



METALLAGRAM

LONG ISLAND CHAPTER



Volume 65 Issue 3

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

Next Meeting Monday, November 13, 2023

Where . . . Stony Brook University, Old Engineering Bldg. Rm. 301

STUDENTS NIGHT

Presentations by SBU Seniors

Network from 6pm to 7pm

Presentations from 7pm to 8pm

Free pizza!!!

RSVP to Jim Quinn

(james.quinn@stonybrook.edu)



Dry Chemical Powder Dispenser

Kevin Beagen, Anthony Cucinello, Andrew Kiffer, Christian Saby

Many university students in graduate programs face the challenge of weighing materials with a high degree of accuracy. The dry chemical powder mixer aims to solve this problem by automatically proportioning dry powders to a very high degree of accuracy, allowing measurements to be accurate and repeatable due to the lack of human error.

(next abstract →)

B RIIMS: Bicycle Rims

Braking & Regenerative Inertial Integrable Motor/Mechanical System

Alexander Basquial, Charlie Crawford, Patrick Lewis, and Hannah Murdolo

While cycling is a common mode of transportation, cyclists often experience repeated non-recoverable losses of their kinetic energy when braking. Our system would be designed to recover the lost kinetic energy of a moving bicycle that's normally lost as heat to brake pads. From a mechanical standpoint, we can foresee accomplishing this by storing kinetic energy in a flywheel or elastic energy in a spiral power spring. However, from an electrical standpoint, this could potentially be accomplished by rotating a dynamo generator to decelerate the bicycle wheel, and use the principle of magnetic induction to charge a battery. With an electrical design, solar power could potentially be integrated for additional power generation for inertial assist. The final design for our system will incorporate one or a combination of the following courses of actualization to provide inertial and acceleration assist to the cyclist.

Algae Air Purifier

Ameen Adeyeye, Yaseen Jalili, Abbas Zaidi

Poorly ventilated rooms without the capability of opening apertures like doors and windows can have a slow but negative impact on long staying occupants. We aim to create a photobioreactor system to propagate algae, *Chlorella vulgaris*, within a container aerated by an air pump and filtered by installed air filters in hopes of achieving better indoor air quality. The photosynthetic algae will consume the CO₂ exhaled by the denizens of the room, releasing O₂ to be inhaled accordingly, combining the utility of a conventional air filter with relatively oxygenated air. Sensors will measure important properties of the algae medium, including pH and CO₂ concentration, to monitor its effectiveness as it propagates.



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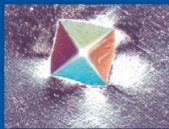
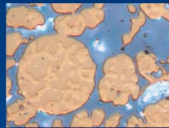
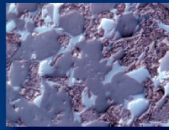
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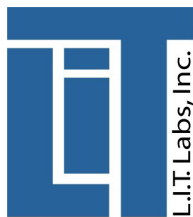
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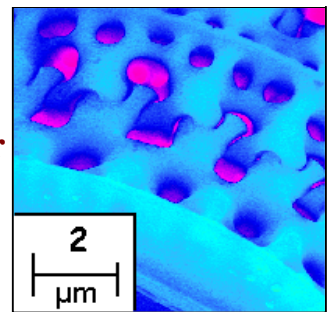
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ON-LINE FORUM

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

- Dec 13, 2023** **CMAS Coating**
Jon Guttleber, Oerlikon/Metco
Pollo Rico, Centereach, NY
- Jan TBA, 2024** **Joint meeting w/ LIANS**
Pollo Rico, Centereach, NY
- Feb 21, 2024** **Elyssa Torres, Roux**
Water Treatment @ Pollo Rico
- Mar 20, 2024** **Greg Smith, Rinkus**
Failure Analysis @ Pollo Rico

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

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