

Thomson Scientific Instruments now offers complete **Spectrum Imaging with its PC based X-ray Microanalysis system, WINEDS**. Spectrum Imaging allows the user to acquire a full dead time collected spectrum at each pixel, in effect, a complete data cube. Spectrum images can be analyzed, stored indefinitely and reanalyzed in the future. Aggressive data compression keeps data files to a reasonable size, making them easier to manage. As with all WINEDS software, the Spectrum Imaging component behaves like all your other Windows applications, so it's predictable and easy to use. Results can be easily copied into other applications for quick report generation. Mail to nicole@tsi.com.au for more information.

JEOL's new Forensics Instruments Brochure illustrates how its electron microscopes and mass spectrometers are used to perform forensic analyses including ballistics, gunshot residue, and paint chip analysis, accident reconstruction, and identification of drugs, explosives, chemical agents, bacterial spores, and contaminants. JEOL high-resolution SEMs feature a large specimen chamber to preserve evidence and offer a wide magnification range while maintaining point of reference. JEOL high resolution/high sensitivity GC, LC, and TOF Mass Spectrometers help scientists accurately identify minute traces of compounds in dirt, packing foam, and common substances. The new brochure is available from JEOL USA, Inc., 11 Dearborn Road, Peabody, Massachusetts, Tel. 978-535-5900, email salesinfo@jeol.com. The brochure is also available as a PDF download at www.jeol.com.

Thermo Electron Corporation's new Nicolet IR Series FT-IR Educational Packages are specifically designed to facilitate the teaching of infrared spectral interpretation. Featuring either the Nicolet IR100 or the Nicolet IR200 spectrometer, Thermo's educational packages allow simple qualitative analysis of liquids and solids, basic quantitative analysis with a constant pathlength liquid cell, and basic gas phase experiments. Bringing together Thermo's leading software and hardware spectroscopy instrumentation, both bundles are unique in the educational market offering a cost-effective and practical alternative with carefully selected configurations. The Nicolet IR100 FT-IR option comes standard with 1 cm⁻¹ resolution, a built-in computer with LCD high-resolution screen, the Encompass Macro software and a USB CompactFlash memory card reader to transfer data to personal computers. The Nicolet IR200 FT-IR comes standard with 1 cm⁻¹ resolution and the EZ OMNIC software for Windows XP. Both packages incorporate an academic sample library of 1000 spectra as standard. Multimedia tutorials and a complete set of supporting booklets containing qualitative and quantitative experiments are included. For further information about the Nicolet IR Series Educational Packages, please call +1 800-532-4752, e-mail analyze@thermo.com or visit www.thermo.com/ftir

Soft Imaging System has added the **Morada** to our product line - our new **11 MegaPixel TEM CCD camera** with a dynamic range of 14 bits. This is a TEM camera for the wide-angle port of all commonly used transmission electron microscopes. It offers superior properties both for biomedical and materials science applications. In addition, it is perfectly integrated with iTEM, Soft Imaging System's new TEM image analysis platform. The camera system is comprised of a highly efficient lens-coupled phosphorous screen, a custom designed high-quality lens for projecting the image onto the CCD sensor as well as an ultra-precise mechanical positioning system. The camera offers a level of detail just like a photo plate at the same sized field of view. The CCD chip of the Morada has an electronic shutter. Extremely fast exposure times - less than 1 ms - are possible, as are extremely lengthy ones - up to 60 sec. This ensures perfect acquisition of your specimen no matter whether current conditions require a long or very brief exposure time. The camera also supports various binning modes, thus enhancing sensitivity even

more. The Peltier-cooled CCD chip is stabilized at a temperature of 15° C. Noise is further reduced via innovative digital read-out technology. The result is high sensitivity and efficiency as well as an extraordinary signal-to-noise ratio. This camera is completely integrated with iTEM, Soft Imaging System's TEM image analysis platform. This guarantees numerous real-time functions such as real-time shading correction, real-time gray-value histograms, automatic contrast enhancement as well as Fast Fourier Transformation during live image acquisition. Furthermore, iTEM offers functions such as image labeling, image processing, archiving, analysis and report generation. Print-outs in photo quality can be made essentially seconds after acquisition.

The **2 MegaPixel CMOS color camera ALTRA20** extends Soft Imaging System's tried and tested product line of digital color and monochrome cameras in the light microscopy field. The new camera offers excellent properties for use in standard brightfield applications and is superb for digital documentation purposes. The ALTRA20 comes with the base-level software analySIS getIT for live-image display and for acquisition, loading and printing out of images. The ALTRA20 is the ideal introductory-level model for digital acquisition for light microscopes.

