

Carl Zeiss SMT today introduced the new **CENTRA™ 100** transmission electron microscope (TEM) at the 47th Annual Meeting of the American Society of Cell Biology in Washington D.C. The CENTRA 100 is a TEM with up to 100 kV accelerating voltage. Specially designed as a sophisticated “imaging system”, the highly compact and robust instrument



offers maximum resolution down to 0.2 nm. The ease-of-use and fast specimen exchange capability make this microscope particularly well suited for biomedical or clinical laboratory environments. It also features low operating costs, high specimen throughput, a very attractive price/performance ratio and low space requirements, thanks to the small footprint. A key technical feature of the system is the choice between two different imaging modes: high resolution and high contrast. This is particularly important for investigating low-contrast biological specimens. The specially developed mini-lens design leads to a very compact size where the electron-optical lens elements exhibit only minimum aberration. The use of four lens elements in the projection system enables rotation-free imaging while the magnification is being changed. Furthermore, additional deflection systems support the image-fine-shift that enables the generation of panorama images.

Carl Zeiss takes great pride in developing and marketing high performance objectives. Recent innovations have yielded objectives specially designed for Live Cell Imaging and 3-D Imaging techniques. Carl Zeiss will focus on its superior solutions for 3-D applications with the launch of its new theme, Carl Zeiss 3-D Science: Dynamic Diversity Discovery. What's more, a **new brochure detailing the selection process and the broad range of objective classes from Carl Zeiss** can make specifying the right objective an easy and efficient process. This new guide provides valuable background information about imaging properties, correction approaches and specimen handling, and is available along with an online objective selection database at www.zeiss.com/objectives. The online database allows users to find recommended objectives based on defined search criteria, and contains detailed technical information ranging from contrast methods to transmission data on each objective.

Carl Zeiss SMT and Qimonda are launching a cooperation within the framework of the joint “Nanoanalysis” project which is funded by the German Federal Ministry of Education and Research (BMBF) with a sum of 12 million euros. The partners are working together on new analytical and characterization methods required for the development of the next chip generation. This strengthens the competency of the Dresden microelectronics site, particularly in the fields of semiconductor analysis and metrology. Contact www.smt.zeiss.com for additional information

El-Mul Technologies announced today that it has acquired **QuantomiX®**, developer of the innovative **WETSEM™** capsule technology, headquartered in Rehovot, Israel. QuantomiX WETSEM enables rapid, direct imaging of wet samples in scanning electron microscopes (SEM), an important new capability that has been hailed as a breakthrough. The WETSEM patented capsule design protects samples from the harsh vacuum of the microscope chamber and brings nano-scale visualization to biological, pharmaceutical and materials science applications. The acquisition significantly broadens El-Mul's market reach and adds an exciting new portfolio of products to El-Mul's existing lines of high performance charged particle detectors and carbon nanotube (CNT) based field emitters. The combination of WETSEM with dedicated detectors and eventually also CNT electron sources will enable novel applications which would not be within reach of either company alone. Since its introduction in 2003, the QuantomiX WETSEM line of capsules has made it possible to create high resolution images of previously unseen wet samples – such as cells, biological tissue, foods, cosmetics and ink – in their native environments.

In particular, WETSEM technology has opened new opportunities for application-specific tools to improve drug discovery, advanced treatments for disease and diagnostic solutions for the medical and pharmaceutical markets. El-Mul will continue to support all current WETSEM products and applications. El-Mul management has also announced plans to enhance and expand QuantomiX's patented technologies in order to address important new applications in additional industries where lucrative potential growth is foreseen. El-Mul has held business interests in QuantomiX since its founding in 2001. El-Mul Technologies is the original creator and patent co-owner of the technology that underlies Quantomix WETSEM. CONTACT: Bob Rosenbaum, Strategic Marketing, bob.rosenbaum@el-mul.com.

Oxford Instruments launches its **Analytical Silicon Drift Detector (SDD) INCAx-act with unique patented PentaFET Precision**. The radial SDD sensor has been designed specifically for excellent low energy performance and mapping at high count rates, providing users with high-quality qualitative and quantitative results. The result is a high quality Analytical SDD detector, which has allowed Oxford Instruments to introduce a guaranteed Carbon resolution on their INCAx-act detector. This makes it the world's only EDS Silicon Drift Detector to offer ISO 15632:2002 resolution compliance. Oxford Instruments is also pleased to announce that from 26th November all customers who have already placed an order for INCAx-act will receive this upgraded detector with PentaFET inside. For more information on Analytical Silicon Drift Detectors go to www.oxford-instruments.com/ASDD or email nanoanalysis@oxinst.com for a copy of Analytical SDD explained.

