

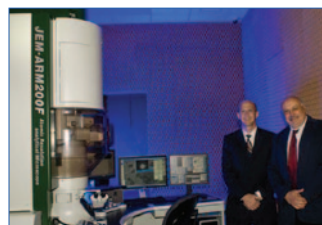
IndustryNews

Applied Physics LaB₆ and CeB₆ Cathodes Offered by Electron Microscopy Sciences

The Applied Physics Technologies (APTech) lanthanum hexaboride (LaB₆) and cerium hexaboride (CeB₆ or CeBix) cathodes are now available through Electron Microscopy Sciences. Both LaB₆ and CeBix cathodes are ideal for many small spot size applications such as SEM, TEM, surface analysis, and metrology, and for high current applications such as microwave tubes, lithography, electron-beam welders, X-ray sources, and free electron lasers.

Electron Microscopy Sciences
www.emsdiasum.com/microscopy/products/microscope/lab6_ce6.aspx

UTSA Unveils New ARM200F



The first ARM200F installation at a customer site was officially celebrated at the University of Texas at San Antonio last month. The S/TEM achieved raw HAADF images at 78 picometer resolution just three weeks after it was uncrated. "We now have

access to resolutions that will give us a tremendous scientific advantage to solve problems that need to be attacked," said Dr. Miguel Jose-Yacamán, chair of the Department of Physics and Astronomy.

JEOL USA
www.jeolusa.com

Electron Microscopy Sciences Offers Graphene Support Films

Electron Microscopy Sciences announced the addition of graphene transmission electron microscope support films to its product line. The new graphene support film provides an invisible, crystalline background that enables the unrivaled TEM characterization of organic and inorganic nanomaterials. Graphene is a single atomic layer of carbon atoms tightly packed in a two-dimensional honeycomb lattice. This novel material is atomically thin, chemically inert, consists of light atoms, and possesses a highly ordered structure. Graphene is electrically and thermally conductive.

Electron Microscopy Sciences
www.emsdiasum.com/microscopy/products/films/graphene.aspx

Andor Technology plc Acquires Photonic Instruments Inc.

Andor announced that it acquired Saint Charles, Illinois-based Photonic Instruments Inc. (Photonic). This follows on the Andor acquisition of Bitplane AG, a Zurich-based world leader in 3D and 4D image analysis software. Photonic is a developer, manufacturer, and supplier of laser- and lamp-based illumination and ablation systems. Its Micropoint® and patented Mosaic® products are market leaders in fluorescence imaging and laser ablation for confocal and wide-field microscopy.

Andor Technology plc
www.andor.com

APG Vision Industrial Enclosures

APG Vision (www.apgvision.com) has contracted XL Imaging, LLC Consultant Services (www.xlimaging.us) to direct growth of sales, marketing, and world-wide distribution channels. APG manufactures camera and lighting enclosures for harsh environments: wash down (FDA) and explosion-proof enclosures for numerous machine vision cameras like Sony, Cognex, Dalsa, Basler, etc. APG Vision is looking to fill a limited number of distribution channels that cater to machine vision systems design all over the world.

APG Vision
www.apgvision.com

Bruker Receives Contract from NIST for N8 TITANOS Large Sample Atomic Force Microscope (AFM) System



Bruker announced that it has been awarded a \$1.1 million contract to supply a customized N8 TITANOS™ large sample Atomic Force Microscope (AFM) to the United States Commerce Department's National Institute of Standards and Technology (NIST). The instrument will be used by NIST's Precision Engineering Division (PED) at its Manufacturing Engineering Laboratory with a main focus on metrology applications, which require traceable AFM (T-AFM).

Bruker Nano
www.bruker-nano.com

Thermo Scientific FT-IR Solutions Effectively Characterize Algae Biomolecules for Biofuels Programs

Thermo Fisher Scientific Inc. announced that its FT-IR sampling solutions are designed to provide a cost-effective approach to characterizing the chemical composition of biological systems, such as lipids, in algae. Algae are a promising source for the large quantities of biomass required for a successful biofuels program. Analysts can choose from among four different configurations capitalizing on ATR spectroscopy, transmission spectroscopy, reflectance spectroscopy, and infrared microscopy to suit varying analytical requirements and sample preparation methods.

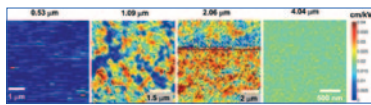
Thermo Fisher Scientific Inc.
<http://www.thermo.com/ftir>

Advanced Material Testing Systems for LMs, SPMs, and SEMs

MTII/Fullam now offers compact systems designed to perform tensile, compression, bending, and fatigue testing of specimens under observation of a microscope. The dual lead screw design symmetrically loads samples while keeping them centered within the scope's field of view. Quick-connect mounting fixtures are available for seamless integration into most major microscopy tools. The powerful software and data-acquisition package provides real-time test results including stress, strain, UTS, Young's modulus, etc.

