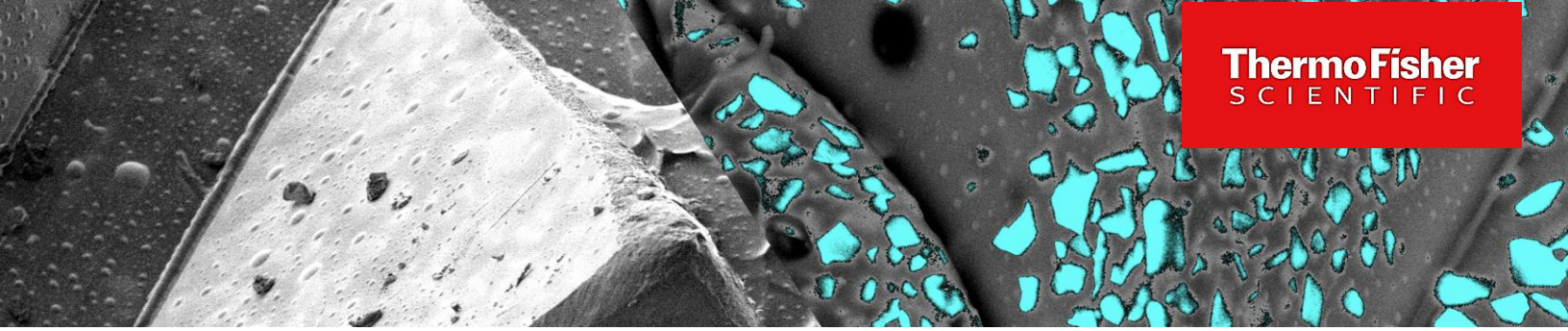
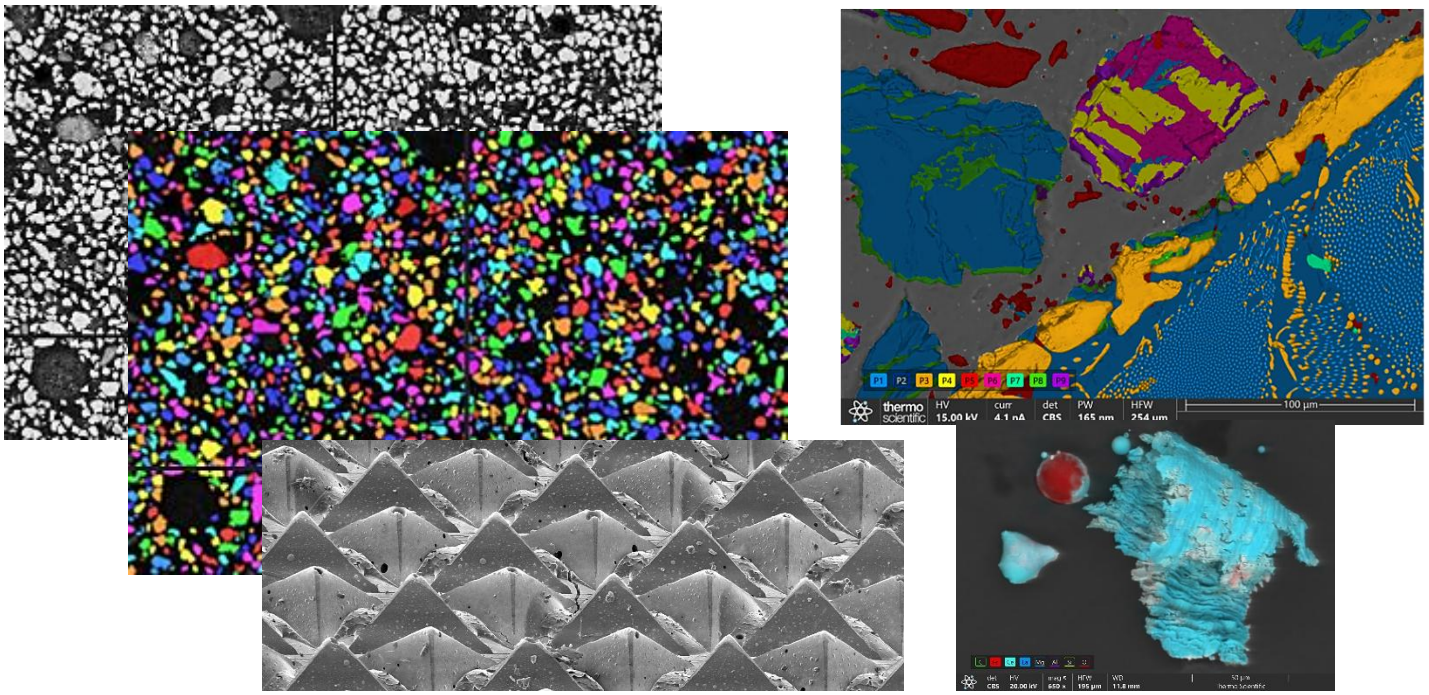


