

The **LSM 700 Laser Scanning Microscope** from **Carl Zeiss** sets a new standard for confocal microscopy with maximum performance at a favorable price. Building upon proven technology concepts, it offers innovative solutions for image analysis with exceptional sensitivity and quality – with an extremely attractive price/performance ratio. High flexibility both in application and system structure is the outstanding feature of the LSM 700. The fields of application extend from simple routine to multidimensional images in biomedical research. The system can be combined with



a large number of microscope stands and tailored to the personal requirements of each user. This makes it ideal as an entry-level system for confocal microscopy. The benefits of the LSM 700 can be utilized both at individual workstations and in user groups. The system's small footprint also makes it suitable for small rooms. The ZEN 2009 software from Carl Zeiss makes

its operation very clear and easy to learn allowing intuitive use even by first-time users. Complex methods are easy to control and the user has a clear overview of the experiment at all times. The optical design of the LSM 700 guarantees high efficiency in the detection even of weak fluorescence signals. Key elements of the optical system include the beam path design with its maximum optical precision and the uncompromising concentration on the essentials, the beam combiner system for extremely accurate beam coupling and superimposition, the beam splitter with continuous and loss-free splitting of the light spectrum and, last but not least, the extremely stable pinhole. Text and photo on the Internet at <http://www.zeiss.de/LSM-700>

Carl Zeiss SMT introduced its newly developed **AURIGA™ Cross-Beam® (FIB-SEM) work-station**. As one of the pioneers in developing this class of instruments, and with more than 8 years of FIB-SEM experience, the company incorporated a huge number of innovations in the new AURIGA. The very heart of the AURIGA CrossBeam® workstation is the proven GEMINI® FE-SEM column. Its special in-lens EsB detector offers images with excellent material contrast. Additionally the design of the GEMINI column enables the analysis of magnetic samples. A feature unique to CrossBeam workstations from Carl Zeiss is simultaneous milling and high-resolution SEM imaging. To insure optimal customer support, AURIGA incorporates a new high-resolution FIB with a top level resolution of 2.5 nm and better. Advanced gas processing technology for ion and e-beam assisted etching and deposition completes the unequalled sample processing capabilities of this new instrument.

The **LSM 7 MP Laser Scanning Microscope** from Carl Zeiss is a system which is specially tailored to the needs of multiphoton microscopy.



With its excellent flexibility, compact design and outstanding ease of use, it meets customer requirements for a system that is user-friendly in every respect. It generates high resolution microscopic images for a wide diversity of experiments in biomedical and basic research. Thanks to the use of two scanners in one compact system for the very first time, two lasers

with different wavelengths can be utilized sequentially or simultaneously for specimen imaging and manipulation. The range of detectors and their filter equipment, as well as an extensive line of microscope accessories, allow customization of the microscope system. Visit www.zeiss.com for more information on all Carl Zeiss products.

MICROS Microscopes introduced the HDM, 1.3 MP digital hand held zoom scope with 10-200X, adjustable lighting with 6 LEDs & measurement mode; just plug into a laptop USB and you've got a live image at video frame rates. Other new items include a lighted stage for their MCX500 clinical scope providing a macro view for areas of interest

on specimen slides, LED lighting for their clinical MCX300 & MCX100 student scopes, and a solar charger for their rechargeable student scope MC50. For information contact Jim Schulte jim@micros-us.com

Lily MCX500 ...is a laboratory microscope for professional research. Lily meets the demand of customers for sophisticated microscopy at a moderate price. A 50W, respectively a 100W Halogen illumination contributes to the fact that Lily does not lose her brilliancy in discerning contrast procedures such as phase contrast or polarization. An ergonomic tube, superwidefield eyepieces and the glass flash stage makes routine work almost amusing. Lily also features a sextuple reverse-angle ball-bearing nosepiece, coaxial coarse and calibrated fine focus control with graduation reading 1 micron per division. For more information go to <http://www.micros.at/Englisch/mcx500lily.html>

Agilent Technologies Inc. announced the addition of several **new capabilities to the Agilent 5600LS**, a high-resolution atomic force microscope that utilizes a fully addressable 200mm x 200mm stage and a low-noise AFM design to image both large and small samples. For ultimate flexibility, the 5600LS stage can now accommodate either a single large sample or multiple small samples, each of whose locations can be programmed into the state-of-the-art AFM system. Outstanding instrument versatility makes the 5600LS an ideal choice for multi-user facilities. A special Agilent stage adapter permits the 5600LS to be used with a sample plate that facilitates in-fluid imaging of small samples. Heating and cooling control is also offered for imaging biological and polymer samples in liquid. Agilent's patented MAC Mode gives 5600LS users industry-leading performance for in-fluid and soft-sample imaging. The 5600LS supports all major AFM modes. Utilization of MAC Mode III provides three user-configurable lock-in amplifiers, affording researchers virtually limitless application possibilities and unprecedented speed. MAC Mode III allows single-pass imaging concurrent with KFM/EFM, facilitates vertical or lateral modulation studies, and supports the use of higher resonance modes of the cantilever. See www.agilent.com for more information.

