

Characterizing Complex Colloidal Systems via Advanced Light Scattering Techniques

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This talk presents research case studies on multi-target systems, proteins, gene therapy, and functionalized nanoplatforms, demonstrating how advanced light scattering techniques can characterize complex colloidal dispersions.

As nanotechnology advances in materials science, biopharmaceuticals, and renewable energy, accurate and reliable characterization of colloidal size, charge, concentration, and molecular weight is essential. BeNano is a high-precision, versatile analyzer that integrates multiple optical techniques into a single platform. Its key functions include dynamic light scattering (DLS) for particle size, microrheology, and fluorescence filters; electrophoretic light scattering (ELS) for zeta potential and automated pH titration; and static light scattering (SLS) for molecular weight and distribution. Patented modules further enable refractive index measurement, concentration determination, and micron-scale size analysis via optical sedimentation.

By covering sample types from nanoscale to microscale and from dilute to concentrated colloidal systems, BeNano provides comprehensive, high-resolution insights that support both fundamental research and industrial innovation.

Keywords:

Colloidal dispersions, Light scattering techniques, Nanoparticle characterization, Biopharmaceuticals, Particle size, Zeta potential, Concentration