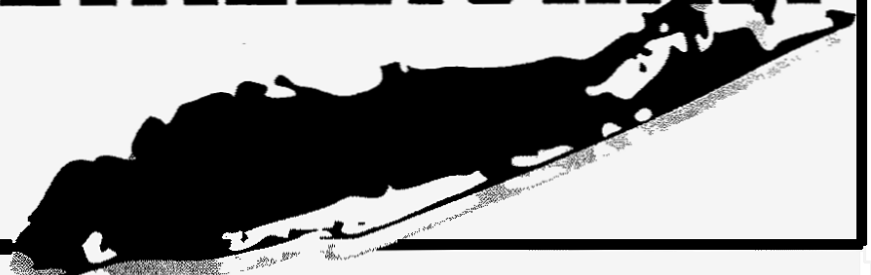




METALLAGRAM

LONG ISLAND CHAPTER



Volume 66 Issue 8

Chapter website: <http://DoL1.eng.sunysb.edu/asm/>

STUDENT NIGHT

Next Meeting Wednesday, April 16, 2025

Where Old Field Club, East Setauket, NY

Oral and poster presentations by Stony Brook University Seniors

Joint Meeting with ESG/ESM Programs

6 pm...Start, Networking, Free Buffet, and Cash Bar

Limited number – pre-registration required

(sorry - no walk-ins allowed)

Email Jim Quinn to secure your spot RSVP james.quinn@stonybrook.edu

Directions to Old Field Club:

From the Long Island Expressway (495) either direction, take Exit 62 N (Nichols Rd., Rt. 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. <http://www.oldfieldclub.com>

(GPS systems are known to get this location incorrect)

PillPal: Smart Medication Dispenser

Kamran Ramlatchan, Jason Michelakis, Shayna Halop, Taney Sankar

The rate of medication adherence is around 50% in developed countries. This means that half of people who take medication regularly do not take it as prescribed. For many the daily task of juggling various medications can be daunting and confusing, especially for those who are elderly or have chronic conditions. Our project focuses on the design and development of a “smart” medication dispenser, utilizing ESP32 programming and 3D printing technology. The device aims to provide a reliable and automated solution for medication management, addressing the needs of individuals who require precise and timely medication intake. Key features include customizable dosage schedules, alerts to remind users when to take their medication, and real-time status updates. The success of this project demonstrates the potential of combining 3D printing and microcontroller programming in creating innovative healthcare solutions.

TheraPT

Thomas Budzitowski, Jonathan Failla, Ishaan Jain, Danny Wang

After an injury, finding the right resistance to regain strength can be a challenge for both the physical therapist and the patient. TheraPT (PT stands for physical therapy) aims to solve this by providing a baseline that a physical therapist can use to provide better service. The device uses a system of pulleys, a load cell and motor, which will tell the user how much force they applied and allow them to perform movements with resistance created by the motor. The device will be height adjustable with attachments to accommodate different body parts and movements.

Targeted Recycling for Individual Materials (TRIM)

Alisher Abdurazzokov, Zhi Gao, Justin Harrison, Li Lian Mai, Kexin Zhang

Single-stream recycling is the main method of curbside recycling in the United States. While it is convenient and efficient, it also comes with disadvantages including increased contamination, higher costs for sorting, and lower-quality recyclables, especially in public spaces. With a recycling sorter device powered by solar on top of existing standard garbage cans, plastic, glass, and aluminum cans and bottles, as well as improperly disposed of waste, will be sorted accordingly before they get sent to their respective processing facilities. This will save costs on manual sorting and minimize contamination between recyclables and other waste, and consequently, increase recycling rates.

Bench Buddy

James Delea, Matt DeStefano, Harrison Feusi, Keaton McNulty

The bench press is a staple strength training exercise, however it can pose an immense safety risk. For this reason, gym goers often do this movement with a partner or 'spotter', who can assist in lifting the weight if it becomes too difficult. This method, while safer, is not foolproof, as the strength and experience of the spotter plays a major role, additionally it does not protect against drops. The bench buddy aims to be the solution for those looking for a safer way to bench press, especially with the rise in popularity of the home gym. By providing mechanical assistance in lifting the barbell on those hard-to-complete reps, users of the bench buddy can go without the traditional human spotter. This will be accomplished by a powerful motor coupled with sophisticated electronics, providing real-time feedback about the position and velocity of the barbell. Additionally, this system will be able to prevent accidents from a dropped barbell with its integrated braking system.

Generating Auto Top Off (GATO)

Antonio Colao, Ceasar Johnson, Maisha Khan, Sylvia Tabor

Household fish tanks experience significant daily evaporation, which causes imbalances in salinity and decreasing water levels. Consequently, fish tank owners must refill their tanks with treated water, manually or with an Automatic Top Off (ATO) device. The Generating Auto Top Off (GATO) passively maintains water levels using atmospheric water generation (AWG), eliminating the need for large reservoirs while saving water by reclaiming evaporation losses. The GATO incorporates a thermoelectric dehumidification system to recapture water and a filtration system to ensure the water is treated before entering the tank. Utilizing water sensors, the GATO automatically activates to replenish water when low levels are detected. With the GATO, a stable environment will be maintained for fish while reducing regular maintenance for owners.



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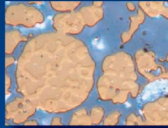
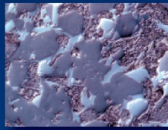
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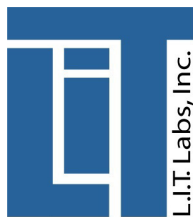
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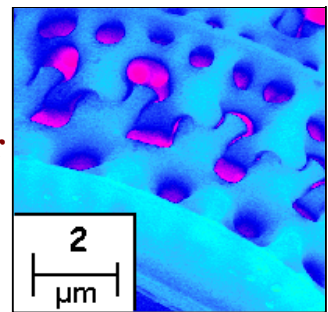
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ON-LINE FORUM

ASM now has an active on-line forum called "ASM Online Member Community". You can join by going to:

<https://www.asminternational.org/communities>

Long Island Chapter Meeting Schedule

- Feb 19, 2025** **Rick Schwartzman, RGS Consulting**
Electronic Materials and
Quality Assurance
Pollo Rico, Centereach, NY
- Mar 26, 2025** **Jonathan Gutleber, Oerlikon Metco**
CMAS Resistant Coatings
Pollo Rico, Centereach, NY
- Apr 16, 2025** **Student-Nite**
Old Field Club

Metro NY-NJ Chapter

www.asminternational.org/web/metro-nynj-chapter

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