



METALLAGRAM

LONG ISLAND CHAPTER



Volume 56 Issue 3

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

Next Meeting Wednesday, November 19, 2014

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

In Memoriam: Carl Czajkowski, BS, MS, PhD, 1948-2014

It saddens us to report the untimely death on October 14, 2014, of Carl Czajkowski, a long-time and very active member of the Chapter. Carl became a member of the Executive Committee soon after he joined us in 1980 and thereafter served in numerous positions, including Chair of the Chapter more than once. He personally conducted education courses and initiated the ever-popular annual wine tasting dinners. Carl was most enthusiastic when encouraging students in their development in the field of metallurgy and materials science, and himself served on ASM international's Education committee. His own professional career began in 1971 at United Nuclear, Inc. In 1973 he joined Ebasco and later worked at LILCO as the Chief Welding Supervisor at the Shoreham Nuclear Power Station. Carl joined the Brookhaven National Laboratory in 1980 and remained there until his retirement in 2013. During this time he held various positions of increasing responsibility (Group Leader, Associate Division Head, and Division Head) in the Departments of Nuclear Energy, Advanced Technology, and Nonproliferation and National Security. Following his retirement, he found more time to devote to two of his favorite hobbies – bridge and scuba diving. Ironically, it was while he was spearfishing in the Long Island Sound that his life ended. That Carl, with his energy and irrepressible humor, will be missed by the Chapter (and, indeed, by all who knew him) is a massive understatement. At this time the Chapter wishes to express its condolences to his wife, Donna, their two daughters, Kim and Lori, and the extended family on their loss. Should anyone wish to extend their personal condolences to Donna, her address is P.O. Box 129, South Jamesport, NY 11970.

The Presentations

"Peltier Camping Kit"

Fatimah Ashekun, Jessica Barnett, Vilyana Kalinkova, Richard Schmoll, Chatrik Sodhi

If you get in a dangerous situation while camping and you are without access to outlets to charge your dead phone, what do you do? The Peltier Camping Kit utilizes the Seebeck Effect to produce electricity, without being connected to a major power source. All that's needed is a heat gradient, which will be produced by a grill and a cooler. The immediate thermal gradient between the two sides of the Peltier device will induce a voltage, which will then be transferred to a charging station that will store the energy as electricity. You can cook and keep drinks cold, all while charging your USB devices.

"Timing Device for Pinsetting Motor Activation"

David Colucci, Andrea Gabriele, Jared Ferraro, Kyle Jaworowski, Larry Nembhard

Older bowling alleys spend thousands of dollars a year on electrical costs to run the old fashioned motors that set the pins. These motors run continuously throughout the day once the lane is turned on. We aim to build a device that maximizes the efficiency of older pinsetting machinery. After a predetermined period of inactivity on the lane, the timing device will shut the motor off. The timing device will easily tap into the existing circuitry of the lanes and will be cost effective. Our project will allow bowling alleys to save money in electrical costs and energy, without the need for a complete and costly renovation.

"Multipurpose Bike Lock"

Ali Islam, Naomasa Miki, David Wang, Yuwei Wang

Bike owners typically pump their bike once a week. With our integrated bike pump and lock design, bikers will always have a pump with them wherever they go. The primary goal of our design is to provide a multipurpose lock to prevent theft, flat tires and accidents at night. The coil of the lock will be made from thick high-carbon stainless steel, making it much tougher to break. The pump is integrated into the lock head. Additional functions include a reflective coating for night-time riding. This design will provide safety, convenience and ease of use for all bikers.

Parkinson's Cup

Ramey Baul, Anamul Haque, Steeve Lebrun, Kiranjit Singh

Parkinson's is a degenerative disorder that affects the central nervous system due to the death of dopamine creating cells. The most relevant symptom of this disorder includes mild to severe tremors. Extensive research to fight this disorder and figure out the cause of such disorder is still under way. We seek to create a versatile cup that interacts with the movement of those afflicted. The cup will counteract the tremors of the person to prevent spills.

"Anaerobic Biogas Generation System for Residential Use"

Joseph Byun, Jessica Cruz, Alicia M. Elliott, Rachel Fenwick, and Tom Orvis

Compostable materials composed over 50% of the U.S. municipal solid waste (MSW) stream in 2012, according to the Environmental Protection Agency. The combustion of methane generated from anaerobic decomposition of this material can serve as a renewable, carbon-neutral energy source, simultaneously decreasing unnecessary contribution to the MSW stream. Our biodigestion system will safely produce and capture methane-containing biogas from compostable waste for residential use. The system will serve as a controlled environment, with the opportunity to monitor moisture, pH, and temperature levels, thereby facilitating the anaerobic breakdown of the waste by methanobacteria more efficiently than is typically achieved in nature. The process will generate combustible biogas and soil-enriching fertilizer solids as byproducts.

Circuitification Tower

Brian Bedney, Gordon Burrows, Jimmy Lee, Adrian Otreba, Ling Rong Qiu.

