



METALLAGRAM

LONG ISLAND CHAPTER



Volume 67 Issue 7

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

Sustaining Members Night

Next Meeting Wednesday, March 25, 2026

Where: Pollo Rico Latin Bistro, Centereach, NY

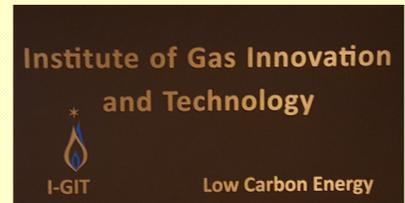
Topic: Tribology: Oscillations, Friction, & Wear

Speaker: Brian Bick, SBU/MSCE

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 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

Tribology, the science of interacting surfaces in relative motion, serves as the invisible backbone of mechanical reliability and modern industrial efficiency. This field encompasses the effects of friction, wear, & lubrication and integrates materials science, mechanical engineering, & surface chemistry. We will explore the evolution of tribology, tracing its timeline from ancient civilizations & early historical efforts to reduce friction in primitive transportation & mechanical components (such as bearings, seals, & gear systems), to the sophisticated molecular engineering of the 21st century. We will examine the fundamental principles of oscillations, friction, & wear. Alongside its industrial relevance, its massive economic costs, and its cultural impacts, we define how these phenomena govern the lifespan and performance of mechanical systems. Beyond the theoretical, this talk will dive into the industrial necessity of tribological design, from the optimization of lubricant rheology to specialized grease selection and how different material interfaces & bearing designs can drastically reduce the economic burden caused by wear-related failures. An overview of the current industry testing protocols and standardized testing frameworks established by organizations from ASTM, ASM, STLE, & NLGI are highlighted, with focus on the utilization of tribometers and wear analysis techniques. Finally, we'll discuss the future of the field, from green tribology & self-healing materials to emerging innovations such as self-lubricating materials and nano-tribology as pathways toward reducing wear and improving efficiency in advanced systems.

Speaker

Brian Bick is a Research Project Assistant at the Institute of Gas Innovation & Technology, with an expected graduation of his PhD in Chemical Engineering by May. His research focuses on the study of material compatibility products used within the natural gas industry, focused on components exposed to hydrogen and various gas blends. Materials of interest include metal and thermoplastic polymer pipelines, gasket & sealant components, and coatings & liner technologies. These materials are analyzed utilizing different characterization techniques (SEM, XPS, XRD, AFM, GC-MS, FTIR, etc.), focusing on changes in surface morphology & corrosion behaviors and tracking how changes in material properties may result in failures. Brian has also worked as a consulting expert in tribological testing and analysis for local companies, including a fellowship where he lived in Germany for a summer where he was trained on highly specialized instrumentation related to tribological analysis. After graduating with his PhD., he plans on continuing his studies with a postdoc before transitioning into industry as a materials application and failure analysis engineer, with hopes to stay local to Long Island, where he was born and raised.



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WANHUK BRIAN CHOI, PH.D.
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35 Orville Drive, Suite 1
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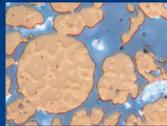
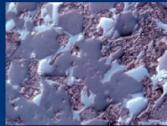
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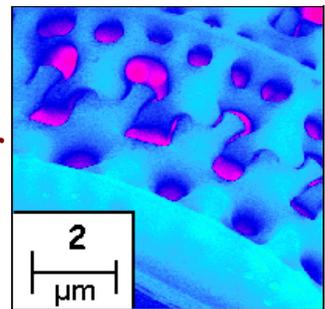
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ON-LINE FORUM

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

- Wed Feb 18, 2026** Maya Endoh, SBU/MSCE
Polymers
Pollo Rico, Centereach, NY
- Wed Mar 25, 2026** Brian Bick, SBU/MSCE
Tribology: Oscillations,
Friction & Wear
Pollo Rico, Centereach, NY
- Wed Apr 22, 2026** Student-Nite
Old Field Club

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

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Dan Migliorino, BNL/NSLS
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James Waldvogel, Waldvogel Metallurgical Inc.
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