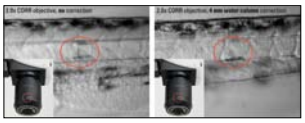
ProductNews

Leica Microsystems Stereo Microscope Objective for Imaging Specimens in Aqueous Solution



The new Leica Planapo 2.0× CORR objective for the Leica M series stereo microscope is for use with specimens immersed in aqueous solution. Users can obtain images with up to a 5 mm water column between the specimen and the objective. Normally, when specimens are in aqueous solution, image quality deteriorates due to the refractive index mismatch between water and the surrounding air. The refractive index can be compensated with this objective.

Leica Microsystems GmbH
www.leica-microsystems.com

Direct Electron Announces a 8k × 8k Direct Detector for TEM

The first 8k × 8k direct detector is developed with support from the NIH NIGMS. The DE-64's ultra-large 67-megapixel field-of-view is critical for cryo-EM. The ultra-large field-of-view dramatically decreases the number of images needed for each single-particle experiment and improves 3D reconstructions by significantly improving CTF fitting. Like other DE series cameras, the DE-64 features the revolutionary Direct Detection Device (DDD®) sensor with industry-leading resolution and "movie-mode."

Direct Electron, LP
www.directelectron.com

FEI Adds Phase Plate Technology and Titan Halo TEM to Its Structural Biology Product Portfolio

FEI announced two new products for cryo-electron microscopy applications: a new phase plate solution and the Titan Halo™ transmission electron microscope. The phase plate is a stable, durable solution to increase the contrast of sensitive biological samples and is available on most TEM platforms from FEI. The Titan Halo TEM provides high-quality optical performance with enhanced flexibility for multi-scale applications in life and biomaterials sciences.

FEI Company
www.fei.com/life-sciences/structural-biology

New Goldeye: Industrial Design, Scientific Precision

The new Allied Vision Technologies' Goldeye infrared camera series is now shipping. The Goldeye is a shortwave infrared (SWIR) camera. With its InGaAs sensor, its sensitivity ranges from 900 to 1,700 nm. This makes the new Goldeye a perfect choice for demanding industrial and scientific vision applications beyond the visible spectrum. The Goldeye is fitted with an active cooling module that cools the sensor by up to 30K, reducing dark current and image noise.

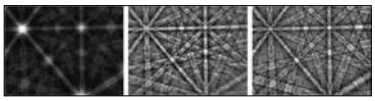
Allied Vision Technologies GmbH
www.alliedvisiontec.com

Gatan Launches the OneView Camera

Using a proprietary 16-megapixel CMOS sensor optimized for both sensitivity and speed, the OneView camera excels at both high-quality still image and high-speed video capture. An ultra-fast built-in shutter allows imaging at essentially 100% duty cycle, guaranteeing optimal use of specimen dose and the highest quality imaging for any frame rate. The 25 fps full-resolution frame rate combined with in-line data processing enables real-time drift correction, dynamic range extension, and several recording modes.

Gatan, Inc.
www.gatan.com

Bruker Launches New Software Package for Dynamical EBSD Pattern Simulation



Bruker introduced ESPRIT DynamicS, a powerful software tool for simulation of electron backscatter diffraction patterns. ESPRIT DynamicS is the first commercially available software to calculate Kikuchi patterns using the dynamical theory of electron diffraction, which takes all physical effects and parameters of the pattern generation into account: the lattice parameters, the electron beam energy, the symmetry and chemical composition of the crystal structure, etc.

Bruker Corporation
www.bruker.com

The World's Only Cryogenic Objectives—Three Apochromatic Ranges

High spatial resolution spectroscopy measurements, such as confocal micro-luminescence, fluorescence, and micro-Raman require high-quality apochromatic objectives. Such objectives were simply not available for operation at cryogenic temperatures. attocube can now provide three different apochromatic objectives to perform demanding broadband spectroscopy measurements in three different spectral ranges spanning from the visible to near-infrared. Some simple aspheric lenses survive the thermal cycling, but at the cost of an extremely poor chromatic performance.

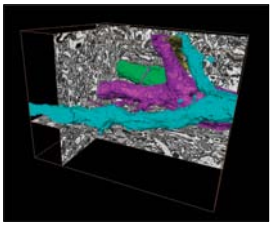
attocube systems AG
www.attocube.com

CAMECA Launches Next-Generation Atom Probe Microscope

The LEAP 5000 offers unparalleled 3-dimensional nano-scale surface, bulk, and interfacial materials analysis with atom-by-atom identification and accurate spatial positioning. This highly sophisticated materials analysis instrument integrates mature technologies from previous LEAP models and comes equipped with a redesigned detection system offering increased efficiency, advanced laser control, faster data collection, and real-time monitoring capabilities, all housed in a more robust and ergonomic platform.

