



# METALLAGRAM

**LONG ISLAND CHAPTER**



Volume 58 Issue 3

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

**Next Meeting . . . . . Wednesday, November 16, 2016**

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

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

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

**Joint Meeting with 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)**

### **Directions to Old Field Club**

From The Long Island Expressway (495) either direction, take Exit 62 N (Nichols Rd. Rte 97). Follow 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) and stay on Quaker Path north 1.3 miles to fork. Stay left at fork onto Mt. Grey Rd. and follow to West Meadow Rd. Turn left onto West Meadow Rd - the Old Field Club will be on the left, after the tennis courts. Physical address: The Old Field Club, 86 West Meadow Road, East Setauket, New York 11733. Telephone: 631 751 0571. Web site: <http://www.oldfieldclub.com/>.

## The Presentations

### **"Automated Sealer for Trash Bags and Other Purposes"**

*Taryn Black, Sergey Gelman, Olivia Higgins, Lauren Slater, Abdullah Yar*

An automated novel sealing mechanism for the medical industry that closes trash bags from inside the trash receptacle. The invention facilitates the disposal of waste, mitigates interaction with hazardous medical waste, and saves time spent on tying the trash bag. Both mechanical and electrical subsystems of the closing mechanism are controlled by an Arduino. Weight and infrared sensors are implemented to activate the sealing system for an accordingly timed seal based on the weight or intrinsic height of the waste. The determined full bag will be closed permanently with cable ties.

### **"D.A.B.: Drug Accountability Bracelet"**

*Chukwuka Otuonye, Nitasha Roy, Teresa Martusciello, Mack McGuinness, Nicholas Olynik*

The Drug Accountability Bracelet (D.A.B.) is a wearable device focused on the detection of illicit drug usage. When a drug such as cocaine is used, it will metabolize in the liver. The unique metabolite, benzoylecgonine, is excreted through bodily fluids. Primarily urine is used to detect this metabolite, but benzoylecgonine also appears in sweat. This correlates to an individual's usage of cocaine. Typical detection processes require several days after individual's use of cocaine. However, the D.A.B. will be able to quickly detect the metabolite either by an electrochemical reaction or based on acidity within 24 hours. Additionally, this device will include a heart rate sensor to determine if the individual is wearing the device.

### **"Self-sorting Recycling Machine"**

*Jacqueline McGlynn, Joseph Giambalvo, Kharese Gittens, Oluomachukwu Agwai, Yeonjae Ji*

In recycling processes, proper separation of plastics, glass, and aluminum refuse is vital. Even in recycling outlets where separate bins and adequate labels for recyclable material is clearly displayed, wrong refuse are often dumped into the wrong bins. This design will tackle this issue by automatically sorting glass bottles, plastic bottles, and aluminum beverage cans and placing them into the proper recycling bin. The design will incorporate the use of photoelectric and inductive sensors to identify the composition of the recyclable and traffic the recyclable into its allotted bin via the use of motor-driven sliders.

### **"Up-N-Atom Safety Walker"**

*Richard Pilla, Sean Samaroo, Keemari Thompson, Matthew DeKoning*

Currently, wheeled safety walkers are very barebones, and consist of cheap parts, and in some cases present new dangers to the elderly and disabled. This design will improve on contemporary designs and incorporate additional safety features. Using infrared and ultrasonic sensors, the walker will detect obstacles and alert the user to prevent tripping. The alert will be based around a vibration system. Additionally, a locking wheel brake system will be connected to touch-activated handles and lock the brakes after the handles are released to prevent slipping while sitting or leaning on the walker. A switch will also be included to allow the user to either disable the obstacle alert system, wheel brake system, or both.

