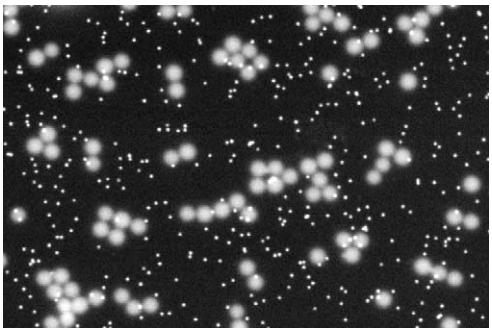

Analysis in the wet

QuantomiX has developed its QX capsules for the analysis of wet samples in their native environment using energy-dispersive X-ray spectroscopy (EDX) in the scanning electron microscope. Solutions, emulsions, suspensions, gels, foams, powders, and nanoparticle samples can be placed directly in the capsules and characterized using both spot and full-frame analysis. Previously, EDX has been limited by the difficulty in viewing wet samples. Time-consuming preparation procedures, which can introduce artifacts, are no longer required.
QX capsules are already being used in SEM imaging of wet samples in both materials science and biology, including characterizing the dispersion of particles in liquids and determining shape distributions. Qualitative elemental analysis using EDX has now been added to these capabilities.

Contact: www.quantomix.com

X-ray detector is free from vibration

Princeton Gamma-Tech has launched a versatile X-ray detector for high-performance energy-dispersive X-ray spectroscopy in the electron microscope. With no liquid nitrogen or moving parts, the Sahara Silicon Drift detectors are vibration- and maintenance-free. The detectors offer high performance in detecting light elements, high resolutions of 129 eV, and high count rates of over 100 000 cps. The detectors are compatible with all electron microscopes, with retrofitting to older models possible.

Contact: www.pgt.com

Spectrometer learns a new geometry

A terahertz spectrometer capable of making measurements in multiple sample geometries is available from TeraView. The Spectra 1000D combines reflective and transmission spectroscopy technology, offering flexibility to materials scientists and chemists in the analysis of polymorphic, crystalline, and amorphous substances.
As well as the transmission sampling of previous instruments, the Spectra 1000D has modules for attenuated total reflection (ATR) and specular reflection sampling geometries. The ATR module has a choice of Ge and Si crystals for gathering data from different depths in the sample surface. With these options, the user can select the best method for a range of sample types, including liquids, powders, gels, creams, films, and reflective surfaces.

Contact: www.teraview.com

Viscometer for particle sizing

The SV-10 Vibro viscometer is a new accessory from Malvern for its Zetasizer Nano particle characterization system, which offers rapid viscosity measurements in the range 0.3-10 000 mPa.s with 1% accuracy. High accuracy can be used to enhance dynamic light scattering measurements of particle size, which depend on viscosity values. This can be of use in the study of emulsions and dispersions.
Viscosity is determined by measuring the drive needed to vibrate two Au paddles in the sample at a constant amplitude. After 15 s stabilization time, a continuous viscosity reading is produced. The unit is compatible with all fluids and is suitable for temperatures of 0-100°C.

Contact: www.malvern.co.uk

Software under the microscope
Thermo Electron has enhanced its software for infrared and Raman microspectroscopy and imaging. OMNIC™ Atlμs™ 7.2 software now has the ability to analyze quantitative information from video and chemical images, such as particle dimensions. The ability to pull information from the software's history allows users to recreate an image from raw data and processing steps. Spectra can be grouped and advanced statistics performed. Another feature is principal component analysis, which can be used to minimize the contribution of undesired features, as well as improve the signal-to-noise ratio and spatial resolution of the data.

Contact: www.thermo.com

Mining spectral data
Users of Bio-Rad Laboratories' KnowItAll® Informatics System Version 5.0 can now search across multiple databases and spectral techniques and view consolidated results. Searches can include nuclear magnetic resonance, mass spectrometry, infrared, and Raman spectra, as well as substructure and property data. All spectral information is combined to yield a single result using this powerful search technology. The system also provides display and data-mining tools to simplify results, along with the ability to weight the importance of each data input.

Contact: www.knowitall.com

Stages find new gear
piezosystem jena's nanoX® series of nanopositioners has a new bidirectional gear design. These stages are suitable for fast, dynamic applications and offer high guiding accuracy, even for large loads. The stages provide a total travel range of up to 480 μm with subnanometer resolution.
The nanopositioners have a compact design, as well as raster pin and drill holes for easy mounting on existing assemblies. Typical applications include imaging, scanning microscopy, and metrology.

Contact: www.piezojena.com