Buehler, Ltd. introduces the new **EcoMet® 300 Grinder-Polisher and AutoMet® 300 Power Head**, Buehler's newest family of robust, high performing metallographic grinder-polishers. The EcoMet® 300 Grinder-Polisher and AutoMet® 300 Power Head are designed for the materials analyst who requires versatility in both manual and semi-automatic sample preparation with consistent and repeatable results. The EcoMet® 300 Grinder-Polisher can be used alone for manual grinding applications or combined with the AutoMet® 300 Power Head for semi-automatic applications. Features include variable speed controls, membrane keypad, unique LED lighting, retractable water hose, quick release chuck, replaceable bowl liner, and a 360° bowl rinse system. Users can now successfully prepare anywhere from a single simple sample to multiple, unique geometry shaped samples. For more information, contact Buehler, Ltd., (ph) 847-295-6500.

JEOL is pleased to introduce the new **JEM-ARM200F atomic resolution analytical microscope**. The highest resolution commercially available according to JEOL USA, the company's U.S. subsidiary, JEOL has unveiled its new JEM-ARM200F atomic resolution analytical microscope, setting a new benchmark for advanced, aberration-corrected S/TEM technology with the highest resolution commercially available in its class. Through a rigorous development and design program inspired by JEOL customers, the JEOL team has produced an entirely new platform of TEM that achieves a guaranteed HAADF-STEM (high angle annular dark field) resolution of 80 picometers, or 0.08 nanometers.

With advanced analytical capabilities, the JEM-ARM200F enables both atom-by-atom imaging resolution and unmatched spatial resolution for atom-to-atom chemical mapping of materials, including EDS (energy-dispersive x-ray spectroscopy) and EELS (electron energy-loss spectroscopy). The completely new electron column design integrates S/TEM with Cs correction for atomic spatial energy resolution combined with high probe currents for microanalysis. Visit jeol.com

CRAIC Technologies announces the **QDI 2010 Film™ microspectrophotometer**. The QDI 2010 Film™ instrument is designed to measure the thickness of thin films of sub-micron sampling areas rapidly and non-destructively. Able to analyze films of many materials on both transparent and opaque substrates, the QDI 2010 Film™ enables the user to determine thin film thickness on everything from semiconductors, MEMS devices, disk drives to flat panel displays. When combined with CRAIC Technologies proprietary contamination imaging capabilities, the QDI 2010 Film™ represents a major step forward in that it is designed specifically for industrial processes. The complete QDI 2010 Film™ solution combines advanced microspectroscopy with sophisticated software to enable the user to measure film thickness by either transmission or reflectance of many types of materials and substrates. Due to the flexibility of the CRAIC Technologies design, sampling areas can range from over 100 microns across to less than a micron. Designed for the production environment, it incorporates a number of easily modified processing recipes, the ability to create new film recipes and sophisticated tools for analyzing data. The ability to directly image and analyze films with ultraviolet microscopy can also be added to this instrument. For more information visit www.microspectra.com.

FEI Company today released the **Quanta™ 50 Series scanning electron microscope (SEM)**, which offers an outstanding combination of performance and versatility over an extraordinary range of samples. FEI has adapted some technologies used in the revolutionary Magellan™ Extreme High Resolution SEM (XHR SEM) to engineer dramatic improvements in the new Quanta system. Specifically, beam deceleration increases the surface imaging capability with lower landing energies, and SmartSCAN™ technologies further improve image quality by reducing noise. This adds class-leading high-vacuum, low-landing energy imaging capability to the flexibility of the Quanta's low-vacuum and environmental SEM (ESEM) technology. ESEM, pioneered by FEI, enables the broadest range of *in situ* imaging conditions.