Materials Characterization Workshop

Electron Microscopy Solutions for Industry

July 21st – 22nd, 2026

lift®
The National Advanced Materials and Manufacturing Innovation Institute



Materials Characterization Workshop

July 21st – 22nd, 2026

Location:

The National Advanced Materials and Manufacturing Innovation Institute (LIFT)
1400 Rosa Parks Blvd.
Detroit, MI 48216

Thermo Fisher Scientific Inc. and LIFT welcome you to our materials science workshop that will explore modern Electron Microscopy + Spectroscopy solutions for today's industrial applications.

This workshop will focus on gaining insights into materials using complimentary cutting-edge techniques and image analysis. Featuring interactive presentations, demonstrations, and discussions from experts in the field, this is surely an event you don't want to miss.

ThermoFisher SCIENTIFIC

lift®
The National Advanced Materials and Manufacturing Innovation Institute

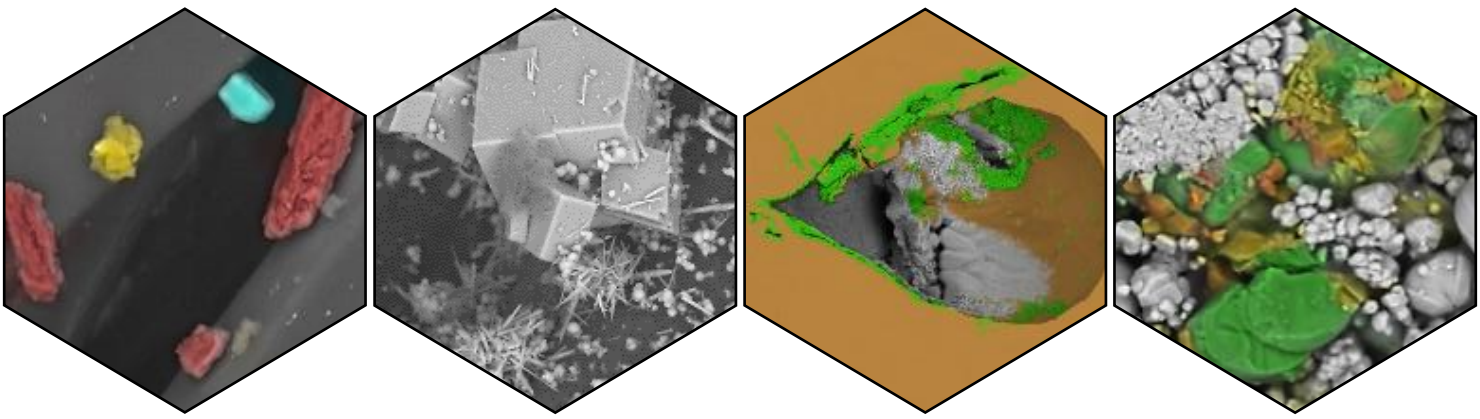
Workshop Agenda

Tuesday, July 21st - Workshop

8:30 - 9:00	Registration, Coffee and Light Breakfast
9:00 - 9:15	Opening & Welcome
9:15 - 10:15	**LIFT Facilities Tour**