MTII Instruments, Inc.
www.mtiinstruments.com

Asylum Research/ORNL Band Excitation SPM Technique Reveals Unique Properties of Nanoscale Materials



The new Band Excitation (BE) technique, co-developed by Oak Ridge National Laboratory (ORNL) and Asylum Research, has provided clues to the origins of unique properties of materials, including spin and cluster glasses, phase-separated oxides, polycrystalline ferroelectrics, and ferromagnets, that are rooted in their highly disordered structures. The new observations were made possible by advances in scanning probe microscopy (SPM) at ORNL's Center for Nanophase Materials Sciences and Asylum Research.

Asylum Research Corp.
www.AsylumResearch.com

Ametek Establishes Atom Probe Technology Center



AMETEK has established an Atom Probe Technology Center in Madison, WI, at the headquarters of the recently acquired Imago Scientific Instruments. The Atom Probe Center further strengthens the company's leadership in this emerging technology by bringing together the field's two pre-eminent developers—Imago Scientific and CAMECA SAS. Founded in 1999, Imago is a pioneer in the development of 3D atom probe technology used in advanced materials science to conduct atomic-level imaging and analysis.

AMETEK Materials Analysis Division
www.ametek.com

Vanderbilt University is 100th Facility to Install Genetix' Clonepix FL

Genetix announces that Vanderbilt Monoclonal Antibody Core (VMAC), Vanderbilt University, has become the 100th facility to purchase its ClonePix™ FL system. Used for screening and selection of secretory cell lines, the ClonePix FL system can significantly reduce the time and costs associated with recombinant protein generation. VMAC will use the system to support its monoclonal and polyclonal antibody generation, purification, and characterization technical advice and services, and also its recombinant protein production and purification services.

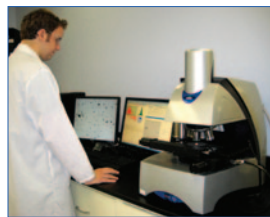
Vanderbilt University
www.mc.vanderbilt.edu/vmac

Highly-sensitive EMCCD Camera Helps Redraw the Boundaries of Super-Resolution 3D Imaging

Using a highly sensitive Andor iXon+ EMCCD camera, Prof. Rafael Piestun at the University of Colorado and his students have developed a super-resolution, 3D imaging technique that can resolve single fluorescent molecules with greater than 10 times more precision than conventional optical microscopy. By being able to locate molecules to within 12–20 nm in all three axes, the researchers hope to be able to observe interactions between nanometer-scale intracellular structures previously too small to see.

Andor Technology
www.andor.com

PTL Adds Malvern's Morphologi G3 to its Testing Technologies



Particle Technology Labs has added the Morphologi G3 from Malvern Instruments to the extensive range of technologies it has available for analyzing its clients' materials. Operating under cGMP, PTL is also FDA-registered, DEA-licensed, and holds an ATF permit. The Morphologi

G3 fully automated microscope-based image-analysis system delivers information on particle shape as well as size. PTL uses the Morphologi G3 for method development and troubleshooting, and mostly for dry powders.

Malvern Instruments
www.malvern.com/morphologi

Award-winning Pioneer in Nanoscience Research Visits JEOL USA



Nanoscience owes much to the discoveries of world-renowned physicist Dr. Sumio Iijima who pioneered the use of high-resolution transmission electron microscopy (HRTEM) to characterize nanomaterials in the early 70s and successfully imaged carbon nanotubes in the early 90s. Shown in the photo (L to R) are Peter Genovese, JEOL USA President; Hisao Wada, Vice President; Dr. Sumio Iijima; Bob Santorelli, CEO; and Shinichi Watanabe, Chairman.

JEOL USA, Inc
www.jeolusa.com

UCLA Breaks Resolution Barrier: Achieves Atomic Resolution of Viruses Using an FEI Cryo-Electron Microscope

FEI announced that Dr. Hong Zhou at UCLA and the California NanoSystems Institute (CNSI) has achieved atomic resolution of viruses in solution for the first time using a Titan Krios™ transmission electron microscope (TEM). The paper was published as a cover feature in *Cell* (www.cell.com), April 30, 2010, Zhang et al., "3.3 Å Cryo-EM Structure of a Non-enveloped Virus Reveals a Priming Mechanism for Cell Entry."

FEI Company
www.fei.com

Carl Zeiss Announces Patents Issued For PAL-M Super-Resolution Technology

Carl Zeiss MicroImaging GmbH has been issued three patents to Dr. Eric Betzig and Dr. Harald Hess for their invention relating to super-resolution Photo-Activated-Localization Microscopy (PAL-M). This technology enables imaging of samples with a spatial resolution of a few nanometers. The idea is to generate sparse subsets of fluorescent dye molecules at a time. This allows the accurate determination of the position of those individual fluorescent molecules with nanometer precision.

Carl Zeiss MicroImaging
www.zeiss.com/micro