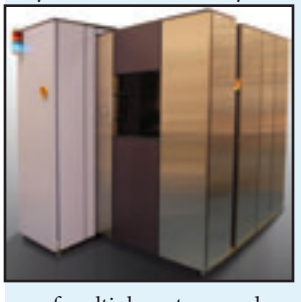
New **CapturePro 2.5 Image Acquisition** With newly added functions and icons, Version 2.5 of CapturePro control and image acquisition software optimizes operation control of ProgRes® microscope cameras from **JENOPTIK Laser, Optik, Systeme GmbH**. The upgrade features improved ergonomic and convenient operation control, automatic exposure tracking, an extended fluorescence mode, shading data for image optimization. The upgrade is available free-of-charge, downloading from our webiste www.progres-camera.com by owners of ProgRes® cameras with a previous registration date.

JENOPTIK Laser, Optik, Systeme GmbH also presents a **new Microscope Camera** with CMOS Sensor Technology. The **ProgRes® CT3** ranges at the same high proficiency level as other models of the ProgRes® family – combined with attractive acquisition costs. Information at progres@jenoptik.com or www.progres-camera.com

Electron Microscopy Sciences is proud to introduce **Catalog XV**, the most complete collection of products for light microscopy, histology and electron microscopy and general biological and materials research. With over 12,000 products and over 2000 new unique items this catalog is truly an encyclopedia every lab should have on the shelf. The expanded and revised histology section contains an extensive collection of prepared stains and fixatives, tissue baths, laboratory ovens, processing cassettes, slide staining equipment, and sectioning accessories and equipment. For the materials laboratory, the catalog includes a complete line of equipment and supplies for light microscope and electron microscope sample preparation. Embedding kits, polishing cloths, slurries, powders, diamond compounds, micro tools and manipulation instrumentation, as well as a complete line of equipment including but not limited to rotary disc cutters, tripod polishers, grinders, polishers, saws and cutters, dimplers, lapping machines, rail polishers, and plasma cleaners are now available. The Electron Microscopy section now includes a revised line of ImmunoGold Reagents, Silicon Nitride Films and Meshes, SEM Capsules, and a complete new range of tools and tweezers for fine manipulation. To obtain a copy for your laboratory, please call us at 215-412-8400 or email sgkcck@aol.com, or visit our website at www.emsdiasum.com/microscopy to use our online form to request a catalog. We look forward to hearing from you.

Following the success of its popular Expida™ 1255 wafer DualBeam™ system for semiconductor labs, **FEI Company** has introduced the next-generation tool in the product family, the **Expida 1255S**. It is the first, and only, wafer DualBeam system to integrate wafer level STEM (scanning/transmission electron microscopy) sample preparation with ultra-high-resolution imaging and analysis in a single tool. The Expida 1255S features an advanced ion beam column for preparing TEM samples, and an enhanced electron column with a 14-segment STEM detector for high-resolution 30kV imaging. Until now, advanced sample preparation and handling often caused frustrating delays and required the use of multiple systems and processes to create high-quality TEM samples. The Expida 1255S assures correct end-pointing and precise lamella thickness by enabling STEM imaging while milling the TEM sample to its final location and required thickness.



FEI has also introduced a new member of its **V600 focused ion beam (FIB) family. The V600CE** enables faster semiconductor design validation and performance optimization on today's 65nm and below devices. Featuring an advanced ion column technology, a versatile gas delivery system, and advanced end-pointing control, the V600CE delivers enhanced circuit edit capabilities.

FEI's customer service organization has introduced **RAPID (Remote Access Program for Interactive Diagnostics)**, an all-new service offering that can significantly speed service times and maximize system uptime. The RAPID program is first being made available to FEI customers in North America and will soon be extended worldwide. With RAPID remote diagnostics FEI service engineers will now be able to run service test software and diagnostics on systems that are equipped for RAPID whenever a customer initiates a service call and the remote diagnostics protocol. With the program, tool settings can be checked and modified, and software can be patched and upgraded as needed. FEI engineers can also view images from the microscope and make performance assessments. For more information on any of these FEI products, visit www.fei.com

Hyphenated Systems announced the development of a **combined advanced confocal/atomic force microscope (ACM/AFM) on one platform**. The system is being developed jointly with atomic force microscope (AFM) provider, KARMA Technology, Inc., located in Agoura Hills, CA. It will be geared for three-dimensional (3D) metrology applications in semiconductor manufacturing and laboratory environments. The combined ACM/AFM tool will provide users with the speed and 3D imaging advantages of ACM, combined with atomic-level resolution measurement capabilities of an AFM—all on one single platform, preventing the need to move the sample. Geared for the semiconductor industry, the system will be built to accommodate wafers up to 12-inches in diameter. It will also feature a patented probe module that is easily replaceable—eliminating the need for time-intensive probe tip changes of the AFM. Contact: Terence Lundy, tlundy@hyphenated-systems.com or visit www.hyphenated-systems.com

JAI introduced the **TM-2030 Series, a set of four new high performance cameras** featuring a wide (16 x 9) aspect ratio and a full HDTV resolution of 1920 x 1080 pixels. The TM-2030 Series offers software-selectable operation that allows users to choose between dual tap mode at 32 frames per second (with automatic channel balancing), or single tap mode operating at 16 frames per second. The four-camera series includes monochrome (TM-2030) or color (TMC-2030) models, equipped with either a Camera Link digital interface, or with a GigE Vision standard Gigabit Ethernet serial interface. Color versions (TMC-2030GE and TMC-2030CL) produce raw Bayer CFA output for host-based interpolation.