FEI announced the **Fibermetric™ system powered by the Phenom™ personal electron microscope**. The Fibermetric system is designed to discover and quantify the properties of woven and nonwoven fiber samples in minutes, making direct observation and measurement of micro- and nano-fibers faster, more accurate and easier. With the Fibermetric system, engineers can get the data they need themselves. The system automatically collects hundreds of measurements per image, and generates fiber and pore size distribution plots for quality control and for predicting application properties such as filtration efficiency. The Fibermetric system requires no laboratory infrastructure or specially-trained personnel. It has a sample loading time of less than 30 seconds, and its automated measurement capability generates statistically valid data in the time it takes to load a conventional scanning electron microscope (SEM). Magnifications up to 24,000 times produce accurate information on fibers as small as 100nm in diameter. Visit www.fei.com for more information.



Oxford Instruments plc has **won the award for Best Technology Company 2008** at the annual PLC Awards. These awards, presented at The Grosvenor House Hotel in London, are sponsored by Price Waterhouse Coopers, The Financial Times and the London Stock Exchange and reward excellence amongst the smaller companies quoted on the London Stock Exchange. The Best Technology Award is given to companies whose business growth and success is attributable to the development of technology led products and services. This award was sponsored by SJ Berwin LLP.

The **Adixen ASM 310 helium leak detector**, from **Alcatel Vacuum Products, Inc.**, combines portability with superior performance. Lightweight (46 pounds) with a very small footprint (less than 140 sq inch),

the ASM 310 will go wherever you need it. It can be easily moved while in operation thanks to its unique low rotational speed hybrid turbo pump. The pump delivers a high cross over as well as fast helium recovery. This is crucial when leak testing large systems and being able to locate both large and small leaks. The extremely low base pressure (<5E⁻¹⁰ mbar) at the analyzer cell guarantees a very low helium background. The combination of low base pressure and the yttrium coated iridium filament technology offers a 3 year maintenance free analyzer cell. High sensitivity (5E⁻¹² Atm. ccsec) and high helium stability make the ASM 310 a great maintenance tool that can be used with all different types of pumping systems, dry or wet, for any application. Thanks to its oil-free and clean, dry pumping system, the ASM 310 is the perfect choice for the leak test maintenance of dry systems that cannot tolerate any contamination (semiconductor process chambers, solar panel manufacturing process chamber, medical process chambers are just a few of the numerous applications).

Thermo Fisher Scientific Inc. launched the **Thermo Scientific OMNIC Spectra software for Raman applications**. The software was developed to radically improve the quality and ease of gathering sample information contained in Raman spectral data. The new OMNIC™ Spectra is a major innovation for Raman technology and brings the most dependable, clear and easy-to-understand results without challenging data preparation and interpretation. These capabilities allow customers to quickly improve analytical problem solving in forensic science, pharmaceutical, polymer and research laboratories.

Protochips announced that they have closed on their first round of equity financing to support the product launch of the **Aduro heated holder system for electron microscopy**. The company has been self-funded to date, deriving revenue from products that improve the performance of electron microscopes used in materials, energy, and biological research. Protochips has also executed \$1.25M in grants from sources including the U.S. Department of Energy, the National Institutes of Health, NCIDEA and the North Carolina Department of Commerce. Protochips' products revolutionize the testing of nano-materials, compounds and processes by enabling these materials to be studied in real operating conditions using standard laboratory equipment. The products apply modern semiconductor technology to a field accustomed to working with decades old practices and tools. The result is that corporations can now leverage their existing instrumentation for much more efficient and reliable commercialization of technology. The performance of new materials can now be studied and improved in the same type of environments that would be experienced in real world applications. Lifecycle testing of a new material that once took months can now be completed in an afternoon. Possibilities like this mean that higher yields, improved efficiency and increased reliability can be achieved in a wide range of products including batteries, catalysts and drug delivery agents. Visit <http://www.protochips.com> for more information.

A versatile microscope with rotating lens brings advanced digital enlargement and image capture features to a hand-held format for the first time. The **iLoupe XL**, a second-generation model with added capabilities, is manufactured exclusively for **Aven, Inc.** The new product magnifies from three to 300 times and has a 5.1-megapixel, high-resolution sensor for detailed images. Six white-light LEDs with an adjustable intensity control assure clear, bright images, and the lens tube rotates 180 degrees for capturing any angle. A touchpad menu and intuitive controls simplify use. The two-inch LCD display makes it easy to frame fields precisely before capture and storage on an SD card that's included. The iLoupe captures images in JPEG format for convenient sharing and computer editing. A rechargeable lithium-ion battery allows continuous operation for five hours or standby use for up to seven hours. The unit is almost pocket-size at 2.5 inches (65 mm) wide, 6 inches (157 mm) high and 1.5 inches (39 mm) deep. It slips conveniently into a briefcase, toolkit, belt pouch or shoulder pack. For more information see www.aveninc.com for a digital catalog and video demonstrations.