10:15 - 11:00	**Beyond Resolution: Electron Microscopy for Industrial Applications** *Dr. Kate Vanderburgh – Sr. Applications Scientist, Thermo Fisher Scientific Inc.*
11:00 – 11:15	Break
11:15 - 12:00	**LIFT Talk** *Kate Vanderburgh – Sr. Applications Scientist, Thermo Fisher Scientific Inc.*
12:00 - 1:00	Lunch
1:00 - 1:45	**Invited Talk** *Kate Vanderburgh – Sr. Applications Scientist, Thermo Fisher Scientific Inc.*
1:45 – 4:00	Rotating 45-min Instrument Demonstrations (sign-up on site at registration)
4:00	Wrap-up and Adjourn

Wednesday, July 22nd - Demonstrations

8:30 - 9:00	Registration, Coffee and Light Breakfast
9:00 - 12:00	1-hour or 90-min Thermo Scientific Apreo ChemiSEM Demonstrations **** Inquire at thomas.annerino@thermofisher.com or sign-up on site if slots are still available*
1:00 - 4:00	1-hour or 90-min Thermo Scientific Apreo ChemiSEM Demonstrations **** Inquire at thomas.annerino@thermofisher.com or sign-up on site if slots are still available*



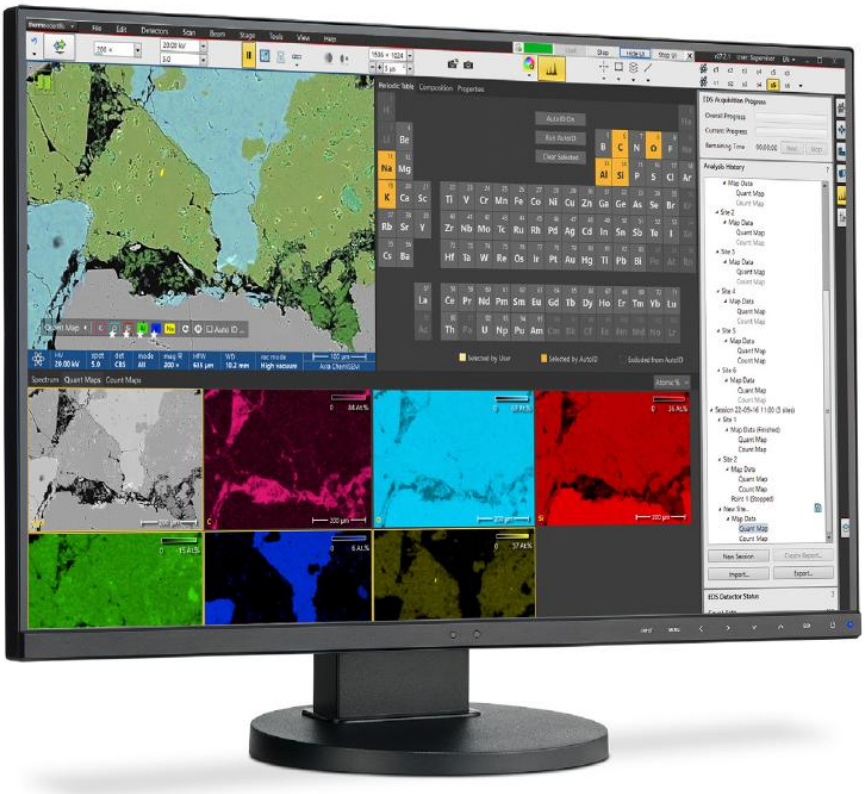
Products That Perform

From research and manufacturing to quality control and recycling, the Apreo ChemiSEM System is designed to quickly and easily analyze a wide variety of materials and help you:

