

SEMINAR AGENDA

SESSION 1: 9:00 AM TO 10:30 AM - SKYLITE ROOM A The Particle Size Paradox

Peter Bouza, Technical Application Consultant.

Particle size is an important piece of information for research and development, quality control, and quality assurance as well as understanding the small physical details in a milling or powder compaction process. These details can contribute to potential desired and undesired products. With recent technological advances, particles are now measured using various analytical techniques and instrumentation. Different analytical techniques seldom provide the same value for particle size. The “paradox” of particle sizing is that all the different values are the correct value. A survey of six different particle size techniques are discussed and compared.

This talk will explore:

- Dynamic image analysis
- Sedimentation
- Static light-scattering (laser diffraction)
- Electric sensing zone
- Air permeability
- Dynamic light scattering (DLS)

>> BREAK: 10:30 AM TO 11:00 AM <<
Complimentary coffee, fruits, and pastries

SESSION 2: 11:00 AM TO 12:00 AM - SKYLITE ROOM A Understanding Size by DLS & Zeta Potential Applications

Peter Bouza, Technical Application Consultant.

One of the most common techniques used today is Dynamic Light Scattering (DLS) to determine and monitor the size of nanoparticles, proteins, emulsions, and other sub-micron materials. DLS instruments are typically coupled with the ability to determine zeta potential by electrophoretic light scattering. It is often the case where DLS and zeta potential is used by a supplier of material, a purchaser of material, or a partner company and now your company or lab is required to use this technology without an understanding of “why.”

In addition, to “why,” many researchers consider size to be size and have trouble explaining why size of particles determined by SEM or TEM do not match size by DLS.

This talk will explore:

- How size is determined by DLS and why is it different from size by SEM and TEM.
- What zeta potential is and how to use the data,
- The relationship between size and zeta potential

>> LUNCH: 12:00 PM TO 1:00 PM <<
Complimentary Lunch Served in the Skylite Room

SESSION 3: 1:00 PM TO 2:00 PM - SKYLITE ROOM A External Morphology and Elemental Characterization of Catalyst by Desktop SEM-EDS

Jeff Sherman, PhD, Vice President, Micromeritics Instrument Corp.

The characterization of surface topography has become increasingly important in catalyst characterization and through the increasing resolution and simplification of microscopic devices, such as SEM, (scanning electron microscopy), the move from sophisticated and dedicated operations to a benchtop, user friendly device has transformed the industry. The simplification of SEM into an operator-friendly instrument permits any user to perform microstructural analysis and nondestructive testing of catalyst to identify its textural character and to determine the elemental composition.

This talk will explore:

- Under one-minute catalyst surface topography investigation with up to 130,000x magnification
- Understanding data from SEM and how to apply to your research
- Elemental composition examination using SEM-EDS

>> BREAK: 2:00 PM TO 2:15 PM <<
Complimentary coffee, fruits, and pastries

SESSION 4: 2:15 PM TO 4:00 PM - SKYLITE ROOM A Catalysis and Catalysts

Simon Yunes, Ph.D. Senior Scientist, Micromeritics Instrument Corp.

Physical characterization of any kind of solids (especially catalysts) promotes the knowledge of the most important properties of the solid. In a catalytic process, many properties of the catalyst can modify its activity and selectivity toward a certain catalytic reaction. Textural properties of the catalyst for example, influences the diffusion of the adsorbate molecules toward the active species located inside the pores of the support.

On the other hand, dispersion and stability of the active species dictate the active life of the catalyst. Therefore, characterization previous to any catalytic process is a demanding task to be carried out on the catalyst. Importantly, from characterization, the expected activity and selectivity of the catalyst can be predicted for a certain defined reaction.

This talk will explore:

- Fundamental characterization of the physical adsorption technique providing information about the texture of the catalyst, while chemisorption technique reveals the dispersion and disposition of the active species located inside the pore to carry out a continuous reaction of the adsorbate molecule to mainly produce the desired final product.

The event will be held on **03/28/18**

Sheraton Mahwah Hotel

1 International Blvd, Route 17 N,
Mahwah NJ, 07495

Seating is limited, register today:

>> [CLICK HERE to REGISTER](#) <<

