Basics of Particle Characterization

27th June 2024

This workshop is aimed at newcomers to particle characterization who are looking for a quick crash-course on dynamic light scattering, laser diffraction, and dynamic image analysis. We will introduce fundamental theory and concepts core to each methodology, the pros and cons of each and provide you ample time to get hands on with the equipment: the Litesizer DLS for Dynamic Light Scattering (DLS), Litesizer DIA for Dynamic Image Analysis (DIA), and the Particle Size Analyzer (PSA) for Laser Diffraction.

We will aim to cover the following topics:

- **Dynamic Light Scattering (DLS) with the Litesizer DLS**: Gain an understanding of the fundamental principles of DLS for particle size measurement. Explore the multifunctional capabilities of the Litesizer DLS, including its ability to measure zeta potential for surface charge analysis, molecular mass for sizing macromolecules, and the refractive index which is essential in optical property studies.
- **Laser Diffraction with the Particle Size Analyzer (PSA):** Learn the fundamentals of laser diffraction and how diffraction patterns are used to generate particle size distributions. This session will also cover how the properties of your materials can influence results and provide strategies to compensate for these variables. The PSA's capability to seamlessly measure both wet and dry dispersions makes it versatile for a variety of applications.
- **Dynamic Image Analysis (DIA) with the Litesizer DIA:** Understand how Dynamic Image Analysis provides a detailed assessment of particle shapes and sizes. This session will guide you through adjusting measurement settings to best represent your bulk material and how to interpret these results to analyse particle morphology, which is crucial for applications where particle shape influences performance.

In the practical sessions of our workshop, participants will gain hands-on experience with the instruments and software essential for particle characterization. We'll cover navigating the software interface, setting up and running measurements with actual samples, and interpreting the resulting data. The workshop will be held at University College London, Nunn Hall, Room 421, 20 Bedford Way, London, WC1H 0AL.

Places will be limited to ensure a good ratio of delegates to tutors during the workshop.

To reserve your place please complete the following form and email to info.gb@anton-paar.com.

Seminar Programme 27 June 2024

09:00	Introduction to particle characterisation, optimising your dispersion and then image analysis techniques with the Litesizer DIA. Turning pixels into a size and shape.
10:00	Coffee break
10:15	Laser Diffraction with the Particle Size Analyzer (PSA) – diffraction patterns and measured intensity, Fraunhofer vs. Mie : which to use and why, size weighting classes and a crash course to data interpretation.
11:15	Short break
11:30	Dynamic Light Scattering (DLS) with the Litesizer DLS – Brownian motion, stokes equation, equivalent diameter, intensity trace, correlation functions, scatter angle and complimentary methods.
12:30	Lunch
13:30	Hands on session 1 – Group A: DIA, Group B: DLS, Group C: LD
14:30	Session switch
14:45	Hands on session 2 – Group A: LD, Group B: DIA, Group C: DLS
15:45	Session switch
16:00	Hands on session 3 – Group A: DLS, Group B: LD, Group C: DIA
17:00	End of Seminar

Email to: info.gb@anton-paar.com

Name: _____
Company: _____
Address: _____
Postcode: _____
Telephone: _____
Email: _____

Please reserve me a place at the Rheology Workshop as detailed below:

☐ Delegate rate (includes course, book, lunches + coffee/tea in mornings and afternoons) £199 +VAT

Purchase Order Number _____
Special dietary requirements: _____

Please note that a purchase order or prepayment by credit card/cheque is required prior to the event in order to reserve your place. Payment terms: prepayment at least 14 days prior to the event.

I will: ☐ raise a purchase order ☐ prepay by card/cheque

Anton Paar Ltd
T: 01992 514730
Unit F | The Courtyard | St. Albans | AL4 0LA
info.gb@anton-paar.com | www.anton-paar.com