

May 11, 2018 Technical Meeting

Welcome to STLE Houston Chapter's 2017-2018 Lunch Seminar Series!

Our sixth technical seminar of the season will be held on **FRIDAY**, May 11, 2018 at Maggiano's Little Italy, starting off with networking at 11 AM. **Dr. Matthew Brake**, from Rice University will be presenting "*New Results from a Lubricated Impact Study*" in addition to "*An Overview of What is Done in the Areas of Lubrication, Tribology, and Friction*". Please reserve the date!

Abstract:

Tribomechadynamics is a new field in mechanical engineering that includes tribology (the study of surfaces in relative motion), contact mechanics, and structural dynamics. These three disciplines all study mechanical interfaces, as in pumps, drilling, power generation, etc., but they have remained separate due to length scale considerations, solution techniques, and response metrics. The new field of Tribomechadynamics was created to bridge the scales from the nano- and micro-structural characterizations of tribology to the macroscale modeling of structural dynamics. The goals of this new field are to predict the degradation of interfaces (solid/solid and solid/fluid) and to improve the design of components to extend life, increase performance and reduce costs. Tribomechadynamics offers the opportunity to improve the efficiency and reduce the costs of oil and gas production operations (drilling, fracking, pumping and conversion) as well as vehicles, engines, and turbines through a better physical understanding of machines and assembled systems. The central tenet of this talk is that by designing systems to be more efficient, the losses due to parasitic sources can be minimized. Potential applications of this research include faster drilling, lower power fracking, increase energy efficiency by eliminating friction losses, and optimal maintenance schedules for aeroturbines.

Speaker:

Prof. Brake started at Rice University in 2016 after working at Sandia National Laboratories for nine years. Prior to Sandia, Prof. Brake graduated from Carnegie Mellon University in 2007. Prof. Brake has been elected to several leadership positions, including as the chair of the ASME Research Committee on the Mechanics of Jointed Structures, the vice-chair of the Nonlinear Dynamics Technical Division of SEM, and as the secretary of the ASME Technical Committee on Vibration and Sound. He is a recipient of the 2012 Presidential Early Career Award for Scientists and Engineers and he recently won the 2018 C.D. Mote Jr Early Career Award. Much of Prof. Brake's career has focused on developing large scale collaborations and supporting graduate student education. To this end, he founded and directed both the Nonlinear Dynamics of Coupled Structures and Interfaces (ND-CSI) Summer Program at Rice University and the Nonlinear Mechanics and Dynamics (NOMAD) Institute at Sandia National Laboratories. His primary research interests are in interfacial mechanics, tribology, model reduction theory, uncertainty propagation, and nonlinear dynamics.

Location : [Maggiano's Little Italy](#), 2019 Post Oak Boulevard, Houston, Texas 77056
(Note that parking is available in the adjacent shopping center)

Schedule:

11:00AM - 11:30AM:	Arrival / Social
11:30AM - 12:00PM:	Lunch
12:00PM - 1:00PM:	Business Meeting and Technical Presentation

Fees:

Students \$10, Members \$35, Non-Members \$40

Cash/check/Visa/MC accepted at the door – or **pre-pay** by credit card prior to the meeting using the Paypal link on our [Calendar webpage](#)

Click below for directions.

[Maggiano's Little Italy Website](#)

The STLE Houston Section's Monthly meeting provides a platform to network, advance your knowledge, learn current trends in tribology, lubrication and related industries, share good food, and much more. Do not forget, there will be door prizes for the lucky winners of the day. Come early and network with your lubricant colleagues.

STLE Houston Section Calendar of Events (2017 - 2018)

Please note that Technical Meetings have been moved to **FRIDAYS**

September 8, 2017	Cancelled due to Harvey	Brady's Landing (flooded)
October 6, 2017	Steele Glen, of Summit Brand Division, presented on Lubricants	Maggiano's Little Italy
November 1, 2017	Annual Scholarship Golf Outing	Augusta Pines, Spring, TX
December 8, 2017	Phil Heisch, of Caterpillar Oil & Gas, will be presenting " <i>Oil and Gas Compression Systems</i> "	Maggiano's Little Italy
January 12, 2018	Andy Walker of Puffer-Sweiven presented " <i>Equipment Condition Monitoring Using Vibration Analysis</i> "	Maggiano's Little Italy
February 9, 2018	Mrinal Mahapatro of Pall Corporation will be presenting " <i>Stress-resistant Filter Elements</i> "	Maggiano's Little Italy
March 7, 2018	2018 Annual Houston STLE Lube School	Sasol Performance Chemicals, Houston, TX
April 13, 2018	Marianne Duncanson, of ExxonMobil will be presenting " <i>The Effects of Electrostatic Discharge on Lubricating Oil</i> ".	Maggiano's Little Italy
May 11, 2018	Dr. Matthew Brake, from Rice University will be presenting "New Results from a Lubricated Impact Study" in addition to "An Overview of What is Done in the Areas of Lubrication, Tribology, and Friction"	Maggiano's Little Italy
May 20 – 24, 2018	STLE 2018 Annual Meeting & Exhibition	Minneapolis Convention Center / Hilton, Minneapolis, MN
June 8, 2018	Mike Anderson, STLE President and Vice-President at Falex Corporation	Maggiano's Little Italy
September TBD, 2018	First Technical Meeting of the new season	TBD