As the costs of heating homes rises yearly, new innovations need to be created to save homeowners money on their heating bills. The Circuitification Tower is a system that will save homeowners money on their monthly heating. Designed to combat the effect of thermal stratification, the tower will circulate the relatively much warmer air from the top of the room and mix it with the cooler air towards the ground level of the room. Equipped with two fans, the tower will be able to mix the air in the room consistently, which will increase or maintain the room temperature. This saves the homeowner money from having to increase or turn up the heat in a room.

More Presentations

“Improved Stove with Particulate Reduction System”

Michael Brauner, TianHe Qu, Lacey Schwab, Justin Wong

To be environmentally responsible, the burning of hydrocarbon fuels should not be entirely eliminated, but used more efficiently. “Improved” make burning hydrocarbon fuels much more efficient but the ultrafine particles that are emitted are more harmful to human health than the fine particulates emitted from traditional stoves. The goal of our project is to create a system that will reduce the amount of these harmful ultrafine particulates exiting from the exhaust.

“Sustainable Supplement to Single-Use Coffee Pods (3SUCP)”

Olesya Bylim, Michael Penn, Alia Rafiq, Megan Salazar, Devin Sullivan

Last year alone, more than 6 billion single-use-cups of coffee grounds were discarded in landfills. The excessive amount of time and effort needed to separate the coffee pod into its individual components stands in the way of sustainable disposal. Our team's proposal is to create a device that receives coffee pods and automatically separates, cleans, and prepares the single-use-cup for recycling. This multi-step process involves separation of the aluminum lid, plastic cup, paper filter, and coffee grounds into easily recyclable components.

“Automated UV Towel Sanitation and Drying System”

Priya Dadd, Srujana Khanchibhotla, Fabiel Nunez, Kevin Thorp, Weishi Yan

The continuous use of a damp towel over a period time creates the perfect environment for bacteria and fungus to grow (e.g., dermatophytes such as athlete's foot and ringworms). Our solution is to create an easily portable and mountable towel disinfectant system. The system would be able to properly dry and sanitize towels (using UV-C technology) before every individual use. Our initial cost analysis is ~\$200. This design ensures our model does not overheat and does not waste electricity.

“Self-Watering Irrigation System”

Alison Egbon, Joseph De Molfetto, Samiha Shakil

Conserving water is an important issue in society. Over the past decade droughts have been intensifying in the United States, and for much of 2014, 30% of the country has been in a moderate drought. Gardens require a large amount of water to maintain. The self-watering irrigation system will provide an efficient way to water a small garden, requiring no contribution from a home water supply and very little maintenance. The device will use an air-to-water technique which will condense the humidity in the air to produce water. The water will reach the plants through a drip system.

“CPR Training Mat”

Kilian Cardo, John Biore, Joseph Savelli, Andrew Zhang

Cardiopulmonary resuscitation (CPR) is a technique when, executed properly, has the potential of saving a human life. However, cases exist where individuals practicing this technique were unable to deliver adequate compressions, and failed to properly stimulate the heart. With the introduction of the CPR training mat, one will be able to accurately monitor the depth and force of each compression, ensuring the technique is performed in a uniform and efficient manner.



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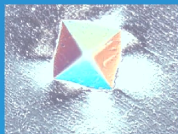
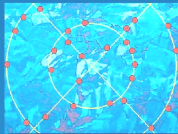
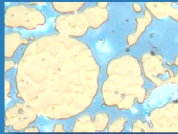
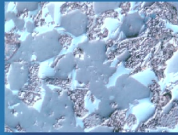
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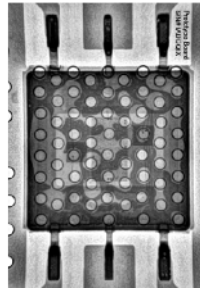
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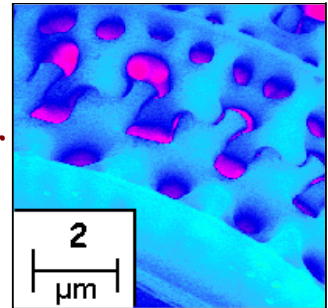
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Long Island Chapter Meeting Schedule

Dec. 10, 2015 Topic: Power Supply's Infrastructure
Place: Pollo Rico, Centereach
Topic: tbd

Jan. ??, 2015 Joint meeting with LIANS
Topic: tbd
Place: tbd

Feb: 18, 2015 Topic: tbd
Place: tbd

Mar. 11, 2015 Topic: tbd
Place: tbd

Metro NY-NJ Chapter

(<http://metronynj.asminternational.org/portal/site/metronynj/>)

Nov. 20, 2014 Topic: TBA (Trustee's Visit)
Place: L'Affaire, Mountainside, NJ

No meetings in December, 2014 or January, 2015

Long Island Metal Workers Society

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

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[() – term expires]

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