



The Materials Information Society

LONG ISLAND CHAPTER

METALLAGRAM



Volume 62 Issue 8

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

Next Meeting Tuesday, April 20, 2021

Where On-Line via Zoom

STUDENTS NIGHT

Presentations by Stony Brook University Seniors from 6pm to 8pm

The Zoom room will open at 5:45 pm if anyone wants to test.

RSVP to Jim Quinn (jquinn11733@gmail.com) for the Zoom information

The Presentations

Anti-Vibration Camera Mount for Macro-Photography

Joseph Heinz, Alvin Chen and Ener Chen

Macro photography is used across the world both as a hobby and a profession. This design will feature a portable near-universal DSLR camera mount that provides full 360° arm rotation, two feet reach, and vibration-reduction material. The camera mount will be made out of two main materials - carbon fiber for lightweight durability to keep the mount as well as the camera intact, and a shock absorption and damping material known as sorbothane to break material contact for immense vibration reduction.

Passive Improved Solar Still Desalination

Charles Clark, Varun Jhavar, Szymon Luchowski and Rohan Chandakkar

A Solar Still is a passive desalination device that converts salt water into potable drinking water by using solar energy to evaporate and distill the salt water. Creating an efficient, cost effective solar still can allow groups anywhere around the world with access to sunlight the ability to create clean drinkable water. Augmentations can also be selectively added to the solar still design to further improve the yield of clean water while keeping costs minimized.

(cont.->)

The Presentations (cont.)

Affordable Catalytic Muffler and No-Spill Gas Attachment

Alisha Walia, Michael Verni and Sarah Sammons

According to the EPA, 5% of U.S. air pollution is generated by gasoline powered lawn mowers. Cutting down on lawn mower emissions can significantly impact our mission, which is to reduce air and ground water pollution caused by lawn mowers. Preventing fuel leakage would also help us achieve our goal since gas mowers are a major source of gas spillage and result in an annual spill of over 17 million gallons. Our team proposes an external emission filtering device based on a scrubber model to reduce emissions of harmful gasses, and a spill proof 3D printed gas nozzle attachment.

BIRD Box (Bio-Indicating Rehabilitation Design Box)

Emma Peleg, Elinor Coats, Nylette Lopez and James Cotrone

Urbanization of Long Island has caused the destruction of natural hydrological cycles, leading to an increase in flooding, runoff, and habitat loss in the Atlantic Flyway, a prominent migratory path for birds. BIRD Box is a redesigned green-infrastructure system intended to retain/absorb excess stormwater while generating a habitat for coastal migratory birds. To ensure growth and to provide user-friendly information about the health of the habitat, BIRD Boxes are equipped with bio-indicating sensors for pH, water level, and salinity which can be accessed via a website for individual users or as bulk data for engineering purposes.

GenuBrace

Peter Buffolino, Mayumy Cordova, Hao Li and Brian Hartmann

Knock knees (GenuValgum) is a knee disorder which is tied to many well-known conditions such as ACL injuries and osteoarthritis. GenuBrace is an adjustable knee brace for adults who have active symptoms of knock knees. Patients will have their braces custom 3D printed based on knee images from their physician. Users will be able to adjust the level of support using a tuning dial on the GenuBrace, connect with our app which syncs calendar reminders to inform user when to adjust their GenuBrace based on activity, and connect the GenuBrace with smart home workouts which will give recommendations on support adjustment levels based on the chosen workout.



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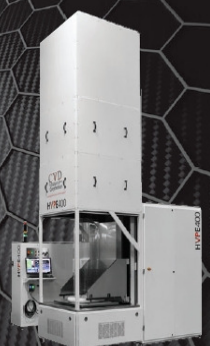
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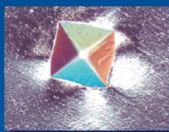
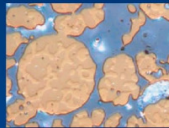
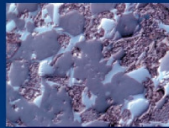
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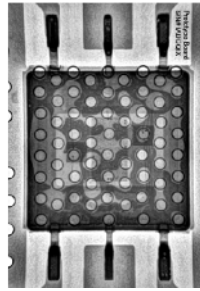
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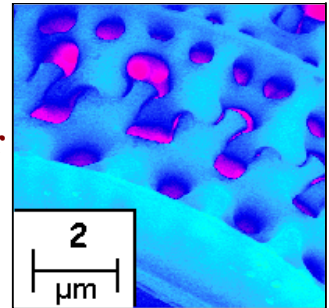
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Long Island Chapter Meeting Schedule

Closed for the summer – back in September

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