(cont.>)



**WANHUK BRIAN CHOI, PH.D.**  
Chief Operating Officer

10 Technology Drive, Unit 3  
East Setauket, NY  
11733-4063, USA

Tel: (631) 739-8818  
Fax: (631) 675-2533  
brian.choi@reliacoat.com  
www.reliacoat.com



3-D PRINTED SENSORS AND ANTENNAS

**JEFFREY BROGAN, PH.D., CEO**

100 North Country Road, Suite #4  
East Setauket, NY 11733

WWW.MESOSCRIBE.COM TEL: 631 686 5710 EXT. 1#  
JBROGAN@MESOSCRIBE.COM CELL: 631 335 8991

## **The Presentations (cont.)**

### **"Automated Wiping System"**

*Diming Lu, Jiawei Zhou, Oliver Lockwood, Richard Pak*

The automated wiping system is a device that is used to efficiently and quickly erase the markings on a whiteboard. This device has an adjustable top and bottom bar, which is attached to the top and bottom of the whiteboard, acting as the frame for the device. The frame gives the wheels that are attached to a vertical bar the direction to travel. The vertical bar is assembled piece by piece which allows user to freely adjust the width of the wiper. It also encases the motor that powers the movements of the wheel. On the side which meets the surface of the whiteboard is the dry eraser. This device will clean whiteboards faster, which will allow teachers to have more time to focus on teaching.

### **"H2Woah - Water Consumption Monitoring Device"**

*Narmin Hasanat, Zachary Licht, Howard Siegfried, Andrew Sullivan, Antonio Xu Liu*

Despite efforts to reduce wasteful water use, showering is still one of the largest contributors to an individual's water consumption. H2Woah aims to provide users with real-time feedback concerning their showering habits in an effort to drive down waste. The minimally invasive shower head attachment offers a quantifiable and relatable unit in the form of dollars spent per shower, with relation to the cost of water based on location. An easy-to-use LCD display will indicate features such as a live feed of the monetary cost of the shower, and temperature. Longterm showering trends can be tracked using a compatible mobile application.

### **"Steam n' Clean"**

*Kevin Aguila, Sergio Daly, Daniel Melin, Colin O'Connor, Stanley Shaji*

In everyday life most people have to either steam or iron their clothes in order to look presentable for work or a social occasion. Currently many people live fast paced lifestyles that leave no time for these tasks. Within this age of technology there lies the means with which to automate past technologies. This design will steam clothes automatically, resulting in one less thing for people to worry about. The scope of this project encompasses a fully automated and programmable steamer with the addition of a UVC light for dissipating bacteria buildup. Our design will both steam and refresh clothing.

### **"Emergency Siren Detection System"**

*Jorge Bonilla, Richard Chen, Aidan McNaughton, Alexander Schreiber*

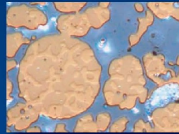
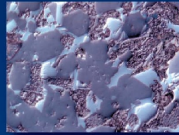
The inability of a driver to perceive and/or locate the source of an emergency siren frequently results in collisions with emergency vehicles. A device capable of detecting and alerting a driver of the presence of an emergency vehicle will act to absolve this issue. The proposed design will distinguish and locate an emergency siren and inform the driver of these parameters by utilizing multiple frequency detecting sensors. The device's processing unit will be situated inside of the passenger vehicle, with the sensors being housed and mounted externally.

### **"The Sea-Bass"**

*Rohan Sanyal, Tyler Yee, Naveed Ahmed, Lautaro Epstein, Sebastian Woznicki*

Access to electricity is important to everyday societal functions. Our project aims to create a device to generate and store electricity by utilizing turbines rotated by flowing water. The electricity produced would be stored in a lithium-ion battery and be accessible through an outlet housed within the body. The body will be secured using a line and will be semi-submerged in a source of flowing water. The majority of the chassis will be manufactured through 3D printing so as to reduce the rolling resistance that the turbines will endure, allowing for increased rotations-per-minute (RPM) to produce more energy. The energy harnessed will provide ample power to operate various electronic devices.

# Carl Zeiss... for all your state-of-the-art Microscopy & Digital Imaging needs



Offering features such as Image Archiving, Grain Size analysis, Dendritic Arm Spacing measurement, Non-Metallic Inclusion, Graphite and more...

Carl Zeiss MicroImaging, Inc.  
Thornwood, NY  
1.800.233.2343  
micro@zeiss.com  
zeiss.com/materials



We make it visible.



