



Student Chapter  
Chartered 1959

# UML – ENE SPE Plastics Engineering Speaker Series



**Wednesday Jan 30<sup>th</sup>- 5:00PM**  
**1<sup>st</sup> Floor Conference Room**  
**Wannalancit Mills**  
**600 Suffolk Street**



## ***“High Barrier Multilayer Polymer Nanocomposites for Packaging Applications”***

Christopher Thellen, Research & Development Eng.,  
United States Army Soldier Center, Natick, MA.

**Abstract:** Advanced and efficient food protective packaging systems are crucial to the preservation of Army materials in climatic or hazardous environment. Technology advances in high-barrier polymer films are needed to meet the increasingly stringent and often conflicting requirements of compactness, storage, protection, durability, convenience, and durability. Packaging technology based on non-foil, high-barrier, polymeric material is needed to ensure food protection from oxygen, water vapor, microbial and insect penetration while decreasing current packaging limitations caused by a foil-based packaging system. Multilayer nanocomposite packaging based on nylon MXD6 technology has provided oxygen barrier that meets the Army’s MRE barrier specification at low to mid-level RH environments. This high-barrier packaging is based on co-extrusion technology using a 5-layer polymeric structure.

**Refreshments Served @ 5:00 PM – Presentation @ 5:30 PM**

All UML students, faculty, and friends are welcome!