Soft Imaging System's digital cameras continue to meet the challenge of rising demands on the digital image acquisition market. The **ColorView IIIu** is our latest product in our series of light microscope **CCD color cameras**. The ColorView IIIu offers the capabilities users require in all areas of biomedicine and for life science applications. Extraordinary characteristics make the 5 MegaPixel ColorView IIIu a very distinguished color camera. Alongside extremely high resolution, the camera offers a generous dynamic range, fast frame rates, partial read-out and color binning. The standard C mount adapter makes installation easy for all standard microscopes. Data is transferred to the PC via FireWire(tm) interface (IEEE 1394). All camera functions are integrated with the analySIS software. For further information on these three products contact: Dr. Mike Bode, Tel.: +1 (303) 234-9270 and (888) FIND SIS or www.soft-imaging.com

Carl Zeiss is introducing the new **LSM 5 LIVE confocal microscope** for live cell imaging. With a completely new optical concept, designed specifically for studies on living specimens, it is totally different from all other systems available today, and opens a new time window in confocal microscopy. The unique combination of scanning speed, image quality and sensitivity allows real time observation of cellular motion and interaction. Collecting up to 120 confocal images per second at a resolution of 512 x 512 pixels, the LSM 5 LIVE scans about 20 times faster than any other confocal system, while featuring outstanding image quality and exceptional sensitivity for biomedical applications. Thanks to precise optics, a creative beam splitter design concept and innovative beam shaping, the LSM 5 LIVE delivers fluorescence yield on the borders of the possible. With virtually 100% excitation efficiency and highly efficient emission yield, the new Achromatic beam splitter guarantees maximum performance even on thick or weak-signal fluorescent specimens - regardless of the color of the excitation light. New ultrafast Z-drive solutions permit 3D image stacks to be acquired every second, especially useful for developmental and neurobiology. Precisely tuned zoom optics and a sophisticated scanning concept allow the size and position of the scanning field to be varied exactly, without simultaneously changing major optical parameters of the system. Individually adjustable and variable confocal pinholes ensure high confocality in all channels. This flexibility allows the optimum combination of spatial resolution and signal-to-noise ratio for every specimen and experiment.

Carl Zeiss has introduced the new **Axio Imager**, an innovative, modular microscope platform for fluorescence microscopy. New IC²S

(Infinity Contrast & Color-corrected System) optics guarantee optimum image quality and maximum contrast in all techniques while ensuring optimum transmission, contrast and working distance. The optimized differential interference contrast (DIC) provides high-contrast, homogeneous illumination. Brilliant darkfield from 2.5x to 100x oil (ultra-darkfield) can be combined with brightfield in one condenser. The apochromatic fluorescence beam path guarantees optimum color correction over the entire wavelength range. For the first time, fluorescence filters with a clearly improved signal-to-noise ratio are available, reducing exposure times by up to 50% thanks to their excitation intensity which can be up to 70% higher than normal. Visibly higher contrast is achieved by active stray light minimization. Fast, motorized reflector turrets, either for six or ten filter modules, enable high-speed fluorescence examinations. Convenient, self-aligning HBO lamp for homogeneous illumination and LCI Plan-Neofluar objectives for live cell imaging are some of the additional features specifically tailored to fluorescence applications. For more information contact Carl Zeiss MicroImaging, Inc., 800-233-2343, www.zeiss.com/micro, or email at micro@zeiss.com

FEI Company announced that it has been **selected** by the several laboratories that have combined to form the TEAM project, **as the R&D partner for building the highest resolution scanning/transmission electron microscope ((S)TEM) in the world.** TEAM is a multi-million dollar microscopy project funded by the U.S. Department of Energy's (DOE) Office of Basic Energy Sciences. The project calls for a new microscope that will enable extraordinary new scientific opportunities for direct observation and analysis of individual nanostructures at an unprecedented resolution of 0.5 Ångström -- approximately one-third the size of a carbon atom -- a key dimension for atomic level research. In this unique project, five major electron microscopy efforts are joining forces and have selected FEI as the R&D partner of choice: Argonne National Laboratory, Brookhaven National Laboratory, Lawrence Berkeley National Laboratory, Oak Ridge National Laboratory and Frederick Seitz Materials Research Laboratory. Each laboratory has a separate role in achieving the ambitious mission to directly observe the atomic-scale order, electronic structure, and dynamics of individual nanostructures, even in 3D. The proposed microscope will also become a self-contained materials science lab for in-situ analysis and characterization by facilitating unique experiments across many scientific disciplines. Aberration corrected electron microscopy technology will be at the heart of the TEAM microscope. Achieving TEAM's 0.5-Ångström resolution would provide tighter, brighter beams, yielding a stronger signal, higher image contrast, greater analytical sensitivity and unprecedented spatial resolution. More information can be found on the FEI website at: www.feicompany.com