**LAWRENCE RIPAК CO., INC.**

NDT • METAL FINISHING

**LAWRENCE RIPAК, JR.**  
President, CEO



Lawrence Ripak Co., Inc.  
165 Field Street  
West Babylon, NY 11704-1299

Office: (631) 694-1818  
Fax: (631) 694-1818  
Email: lripak@ripak.com

**NONDESTRUCTIVE TESTING**

- Magnetic Particle
- Fluorescent Penetrant
- Visible Dye Penetrant
- Contact Ultrasonic
- Immersion Ultrasonic with data acquisition
- X-Ray
- Nital Etch
- Eddy Current

**CLEANING**

- Passivation
- Abrasive Blasting
- Glass Bead Blasting
- Plastic Media Blasting
- Acid Pickle Cleaning
- Alkaline Cleaning
- Parts up to 20' Long

**ANODIZING**

- Boric-Sulfuric
- Chromic
- Sulfuric
- Parts up to 18' Long

**PLATING**

- Titanium-Cadmium
- Cadmium
- Brush Plating

**PAINTING**

- Primers
- Top Coats
- Dry Film Lubricants
- Fuel Tank Coating
- Teflon
- High Temp Primers
- Masking

**SHOT PEENING**

- Automatic and Manual
- Regular & Hard Cast Steel
- Glass Bead
- Ceramic
- Parts up to 8 Feet Long
- Post-Peen Cleaning

**CONVERSION COATINGS**

- Alodine 1200
- Phosphate Fluoride
- Sol-Gel

**OTHER PROCESSING**

- Stress Relieving
- Conductivity Testing
- Hardness Testing
- High Humidity Testing
- Salt Spray Testing



**CLAD METAL SPECIALTIES**

www.cladmetal.com  
1516 Fifth Industrial Court  
Bayshore, New York 11706

*"Your Need Time is our Lead Time"*

Denise Marcoccia  
Vice President

ph 631/666-7750  
fax 631/666-5347  
dmarcoccia@cladmetal.com

A World of  
Engineering & Testing  
Under One Roof™



www.dtb.com

**ATUL GOKHALE PHD**

Chief Metallurgist  
Engineering & Test Division

1195 Church St.  
Bohemia, NY 11716

Direct: (631) 589-6300 x614  
Mobile: (631) 926-0209  
Fax: (631) 589-6440  
E-mail: agokhale@dtb.com

## FORMISANO & ASSOCIATES, INC.

Welding Engineers • Consultants  
Expert Witness • Litigation Support  
QA/QC • Certified Inspection

### BARRY FORMISANO, PRESIDENT

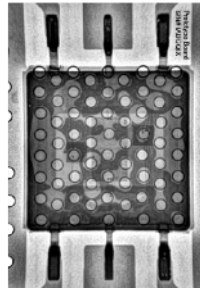
Cell: (914) 388-0155  
Email: formisano.assoc@att.net

P.O. Box 324  
Gardiner, NY 12525  
Phone/Fax: (845) 255-8225

125 Wolf Road  
Albany, NY 12205  
Phone: (518) 925-8306

## WALDVOGEL METALLURGICAL, INC.

MATERIALS ANALYSIS - FAILURE ANALYSIS - MATERIALS TESTING



**ELECTRONIC DEVICE FAILURE ANALYSIS**  
**PRECISION METALLOGRAPHIC ANALYSIS**  
**IMMEDIATE TURNAROUND**

TELEPHONE: 516-564-7839  
FAX: 516-485-2039  
CELLULAR: 516-967-8576  
E-MAIL: waldvogelmet@verizon.net

## L. I. T. Labs, Inc.

Metallurgists/Analysts



Since 1985

Chemical Analysis      Mechanical Testing  
Metallography      Metallurgical Failure Analysis  
Expert Testimonies      Welder's Qualifications  
Weldability Evaluations

### T. Rao Tipirneni, President

97 Marcus Boulevard      P: 631-643-6792  
Hauppauge, NY 11788      F: 631-643-5628  
[www.litlab.com](http://www.litlab.com)      [rao@litlab.com](mailto:rao@litlab.com)