- Maximize efficiency with advanced automation, high-quality imaging, and dedicated support
- Access complete elemental information with minimal training, regardless of previous experience, through a simplified user interface
- Acquire data faster and streamline reporting with novel data segmentation, ultrafast signal processing, and tight SEM-EDS integration
- Ensure data integrity and eliminate user bias with intuitive operation and advanced automations
- Accurately qualify and quantify samples over a wide range of operating conditions, including beam energy, sample size, and working distance
- Improve productivity with proven workflows and advanced software
- Maximize uptime with robust hardware, routine upgrades, and preventative maintenance

Apreo ChemiSEM

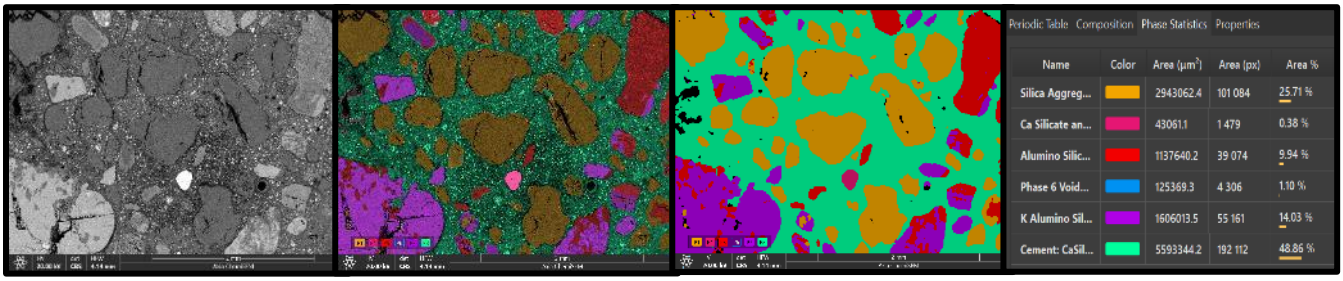
Benefits of ChemiSEM Technology



- **Always on**—Eliminate the need to move from SEM imaging to EDS analysis for each sample. ChemiSEM is always on and continuously collects the EDS signal during SEM imaging, collecting a full EDS spectrum at every point in the image.
- **Faster data acquisition**—Access elemental information much faster than conventional techniques with novel data segmentation approaches based on machine learning, ultrafast signal processing, and the tightest possible SEM EDS integration.
- **Reliable results**—Get accurate qualification and quantification over the widest range of operating conditions including beam energy, sample size, and working distance.
- **Complete information**—See the big picture with comprehensive micro-scale elemental composition. Immediate color results reveal defects or imperfections you might have otherwise missed.
- **Multi-data viewing**—See SED and elemental information in a single frame for complete characterization of your sample at a glance.
- **Simplified operation**—Immediately view compositional results that make elemental information accessible to everyone and easily increase the number of scientists or engineers who can use your facilities.

Products That Perform

About the Presenters



Beyond Resolution: Electron Microscopy for Industrial Applications

Scanning electron microscopy and energy dispersive x-ray microanalysis (SEM-EDX) is widely used in the characterization of materials. Advances in computing power together with the application of adaptive super-pixel clustering algorithms has vastly decreased the time necessary to do construct useful EDX elemental maps. ChemiSEM technology uses a big data approach to group spectra both based on the live greyscale SEM image, and to sort similar spectra in real-time into phases (ChemiPhase).

In this short tutorial, we will look at several examples of how ChemiSEM and ChemiPhase are used to speed the time to accurate SEM-EDX results.

