



# METALLAGRAM

LONG ISLAND CHAPTER



Volume 66 Issue 5

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

## Joint Meeting w/ LIANS

**Next Meeting . . . . Wednesday, January 15, 2025**

Where: Pollo Rico Latin Bistro, Centereach, NY

Topic: Transmutation Effects in Fusion Reactor Materials:  
Understanding Through Advanced Characterization

Speaker: David Sprouster, Stony Brook University

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

Members ... \$30 Guests ... \$30 Students ... \$15  
(New and recently transferred-in members free)

Reservations appreciated – contact Dan Migliorino  
at [MigliorinoDan@gmail.com](mailto:MigliorinoDan@gmail.com) or 516-468-9615



Pollo Rico is located at 2435 Middle Country Road (Rte. 25), Centereach. Probably the simplest way to get there from the LIE is to take Exit 62 (Nicolls Road) and go north on CR 97 (towards Stony Brook). Continue north for about 3 miles then take the exit to Rte. 25. At the traffic signals at the end of the ramp go left and head west (Smithtown). The restaurant will appear after about 1.5 miles, on the right side of the highway. Their telephone number is 631-471-0585. Their website is: <http://www.polloricolatinbistro.com/>

## Topic

Both our understanding of materials phenomena and the qualification of fusion components necessary to realize fusion power hinge on our ability to irradiate and characterize materials in a range of dynamic cascade and transmutation conditions. These conditions are dependent on reactor design, being highly dependent on geometric considerations and materials choices, and while the helium generation in steel is a crucial issue facing fusion power development, it is but one example of a wide array of important transmutation materials science issues.

This presentation will discuss our recent efforts employing advanced, multimodal synchrotron-based characterization techniques in concert with electron microscopy and mechanical testing to quantify radiation, and transmutation-induced microstructural changes in fusion-relevant structural materials including tungsten first wall alloys; reduced activation ferritic martensitic steels; and ultra-high temperature ceramics. When coupled with electron microscopy, synchrotron-based characterization techniques provide complimentary quantitative insights across multiple length scales needed to fill critical knowledge gaps and predict long-term behavior and performance. We also highlight new opportunities in leveraging synchrotron-based techniques to address fundamental and applied materials science challenges to aid in developing a detailed physical understanding of radiation-induced microstructures in materials for fusion energy applications.

## Speaker

Dr. Sprouster is an Assistant Professor in the Department of Materials Science and Chemical Engineering at Stony Brook University. His research focuses on characterizing and controlling matter over multiple length- and time-scales. Professor Sprouster is actively developing and engineering next generation energy materials that can withstand the extreme environments common to advanced fission and fusion reactor technologies. His group employs multi-modal synchrotron- and neutron-based characterization methods to support applied and fundamental research programs. Professor Sprouster received his Ph.D. in Physics from The Australian National University in 2010 and prior to joining Stony Brook University as a faculty member was a Senior Scientist/Assistant Research Professor at Stony Brook University with a joint appointment in the Nuclear Reactor Laboratory at Massachusetts Institute of Technology.

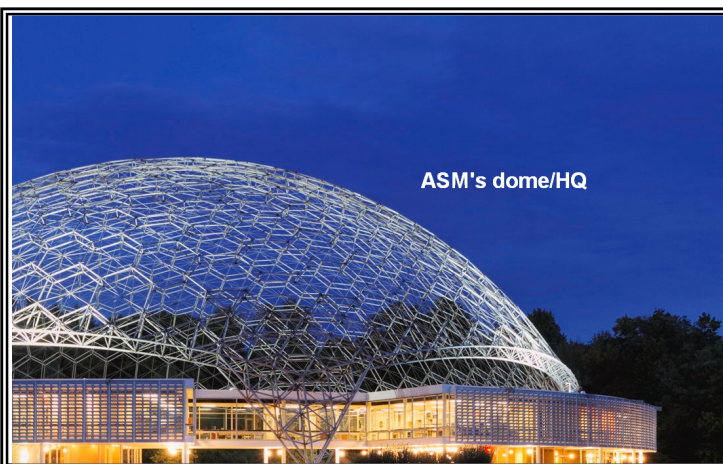


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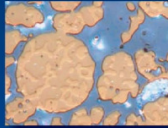
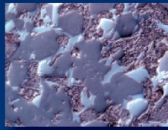
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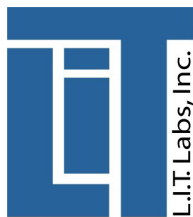
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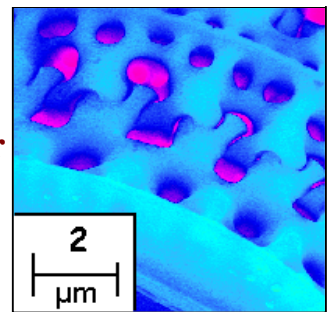
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## ON-LINE FORUM

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

## Long Island Chapter Meeting Schedule

- Jan 15, 2025** David Sprouster w/ LIANS  
Nuclear Materials  
Pollo Rico, Centereach, NY
- Feb 19, 2025** Rick Schwartzman, RGS Consulting  
Failure in Wire Bonding  
Pollo Rico, Centereach, NY
- Mar 26, 2025** Jonathan Gutleber, Oerlikon Metco  
CMAS Resistant Coatings  
Pollo Rico, Centereach, NY
- Apr 23, 2025** Student-Nite at Old Field Club

## Metro NY-NJ Chapter

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

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