Specialists in Aerospace Materials Testing Since 1985

## STONY BROOK

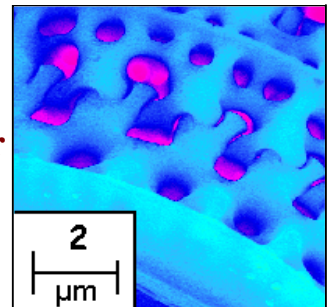
STATE UNIVERSITY OF NEW YORK

**University/Industry  
Partnering Together**

**Your samples-Our SEM**

We also have OM, XRD,  
RP, and much more.....

Dr. Jim Quinn  
631-632-6663 or 8495  
[james.quinn@stonybrook.edu](mailto:james.quinn@stonybrook.edu)



**MetLab**  
Corporation

**FREE SHIPPING & 10% OFF**

call 1-800-828-6866 for more information



**FOR ALL YOUR METALLOGRAPHIC NEEDS SINCE 1968**

[www.metlabcorp.com](http://www.metlabcorp.com)

1-800-828-6866



**Solutions for  
Materials Preparation,  
Testing & Analysis**



**BUEHLER**  
An ITW Company  
41 Waukegan Road • Lake Bluff, IL 60044  
(847) 295-6500 • www.buehler.com

**For more information,  
contact:**  
Scott Prenovitz  
(508) 361-8451  
scott.prenovitz@buehler.com



**Struers Inc.**  
24766 Detroit Road  
Westlake, OH 44145-2525

Direct/fax 203.380.0563  
Telephone 440.871.0071 ext 867  
Fax 440.871.8188  
www.struers.com • lservino@struers.com

**Luca A. Servino**  
Account Representative  
New England



**UNITRON®**  
**Excellence by Design**



**Peter D. Indrigo**  
Senior Vice President  
peterd@unitronusa.com

73 Mall Drive, Commack, New York 11725  
www.unitronusa.com  
Phone: 631-543-2000  
FAX: 631-589-6975

**2016-2017 CHAPTER OFFICERS**

**Chairman**  
Jim Quinn - (631) 632-6663, Stony Brook University

**Vice Chairman**  
Ken Trelewicz - (631) 244-6238, MatEcon, Inc.

**Secretary**  
Mike Guggenheim - (631) 643-6792  
Long Island Testing Lab., Inc.

**Treasurer**  
Peter Indrigo - (631) 589-6666. Unitron Ltd.

**Executive Committee Members**

Atul Gokhale, Dayton T. Brown  
(631) 926-0209 x614

Dan Migliorino, ReliaCoat Technologies  
(631) 739-8818

Collin Olson, D'Addario  
(631) 439-3335

Jake Ranneklev, Curtiss-Wright Corp.  
(631) 756-4740

Rao Tipirneni, Long Island Testing Laboratories Inc.  
(631) 643-6792,

James Waldvogel Waldvogel Metallurgical Inc.  
(516) 564-7839

**ADVISORY**  
Biays Bowerman - (631) 344-2946  
Brookhaven National Laboratory



**EXTEC®**

High quality, precision supplies & equipment  
for: Cutting • Mounting • Grinding • Polishing

**Order online today at WWW.EXTEC.COM**

See the new Extec® Labcut 5000 Advanced Composite  
Plate Saw Series at [www.labcut5000.com](http://www.labcut5000.com)

**Long Island Chapter Meeting Schedule**

Dec. 14, 2016	Companions Night Topic: Plum Island Speaker: Doug Ports, DHS Location: Pollo Rico, Centereach, NY
Jan. ??, 2017	Joint Meeting with LIANS Topic, Speaker: tbd Location: Pollo Rico, Centereach, NY

**Metro NY-NJ Chapter**  
<http://www.asminternational.org/web/metro-nynj-chapter/home>

Nov. 20, 2016	Topic: Forensic Materials Engineering Speaker: Larry Hanke, ASM Intl. Trustee Location: Triestina Ristorante, Cranford, NJ
---------------	----------------------------------------------------------------------------------------------------------------------------------