CAMECA Atom Probe Technology Center
www.cameca.com

FEI Announces Teneo VS for 3D Volume Imaging of Cells and Tissues



FEI announced its new Teneo VS™ scanning electron microscope (SEM), which offers a VolumeScope™ capability for life science applications. The Teneo platform tightly integrates FEI's latest-generation SEM with VolumeScope, an in-chamber microtome and proprietary analytical software to provide fully automated, large-volume reconstructions with dramatically improved *z*-axis resolution. The VolumeScope in-chamber ultra-microtome is fully integrated with the Teneo VS operating and imaging software. Switching between volume imaging and normal SEM operation is fast and easy.

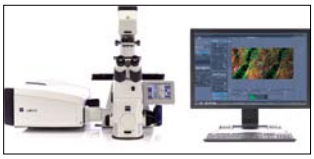
FEI Company
www.fei.com/teneo-for-life-sciences

Triple-Color LED Ring Light

Operators may select red, blue, or white illumination to create contrast when examining specimens. If standard white diodes wash out any areas, a mode switch to one of the color alternatives will enhance the features. The fixture mounts easily below the lens on four series of Aven microscopes and has 40 LEDs in each color. Its working distance is 100 millimeters. The long-lasting, flicker-free LEDs are rated to work for at least 20,000 hours.

Aven, Inc.
www.aventools.com

ZEISS Introduces LSM 880 with Airyscan



The new confocal laser scanning microscope LSM 880 with Airyscan offers high sensitivity; enhanced resolution in *x*, *y* and *z*; and high image-acquisition speed in one system. Airyscan extends exactly those parameters. Users achieve a 1.7× higher resolution in all spatial dimensions, 140 nm laterally and 400 nm axially. The improved sensitivity leads to better image quality and increased speed. The whole imaging process is possible with standard sample preparation and labeling protocols.

Carl Zeiss AG
www.zeiss.com

TECHSPEC® Acylinder Lenses Focus Light in a Single Dimension

Edmund Optics® introduced its new TECHSPEC® Acylinder Lenses. These lenses are similar to aspheric lenses, as they provide diffraction-limited focusing performance in only one dimension. TECHSPEC Acylinder Lenses are designed to reduce spherical aberration along the focusing axis and are an excellent choice for creating thin line profiles. Compared with standard cylinder lenses, TECHSPEC Acylinder Lenses reduce the spot size of monochromatic light sources to provide sharp, thin lines in a variety of applications.

Edmund Optics®, Inc.
www.edmundoptics.com

Hitachi TM3030Plus Tabletop SEM

Hitachi has recently launched the TM3030Plus Tabletop SEM, a new addition to Hitachi's tabletop electron microscope family, TM series. The TM3030Plus is equipped with a proprietary, highly sensitive low-vacuum secondary electron detector capable of revealing fine sample surface detail information. In low-vacuum mode, the TM3030Plus offers both secondary electron images and reflective electron images without any prior sample processing. The result is increased throughput and sample information to meet the growing demands of today's complex microscopy applications.

Hitachi High Technologies America, Inc.
www.hitachi-hta.com

XEI Scientific Launches the Revolutionary Evactron ES Plasma Cleaning System

The ES model starts easily with patent pending "POP" plasma ignition process. The simplified Evactron Plasma Radical Source (PRS) performs high-efficiency cleaning in almost any high-vacuum system. The ES performs the same "flowing afterglow™" cleaning that was introduced by XEI with its Evactron Zephyr™ models last year. It provides fast carbon-cleaning rates up to 150 Å/min at 20 cm from the plasma source when used with a turbo molecular pump.

XEI Scientific Inc
www.evactron.com

Bruker Introduces Inspire Nanoscale Chemical Mapping System

Bruker announced the release of Inspire™, the first integrated scanning probe microscopy infrared system for 10-nanometer spatial resolution in chemical and materials property mapping. The Inspire system incorporates Bruker's proprietary PeakForce IR™ mode to enable nanoscale infrared reflection and absorption mapping for a wide range of applications, including the characterization of microphases and their interfaces in polymer blends, plasmons in the two-dimensional electron gas of graphene, and chemical heterogeneity in complex materials and thin films.

Bruker Corporation
www.bruker.com

FEI Releases New Helios NanoLab G3 DualBeam

FEI announced the release of the next-generation Helios NanoLab™ DualBeam™. The DualBeam instruments' ability to see structure and composition and add and remove material at the nanometer scale allows materials scientists to explore fundamental relationships between structure and function and prepare ultrathin samples for atomic-scale analysis in transmission electron microscopes. The CX configuration of the DualBeam includes more versatile sample handling and positioning for fast, flexible analysis, sample preparation, and characterization.

FEI Company
www.fei.com/helios-g3