Eastern Analytical Symposium
November 14 – 16, 2022—Plainsboro, NJ

Join us for our two-part, lunchtime seminar in the Einstein Room at Crowne Plaza Princeton and visit us at booth L13 to speak with our experts.

Tuesday, November 15
11:45 a.m.

A novel workflow for automating sample preparation and analysis using the Thermo Scientific™ EXTREVA™ ASE™ accelerated solvent extractor followed by GC-MS and GC-MS/MS for determination of PAHs and PCBs

- Part 1: New advancements in preparing solid and semi-solid samples for POPs analysis
  Michael Early, Sr. Market Development Manager, Thermo Fisher Scientific

- Part 2: Sensitive and robust analysis of PAHs and PCBs in soils and water using single- and triple-quadrupole GC-MS
  Andy Fornadel, Product Marketing Manager, Thermo Fisher Scientific

Register for the seminar at **thermofisher.com/eas** to reserve your lunch!

Additional content presented during the conference includes:

Monday, November 14
E-Poster Session, 11:30 a.m.

#174: Shape and Frequency-Based Peak Identification Techniques for Chromatography, Cable Warren, Purnendu Dasgupta, University of Texas at Arlington, Akinde Kadjo, Thermo Fisher Scientific

Wednesday, November 16
3 p.m.

Leveraging Pharma 4.0 and LIMS Data Security through Laboratory Software
David Minicuci, Thermo Fisher Scientific

Learn more at **thermofisher.com/eas**

The Advantages of FT-IR, FT-NIR, and Mass Spectrometry with Polymeric and Pharmaceutical Materials

Crowne Plaza Princeton, Wednesday, November 16th, 9:00 AM – 1:00 PM, Room #207

9:00-10:00 AM

ULTRA-FAST INFRARED CHEMICAL IMAGING OF POLYMERIC AND PHARMACEUTICAL-BASED PRODUCTS FOR CONTENT UNIFORMITY, REVERSE ENGINEERING, AND FAILURE ANALYSIS
Tom Tague, Applications Manager, Bruker Optics

Until recently, the applicability of vibrational microscopy was limited by the extensive analysis time necessary to obtain high-resolution chemical images over large areas. Now, with the maturity and commercialization of QCL-based IR laser imaging, complete tablets and other samples can be analyzed in a matter of minutes. With this technology, highest spatial resolution imaging has been paired with state-of-the-art machine learning algorithms, providing a reliable and fast method to evaluate and visualize particle size, content distribution, and rapid unknown identification. Examples will be shown demonstrating the implementation of a new method for rapid visible image acquisitions for flat field visualization of large non-flat objects, ultra-fast infrared imaging, and machine learning algorithms utilized for the rapid processing of images containing millions of spectra.

10:30-11:30AM

FT-NIR AS A PRIMARY PLATFORM FOR PROCESS ANALYTICAL TECHNOLOGY: PERFORMANCE ADVANTAGES, EXCEPTIONAL RELIABILITY, AND REDUCED COST OF OWNERSHIP
Dean Roberts, Director of Market and Technology Development, Bruker Optics

Interest in Near-Infrared (NIR) spectroscopy as a Process Analytical Technology (PAT) platform has dramatically increased over the last two years. Much of the increased interest has been driven by desire to reduce laboratory testing as a way to ensure product quality. Implementation of NIR as a PAT tool allows continuous monitoring of a manufacturing process to detect and correct for trends before they become a quality concern. Safety for plant personnel is greatly enhanced by eliminating sample collection for laboratory analysis. Costs of reagents, solvents and their disposal are reduced through a reduction in laboratory testing. Above all, delays between sample collection and receipt of laboratory results are eliminated.

FT-NIR delivers significant advantages over other types of NIR instrumentation in both laboratory and PAT scenarios. The very nature of the FT-NIR design results in zero drift in wavelength accuracy and exceptional performance when vibration is present at either the measurement site or where the instrument is installed. FT-NIR instruments deliver reduced cost per measurement point through simple, efficient optical multiplexing. The absence of instrument drift greatly reduces, or even eliminates periodic calibration maintenance.

12:00-1:00PM

ACCURATE CHARACTERIZATION OF POLYMERIC MATERIALS USING MALDI AND TIMSTOF MASS SPECTROMETRY TECHNIQUES
Samuel Putnam, Applications Scientist, Bruker Daltonics

Mass Spectrometry (MS) has become an indispensable tool for polymer characterization and has been widely used to analyze polymer structure and composition, end-groups and additives, molecular weight distribution, degree of polymerization, and so on. MS analysis is extremely sensitive, allowing the detection and identification of minor polymer components and synthesis by-products, as well as low-level impurities and products of decomposition. Matrix Assisted Laser Desorption Ionization (MALDI) MS is a well-established method of polymer characterization that continues to be developed and improved with new generations of MS instruments, bringing new analytical capabilities and enhanced performance. Modern MALDI-MS instruments generate rich chemical information highly specific for polymer structural analysis, copolymer composition and complex polymer mixtures characterization, and can even be used for imaging of synthetic polymer surfaces and characterization of challenging insoluble polymers.

TIMS technology has redefined the capabilities of Ion Mobility Spectrometry by providing an unmatched combination of resolution, speed, robustness and sensitivity. In polymer analysis applications, the timsTOF instruments expand the analytical boundaries by combining the TIMS technology with ultra-high-performance MS and providing an additional dimension for separation of complex polymer mixtures and structural analysis of challenging polymer compositions. Compatible with HPLS-ESI, GC-APCI and MALDI workflows, Bruker timsTOF fleX is a go-to multitool for a modern polymer lab.

Waters™

Waters Demo Room: The Evolution of Analysis

Waters Corporation will be showcasing the Andrew+ robot and the ACQUITY Premier UPLC system on Monday, Tuesday and Wednesday, 9:00 AM - 4:00 PM in Room 109. Visit the Waters Demo Room to see our state-of-the-art technologies and to interact with our scientists. And don't miss our reception on Tuesday, 12:30 PM – 1:30 PM in the Waters Demo Room with Dr. Fabrice Gritti – recipient of the EAS Award for Outstanding Achievements in Separation Sciences.

For more information about the Waters Demo Room, please contact
Isabelle_VuTrieu@waters.com.