About the presenter:

Kate Vanderburgh

Sr. Product Specialist, Electron Microscopy & Microanalysis, Thermo Fisher Scientific

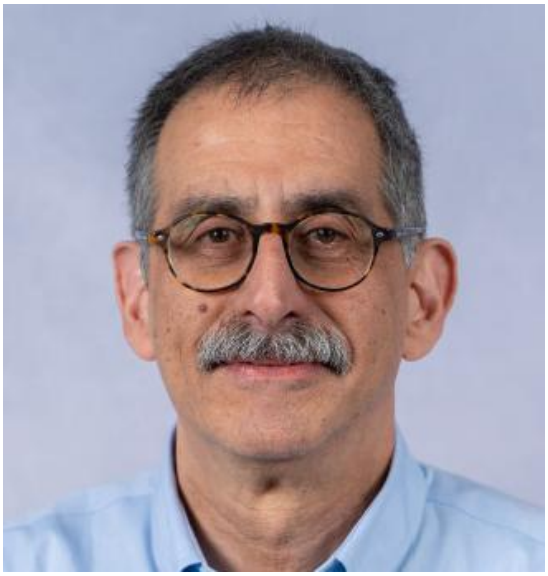
Kate Vanderburgh is a Sr. SEM Product Specialist at Thermo Fisher Scientific. Before joining Thermo in 2024, Kate managed the SEM, computerized tomography, and sample preparation tools at the Drexel University Materials Characterization Core.

Kate has a B.E. in Chemical Engineering from Stevens Institute of Technology and a Ph.D. in Materials Science from Vanderbilt University followed by a post-doctoral research appointment at Lawrence Livermore National Laboratory. In addition to her experience in electron microscopy, she has an extensive background in the synthesis and characterization of nanomaterials for battery applications.

About the Presenters

Spectroscopy Solutions for Industry

About the presenter:



Ron Rubinovitz

Sr. Applications Scientist, Thermo Fisher Scientific

Ron earned his B.S. in Chemistry at Brandeis University and his Ph.D. in Physical Chemistry at the University of Pennsylvania where he focused on optical spectroscopic techniques. Ron then went onto a postdoctoral position at the Naval Research Laboratory utilizing infrared spectroscopic methods to analyze thin films. Ron currently is in the role of Senior Application Scientist for the Nicolet FTIR Product line at Thermo Fisher Scientific and works from the applications lab in Wilmington, DE. He works in the fields of FTIR, FTIR-microscopy, chemometrics and FT-Raman spectroscopy.

Advances in XPS Capabilities, and Intro to Correlated Imaging for Surface Analysis

There are many ways to analyze the composition of a material, however the best results are found by collecting information from multiple avenues. This talk will focus on the latest developments in multi-technique surface analysis, particularly on the Nexsa G2 X-ray Photoelectron Spectroscopy (XPS) system. This talk will also introduce our new CISA [Correlated Imaging for Surface Analysis] workflow combining the capabilities of XPS and Scanning Electron Microscopy with Energy Dispersive X-ray Spectroscopy (SEM/EDS). We will discuss the latest developments for these instruments, and how datasets from both techniques combine to give a more holistic understanding of a sample.

