in the area.

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Long Island Chapter Meeting Schedule

- Dec. 14, 2011** **Companions Night**
Place: Pollo Rico, Centereach, NY
Speaker: Joe Brady, BNL
Subject: Explosives
- Jan. ??, 2012** **Joint meeting with LIANS**
Place, speaker, topic: tba
- Feb. 21, 2012** **Past Chairs Night**
Place: Sonoma Grill, Holbrook, NY
Speaker: Charles Fortmann, SBU
Topic: tba
- Metro NY-NJ Chapter**
(website <http://www.asm.nynj.org/>)
(contact: Rich Lynch @ 201-891-8399)
- Nov. 15, 2011** **Place: Meson Madrid, Palisades Park, NJ**
Speaker: Ajax Tocco, Magnethermic
Topic: Induction Heating

Long Island Metal Workers Society

(website <http://www.limws.org>)

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