JEOL USA introduces a new high throughput SEM/FIB that combines **Focused Ion Beam micro milling with the high resolution imaging of the JEOL LaB6 electron column**. The MultiBeam is a high-productivity tool for IC defect analysis, circuit modification, TEM thin film sample preparation, and mask repair. A versatile all-in-one system, the MultiBeam features Serial Slicing and Sampling (S³™) for in-process monitoring of milling, fabrication, and reconstructing 3D images of the sectioned area. A maximum milling current of 30 nA ensures high throughput milling of large areas. Additional features include low vacuum operation for non-conductive specimens without coating or alteration, a gas injection system for etching and deposition, a large stage for up to 150 mm samples, and a multiple port design for a range of analytical needs. Samples are loaded through a standard airlock system. Two new nano-imaging labs will take delivery of the MultiBeam systems in early 2008. JEOL USA has formed a partnership with both the University of Southern California and Boston College to advance applications research on the east and west coasts. For more information visit <http://www.jeolusa.com/PRODUCTS/ElectronOptics/ScanningElectronMicroscopesSEM/SEM-FIB/NewJIB4500MultiBeam/tabid/496/Default.aspx>



Thermo Fisher Scientific Inc. announces that it has been selected by **APP Pharmaceuticals Inc.** (formerly known as Abraxis Pharmaceutical Products) for a **three site multi-phase rollout of Thermo Scientific Darwin LIMS™**. Darwin, a purpose-built laboratory information management system (LIMS) for pharmaceutical manufacturing R&D and QA/QC, will be deployed in all three of APP's manufacturing facilities located in New York, Illinois and Puerto Rico. APP Pharmaceuticals' products have helped millions of people in the United States and Canada fight critical illnesses by providing a broad portfolio of multi-source and branded injectable pharmaceutical products, including difficult to manufacture and urgently needed medical products. The project is intended to harmonize processes, automate operations and consolidate data management in a single LIMS across all three sites. The multi-phase project will initially

involve the deployment of Darwin's inherent Environmental Monitoring functionality enabling facilities to move from manual systems onto an automated system for microbiological samples from the sterile manufacturing environment. The second phase of the project will feature an integrated LIMS and Chromatography Data System (CDS) implementation followed by the third phase of the LIMS rollout including SAP interfaces across all sites. Thermo Scientific Darwin LIMS is a purpose-built LIMS for pharmaceutical manufacturing R&D and QA/QC laboratories. Since it contains an Environmental Monitoring module as standard, implementation and validation time and costs are greatly reduced versus generic LIMS. Environmental monitoring is essential for product monitoring and compliance. Thermo Scientific Atlas CDS is a GLP and 21 CFR Part 11 compliant enterprise CDS. Atlas CDS provides comprehensive multiple vendor instrument control. With ease of deployment and validation across laboratories and sites, laboratory efficiency is gained by automating the laboratory. For more information about Thermo Scientific Darwin LIMS, please visit www.thermo.com/informatics

FEI today announced a field upgradeable option to add backside circuit edit capabilities to its recently announced V600CE focused ion beam (FIB) system. The available enhancement adds an infra-red camera and bulk silicon trenching capabilities to the highly accurate and automated FIB platform making the V600CE an ideal solution for all circuit edit applications for today's complex semiconductors. The V600CE was released in June. It features the NanoChemix™ gas delivery system and end-pointing capabilities to deliver precise, flexible circuit edits for increased success rates on today's 65nm and below devices.

FEI today presented a gift of a Phenom table-top SEM to Philadelphia Central High School. Astronaut Alan Bean addressed the student body at the dedication event.

FEI Company and the Netherlands-based FOM foundation have announced a joint nanotechnology research project. The goal of the Industrial Partnership Program (IPP) is to advance electron microscopes and focused ion beam systems (FIBs) so that the structure of materials can be made visible and processed at the single-atom scale. FOM-sponsored IPPs link leading academic and industrial physical research to realize specific commercial goals. The ambitious research program will have a two-fold focus. The first is to advance and fully harness the potential that lies in existing electron microscopes and ion beam systems for a full range of applications in physics and biology. The second focus of the program will include researching the interaction between electron beams, ion beams, laser light and matter. This will result in much-needed fundamental innovations for future generations of microscopes and focused ion beam systems. More information can be found at: www.fei.com.

