



# METALLAGRAM

LONG ISLAND CHAPTER



Volume 55 Issue 3

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

**Next Meeting . . . . . Wednesday, November 20, 2013**

**Where . . . . . Old Field Club, East Setauket, NY**

**\*\*\*\*\* Student Night \*\*\*\*\***

**Oral and poster presentations by Stony Brook University Seniors**

**Joint Meeting with and ESG/ESM Programs**

**6 pm...Posters Start 6:00-9:00 pm...Yummy Food 7:30 pm...Two Oral Presentations  
Members ... FREE! Guests ... FREE! ASM 25 years ... FREE! Students ... FREE!  
Cocktail-party style is three hours long. Included are seasonal fruit and international cheese display,  
antipasto display, pasta station, and high end passed hors d'oeuvres. Cash Bar.**

**RSVP to Chandrani Roy [Chandrani.Roy@StonyBrook.Edu](mailto:Chandrani.Roy@StonyBrook.Edu)**

## The Presentations

**Chantal Douglas, Juliana Rogin, Emma Tobias**  
***“Automated Safety Harness Fall Alert System”***

A safety harness can prevent injury from an initial fall but it fails to protect the wearer from the risk of suspension trauma. The goal of our project design is to reduce rescue response time between victim and rescue personnel, and to facilitate communication between the two parties in the event of a fall accident. This device is intended to be used by safety harness wearers who are in remote locations and cannot execute self-rescue receive help from a person nearby, This design will automatically alert emergency personnel and a programmed primary contact with the victim's GPS location.

**Weixiang Fang, Brittany Gaddy, Danielle Lieber, Sean Wilson**  
***“Household Water Conservation System”***

As fresh water scarcity increases, there is a growing need for water conservation. This can be achieved on a household scale by recycling the cold water that is normally wasted when waiting for hot water when taking a shower. Currently, existing hot water recirculating systems focus mainly on providing hot water instantaneously, which requires an inefficient, energy intensive process. To improve on this, the system will be made on-demand to limit energy inputs and focus on maximizing the amount of water saved.

### More Presentations

**Ram Pandya, Srujana Kanchibhotla, Mohammed Shahed**

***“Angular Knee Measure with Digital Display”***

Physical rehabilitation is an integral part in enhancing and restoring functional ability to those that deal with physical impairments or disabilities. It is imperative that those undergoing this treatment have the ability to exercise properly at home to maximize results. Our goal is to create a multi-featured goniometer that is affordable to the general public, so that it can be used to ensure proper form during exercise and rehabilitation without the immediate guidance of a professional.

**Sheri Bossong, Peter McChensey, Mier Muller, Kumar Persaud**

***“Solar-Powered Wastewater Treatment Station”***

In developing countries, there is an inadequate method for treating wastewater leading to an increase in disease and illness due to unsanitary conditions. The solar powered wastewater treatment station is to supply areas that do not have access to water treatment facilities an easy, convenient, efficient and cheap way to handle their solid waste.

**Gyeongmin Choi, Kai Suen**

***“Heavy Metal Testing Kit for Soil and Food”***

The industrial development is growing larger. Industries often discharge polluted water into lakes or rivers, mainly in China and India. The land nearby usually absorbs these water, and hence the land is contaminated by heavy metals. Yet, when these lands develop into farmland, the products grown are then contaminated as well. There are many testing kits for Pb in industrial products and there is a need for a new method to test for toxic contamination, not just for big farmland, but also for household. The idea is to develop a test kit that gives a simple field test for fruit, vegetables or even the soil whether they are contaminated or not.

**Angela Horstman, Eric Agruso, Joseph Nowak, Michael Dolan, Oleg Shayko**

***“Mobile Bicycle Generator with a Solar Assist”***

Throughout the world not only is there a need for electricity but there are many areas that lack an easily accessible source. By harnessing a natural source along with energy from transportation we will create easier access to a power source. The worldwide daily use of bicycles and the increasing demand for electronic devices creates the need for people to use both regularly. Our product will merge the two similarly to how the automobile has.