XEI Scientific, Inc. announces an exclusive arrangement with Zyvex Corporation, in which XEI's **Evactron Anti-Contaminator Model 30®** is now a standard accessory on Zyvex's S100 Nano-prober System. Zyvex's technology allows for probing features down to 65 nm, and contamination-free environments are necessary when doing this. The Evactron A-C 30® achieves this cleanliness by removing hydrocarbons and makes consistent probing possible under extended electron beam scanning times. Without Evactron cleaning, carbon continues to build up and distorts electrical measurements. Evactron A-C cleaning is also important for CD Metrology, Defect Analysis, and extreme high resolution SEM work (>200KX.) The Evactron A-C 30® improves contrast for seeing 1-2 nm features. It is controlled by the host system computer and can be integrated into electron microscope and FIB. Evactron Anti-Contaminators

are available in other stand-alone models for mounting on various SEM and FIB models. Each uses plasma to produce oxygen radicals to ash hydrocarbons and remove them from vacuum systems. Contact: Vincent Carlino, Tel. 650-369-0133, email sales@evactron.com or visit www.evactron.com for further information about XEI Scientific, Inc.'s full line of Evactron Anti-Contaminators.

Nanotech America proudly distributes and supports the family of atomic force microscopes from NT-MDT (Zelenograd, Russia). Four new instruments were introduced at the Cell Biology meeting: **NanoEducator** is the first step in AFM. Built especially for the classroom, this entry-level system is compact, affordable, and easy to use. In addition to doing nanolithography, it images topography, phase, and a variety of magnetic and electrical force modes, works in liquid or air, and has an integrated video viewing system. Ask about our classroom discounts. For routine AFM imaging of biological samples, **Solver Bio** mates a flexible, multi-purpose scanning head with an inverted microscope, providing all of the contrast methods required to image your biological specimen with the new surface and property information from the AFM. **NTegra** is the ultimate multi-user AFM. Start simply and economically with basic topography and phase imaging. Build as your lab grows. Not only does this system offer 18 different scanning heads capable of over 40 different imaging and quantitation modes, its open architecture is designed to interface with other analytical technologies such as Raman, confocal, and, as demonstrated for the first time here in America, with an ultramicrotome in the new **NT NanoTomography** is the next generation in ultrastructural analysis. Taking advantage of all the stability of the block face, NT NanoTomography's AFM images that surface, slice by slice, without distortion, tearing, wrinkling, or tedious realignment steps. It then conducts 3D reconstruction, providing a unique volumetric view which compliments information gathered by other means, such as TEM. For details, visit www.nt-america.com or email Barbara@nt-america.com.

Aetos Technologies, Inc. has introduced **CytoViva™150**, the new light microscopy technology designed specifically for today's leading-edge live cell research. CytoViva is a microscope accessory that couples proprietary high NA optics with a light-guide illuminator and filter set. This state-of-the-art system offers a unique view of live cells and cell processes. This technology produces resolution below 150nm, detection below 50nm, develops high contrast and is capable of three dimensional sectioning for a fraction of the cost of similar technology. Specimen preparation is easy and quick as freezing, dehydrating, fixing or staining is not required. The bright, yet cool, illumination also minimizes thermal impact and preserves biological activity. CytoViva installs quickly and easily on most leading research-level microscopes and works with conventional cameras, imaging software, slides and growth chambers. Being designed to aid research studies on processes within and between living cells, it is already having an impact on biological research in critical areas of infectious disease mechanisms, neutrophil interactions with red blood cells, and apoptosis studies. CytoViva is an excellent choice for collecting real-time high resolution images of cellular processes and biological mechanisms at an affordable price. Contact: Jennifer Hobby, 334-749-0134 x239, info.cytoviva@aetostech.com, www.cytoviva.com.