Ladd Research is pleased to announce two new major product releases. The first is a **turbo coater for carbon and metal deposition**. It is available as a floor model and bench top. Ladd has been one of the leaders in vacuum systems for close to 50 years. The Ladd evaporators are all hand-crafted and known for their ease of use, reliability and versatility. A scroll pump option for dry vacuum is also available. Ladd also released **the latest version of Mercox**, the premier microvascular corrosion casting material. The newly released Mercox II is available in clear, red and blue kits. The new Mercox has been designed with lower viscosity and increased stability. See www.laddresearch.com for more information

The Nano-IM™ AFM, recently introduced by **Pacific Nanotechnology, Inc.**, has a unique design in which the entire AFM scanner, control cables and optics are mounted on a granite gantry. The gantry can then be used in a number of different configurations. Stages can be designed for the Nano-IM™ to accommodate a large variety of sample sizes and shapes. Motion of the sample can be controlled by manual as well as motorized mechanisms. Recently, stages that accommodate 6-inch diameter drums and 12-inch wafers were shipped to PNI customers. The Nano-IM™ can be used for industrial inspection applications as well as unique research

projects. For more information, please contact Pacific Nanotechnology at sales@pacificnanotech.com.

JAI today announced the release of **four new digital progressive scan CCD cameras**: CM-140GE, CB-140GE, CM-200GE and CB-200GE. As part of the launch, the company also unveiled its new C3 Camera Suite – a three-tiered range of cameras that give users the unique ability to easily switch from camera to camera, and from tier to tier, depending on their application and environment needs. The four newly launched cameras belong to the C3 Compact product tier, an entry-level series with a small form factor and a single-tap high frame rate architecture. The CM-140GE and CB-140GE utilize the Sony ICX205 series CCDs to deliver 1.4 megapixel resolution (1392 x 1040 pixels) in monochrome or raw Bayer color, respectively. The CM-200GE (monochrome) and CB-200GE (raw Bayer color) models offer 2 megapixel resolution (1628 x 1236 pixels) based on the Sony ICX274 sensor series. The CM-140GE and CB-140GE operate at 31 fps, while the CM-200GE and CB-200GE run at a rate of 25 fps. Partial scanning and binning modes are also provided. For more resources on JAI's C3 Camera Suite, please also visit www.jai.com/switch

CoolLED is pleased to announce two new LED Array Modules (LAMs) for the precisExcite LED source. These are at 445nm (CFP) and 505nm (YFP) wavelengths. These complement the existing wavelengths available at 400, 465, 525, 595 and 635nm. Full details and optimal filter data can be found at the precisExcite website. precisExcite uses high-power LED arrays which benefit from active cooling to achieve precise thermal control. This ensures maximum intensity and stability throughout their lifetime. CoolLED is constantly monitoring LED availability and will continue to introduce new wavelengths as they become available. Dual staining applications such as GFP + mCherry are becoming common procedure. The ability to control the intensity of individual wavelengths independently means that excitation can be balanced such that one strong fluorophore is not saturating a camera, whilst another is seen as too weak. ND filters and shutters are not required when using precisExcite for this procedure. The precisExcite unit can be specifically configured for this application. Excitation filters can be integrated within the system and an optimised double dichroic supplied. This means that there will be no moving parts, resulting in vibration-free microsecond switching. For further details, visit: <http://www.precisexcite.com>

In the development of new medications, the distribution of active ingredients within a tablet plays an important role in their effectiveness. With the new **Leica EM RAPID milling system**, tablets can be prepared for quantitative NIR (near-infrared) spectroscopy quickly and with maximum precision. The instrument's high-performance tungsten carbide or diamond milling tools decapsulate and mill without smearing effects from the outer capsule layer. Specially adapted to the requirements of pharmaceutical research, the Leica EM RAPID offers variable milling speeds. The speed can be continuously adjusted to prevent the fragile cutting surfaces of tablets from being destroyed. To analyze active ingredients in various layers of the medication, the specimen can be milled in defined increments of 0.5 to 100mm. For more information contact: Molly Baker at news@leica-microsystems.com

BudgetSensors®, a Bulgarian manufacturer of silicon and silicon nitride probes, as well as AFM accessories for Atomic Force Microscopes (AFM), **announces the introduction of a new tapping mode AFM probe**, as well as a new feature for a selection of AFM probes. Following the introduction of BudgetSensors® Soft Tapping Mode AFM Probes Tap150-G and Tap150AI-G, the company now announces the introduction of another type of Tapping Mode AFM probe – the Tap190-G. In addition to a resonance frequency of about 190 kHz, Tap190-G AFM probes are characterized by a long cantilever, compared to Tap300 and Tap150-G AFM probes, which is required for some specific models of AFM systems by certain manufacturers, such as Quesant. www.budgetsensors.com