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### And Yet More Presentations

**Zachariah Smith, Rob Carroll, Harshdeep Banwait, Ryan Gaudreau**  
***“Motorcycle Helmet with Air Purification System”***

As the amount of traffic worldwide increases, poor air quality on the road has become an increasing problem. Air conditioning provides fresh air for automobiles, but motorcycle riders have yet to find a way to overcome this problem. A new motorcycle helmet design with active filtration system would be a primary step towards providing clean air to riders.

**Dominic Silva, Steven Rosner, Jawad Mourabet, Benn Yiufat Lam**  
***“Carbon Monoxide Suppression Device”***

Exposure to high levels of carbon monoxide (CO) is incredibly dangerous. Currently, carbon monoxide suppression systems are not available for residential use. Our portable device aims to prevent illnesses and/or deaths caused by carbon monoxide exposure by lowering the CO concentration via a catalytic oxidation reaction.

**Dana Angelo, Kenneth Brown, Cicely Li, Katherine Mora, David Skaritka**  
***“User Retractable Training Wheels“***

Current bicycle training wheels do not effectively or safely promote children's progression to two-wheeled bicycling. Our goal is to design a training wheel system that will enable the user to lift the wheels to different heights while riding. A safety system will automatically engage the wheels to the ground to prevent the rider from falling.

**Kirill Nitikin, Filip Magda, Karl Rosello, Matthew Granata, Ian Sutherland**  
***“Modular Pipe Diagnostic and Repair System”***

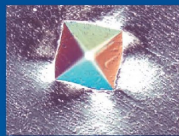
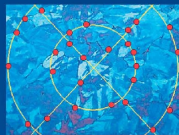
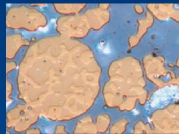
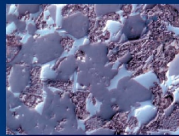
Cracks in pipes are difficult to both detect and repair, potentially causing significant property damage. Our aim is to create a device which will be able to traverse a pipe in order to locate pipe cracks with a series of cameras. The device is intended to function mostly autonomously using a pneumatic movement system. After a crack is located, the device will attempt to fix the crack with an epoxy deployment apparatus



**LIASM Tour of**  
**Sulzer Metco,**  
**Westbury, NY**  
**October 16, 2013**

**Photographs by**  
**Frank Fumelli,**  
**Sulzer Metco**

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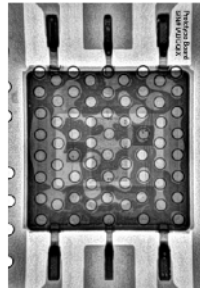
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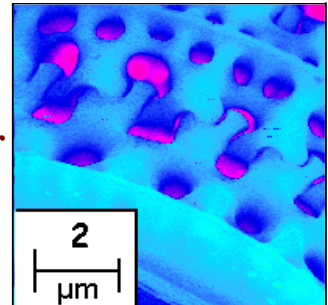
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## Directions to Old Field Club

From The Long Island Expressway (495) either direction:

Exit 62 N (Nichols Rd. Rte 97). \*\*\*Take Nichols Rd. to the end. Turn left onto Rte 25A, go about one mile. Turn right onto Quaker Path (opposite Stony Brook LIRR Train Station). Take Quaker Path north 1.3 miles to fork. Stay left at fork onto Mt. Grey Rd. Take Mt. Grey to West Meadow Rd. and turn left onto West Meadow Rd. The Old Field Club will be on the left, after the tennis courts.

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### Long Island Chapter Meeting Schedule

**Dec. 11, 2013** Place: Mauricios's in St. James  
Speaker: Frank Szalajda, SBU  
Subject: Materials & Inspection

**Jan. ??, 2014** Joint Meeting with ANS  
Place: tbd  
Speaker: tbd  
Subject: tbd

**Metro NY-NJ Chapter**  
(website [www.asminternational.org/portal/site/metronynj/](http://www.asminternational.org/portal/site/metronynj/))  
(contact: Rich Lynch @ 201-891-8399)

**Nov. 21, 2013** Sustaining Members Night  
Place: L’Affaire, Mountainside, NJ  
Speaker: Brian Wright, Columbia HS  
Subject: Material Science in the High School – Exciting and Preparing Students for a STEM Career

**Long Island Metal Workers Society**  
(website <http://www.limws.org>)

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