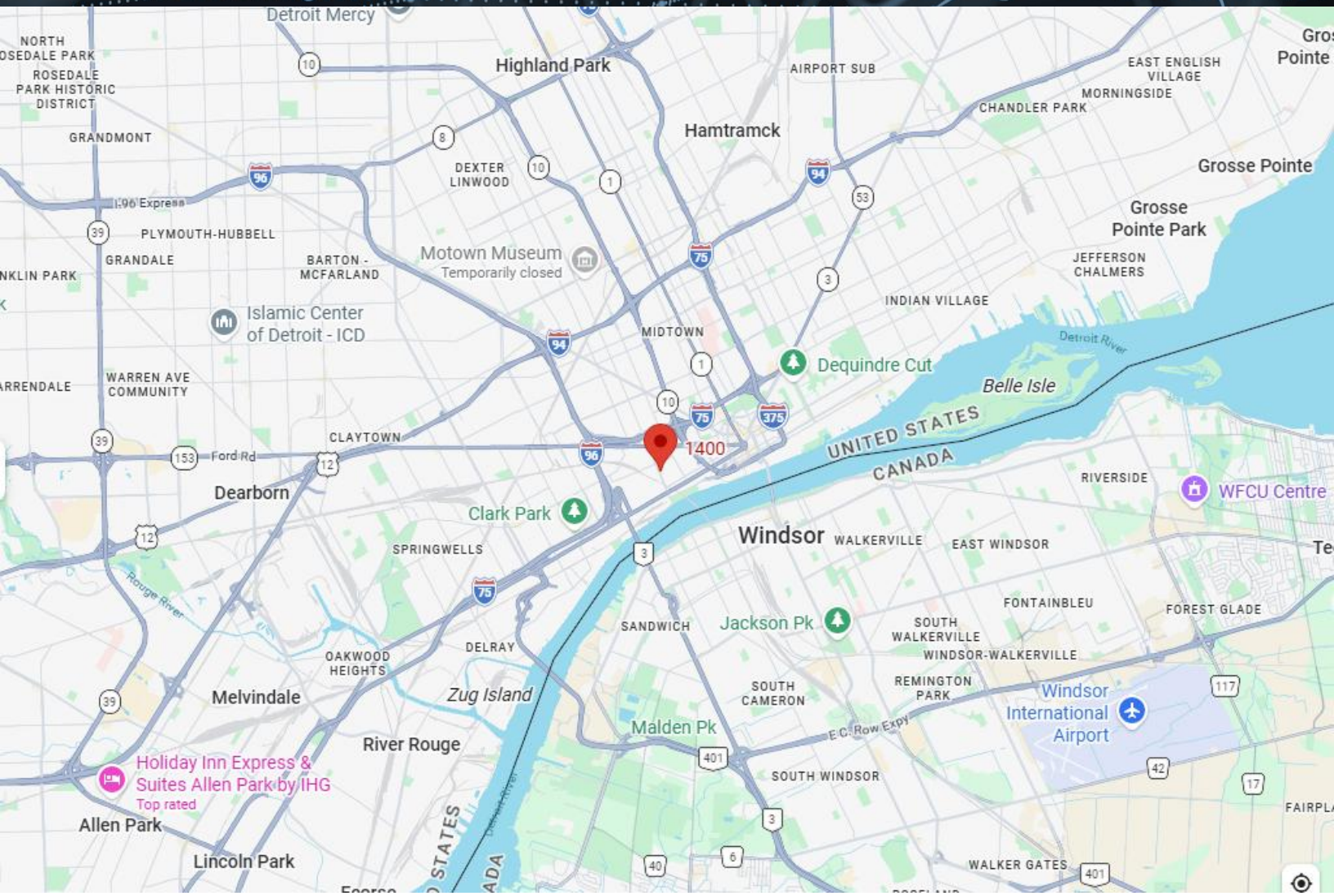
About the presenter:

James Lallo

Surface Analysis Product Marketing Engineer, Thermo Fisher Scientific

James has been with Thermo Scientific for over eight years, working with both microanalysis and XPS product lines. He has a Ph.D. in Physical Chemistry from Rutgers University, focusing on Surface Science and Ultra High Vacuum techniques. Based in NJ, James supports customers with their surface analysis needs throughout the country.

Map Location



Location:

The National Advanced Materials and Manufacturing Innovation Institute (LIFT)
1400 Rosa Parks Blvd.
Detroit, MI 48216

[Click Here to See on Google Maps]

If lost, running late, or you have any questions please contact:

Tom Annerino
Senior Account Manager – Midwest
Thermo Fisher Scientific
Mobile: 708-549-5440
thomas.annerino@thermofisher.com

THANK YOU
FOR JOINING US!