



# METALLAGRAM

LONG ISLAND CHAPTER



Volume 65 Issue 5

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

## Joint Meeting w/ LIANS

**Next Meeting . . . . . Wednesday January 17<sup>th</sup>, 2024**

Where: Pollo Rico Latin Bistro, Centereach, NY

Topic: Graphite Sampling for Nuclear Verification  
(one answer to “What is Nuclear Archeology?”)

Speaker: Biays Bowerman, Brookhaven National Laboratory

Social hour ... 6:00 pm Dinner ... 7:00 pm Meeting ... 8:00 pm

Members ... \$25 Guests ... \$27 Students ... \$15

(New and recently transferred-in members free)

Reservations appreciated – contact Dan Migliorino  
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## The Speaker

Dr. Biays Bowerman is a Senior Chemist at Brookhaven National Laboratory (BNL). Past projects have included test programs evaluating the performance of fixed and portable radiation detectors in laboratory and field tests for the DHS Countering Weapons of Mass Destruction Directorate. Since 2011, he has been the project technical lead for the Graphite Sampling Team program, a multi-lab effort based at BNL in support of the DOE Office of Nuclear Verification.

## The Topic

In April 2022, a team sponsored by the US DOE Office of Nuclear Verification (ONV) shipped trepanning equipment to the nuclear power station at Trawsfynydd, Wales, UK to collect samples from the graphite moderator of Reactor 1. The sampling campaign to collect 48 graphite samples was completed in five weeks beginning July 11. Half the samples will be analyzed in the US to determine the total energy production of the facility. The other half will be analyzed by Magnox Ltd. to support decisions for options for the ultimate decommissioning path for the facility.

The talk will include a description of the equipment and the operations required to trepan, collect, and package the samples while controlling the small amounts of radioactive graphite dust entrained on and within the tool. The most important sample parameter needed is the precise location of the sample, to within  $\pm 6$  mm in a fuel channel, while the tool is deployed to between 12 and 20 meters below the operations floor. A brief summary of the Graphite Isotope Ratio Method (GIRM), the technique that provides the estimate of reactor production, will also be given.



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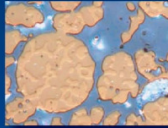
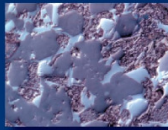
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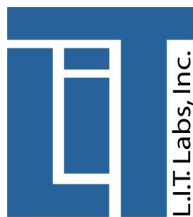
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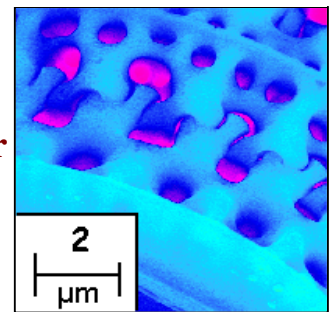
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<https://www.asminternational.org/communities>

## Long Island Chapter Meeting Schedule

- Jan 17, 2024** Biays Bowerman, BNL  
Graphite Sampling for  Verification  
Joint meeting w/ LIANS  
Pollo Rico, Centereach, NY
- Feb 21, 2024** Elyssa Torres, Roux  
Water Treatment @ Pollo Rico
- Mar 20, 2024** Greg Smith, Rimkus  
Failure Analysis @ Pollo Rico

## Metro NY-NJ Chapter

[www.asminternational.org/web/metro-nynj-chapter](http://www.asminternational.org/web/metro-nynj-chapter)

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