Effective immediately, **Frank P. Averdung has been appointed President** of **Carl Zeiss SMT Inc.**, Peabody, MA (USA). Averdung has more than 20 years of management experience in sales, marketing, technical support and operations, particularly in the semiconductor industry. He has held many positions during his career, including General Manager functions at Applied Materials and Etec Systems. Averdung joined Carl Zeiss SMT when start-up company NaWoTec (Rossdorf, Germany) that was managed by him, was acquired from SMT in Summer 2005. He then was appointed Managing Director of Carl Zeiss SMT´s Semiconductor Metrology Systems division. Averdung is assuming his new role as President of Carl Zeiss SMT Inc. additionally. The American subsidiary of Carl Zeiss SMT is responsible for sales, service and application support in the US and Canada of Carl Zeiss SMT´s high-tech systems for qualification and repair of reticles (photomasks) used in the production of semiconductors as well as for SMT´s particle beam systems, in particular electron microscopes and Helium ion technology.

Carl Zeiss SMT introduces solution for nanoscopic particulate analysis the newly developed **ParticleSCAN particle detection and analysis system**. The highly automated system has been designed for frequently repeated analysis of regularly occurring material samples in production environments. It is used in process control for the detection and monitoring of ultra-fine particles. Their morphology, i.e. their size and shape, and chemical composition are recorded in particular. The system helps industrial customers to drive efficient, automated process control, yield improvements and manufacturing capability. Visit http://www.zeiss.de

McCrone Microscopes & Accessories, the instrument sales division of The McCrone Group Inc. announced today that it would **make its microscopes available to attorneys to use in courtrooms to provide**

expert testimony about microscopical evidence. McCrone can provide its sophisticated equipment along with a digital camera system to dramatically project evidence on a large color plasma screen. McCrone recently provided its equipment in the court proceedings of a wrongful death case. For additional information on how a microscope can be employed in the courtroom or for depositions contact McCrone Microscopes & Accessories at 630/887-7100 or visit www.mccrone.com. McCrone's instrument sales division offers a complete line of Olympus microscopes, Linkam thermal stages, and numerous digital imaging systems, along with other microscopy related instruments, reference standards and resource books. McCrone's Microscopes & Accessories Division is the authorized national dealer for Olympus polarized light microscopes, Linkam heating/freezing stages and numerous digital imaging systems, including SIS image analysis software, Q-Imaging cameras and PAX-it imaging software.

McCrone Microscopes & Accessories, the instrument sales division of The McCrone Group, Inc., announced that it has jointly teamed with Independent Forensics DNA Testing & Technologies to offer the **SPERM HYLITER PACKAGE**, a new sperm identification and imaging system which permits dramatically faster, simpler, and more efficient sperm identification for crime laboratories. Located in Hillside, IL, Independent Forensics DNA Testing & Technologies is one of the country's leading DNA forensic laboratories. SPERM HYLITER enables forensic laboratories to accurately, quickly, and precisely identify sperm in sexual assault cases. This new technology meets laboratory audit standards for evidence preservation and directly addresses the backlog of untested rape cases. For more information about the SPERM HYLITER PACKAGE including requisite equipment and training contact McCrone Microscopes & Accessories at 630-887-7100 or www.mccrone.com; and Independent Forensics DNA Testing & Technologies at 866-434-2400 or www.ifi-test.com.

Pfeiffer Vacuum offers the **XtraDry™ dry vacuum pump** for all medium vacuum applications down to 10^{-1} mbar where there is a need to pump dry, inert and non-reactive gases. Operated as either a stand-alone or backing pump, XtraDry™ operates free of hydrocarbons and particulate matter which prevents contamination of the process or the environment. The pumps operating characteristics make it well suited for use in semiconductor applications such as load locks and differential seals, as well as a backing pump for turbo pumps in high vacuum systems. XtraDry™ has been designed for exceptional performance, long service life, ease of maintenance and low cost. A unique seal design prevents gas backstreaming within the pumping system enabling gases to be pumped regardless of their molecular weight. An automatic standby mode reduces the speed of the pump by more than 30% during operation near ultimate pressure, saving energy and increasing service life. For further information, contact: Mark Clement, mclement@pfeiffer-vacuum.com

Gatan's Precision Ion Polishing System (PIPS™) continues to be an industry standard for TEM sample preparation. To enhance the performance and capabilities of the PIPS, a liquid nitrogen **(LN_2) cooling option** is now available. Features and Benefits

- Dewar and conductor rod share PIPS vacuum
- Easy to fill Dewar with 3 - 4 hr capacity
- Sample temperature specification [e.g., minimum -120°C (± 25°C)]
- Electronic temperature regulation (-180°C to +100°C)
- Controller display monitors conductor temperature
- Fast cool down time (approximately 10 minutes)
- Fast warm up time before venting (approximately 10 minutes)
- Uses same standard PIPS DuoPost sample holders
- Thorough transmission illumination
- Built-in Dewar heater enables Dewar boil-off

For more information, please log onto www.gatan.com.

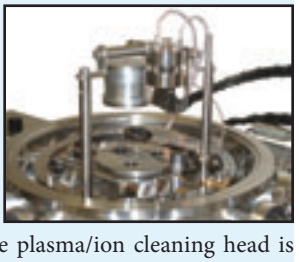
precisExcite® light source products for fluorescence microscopy have been significantly enhanced. Configuration has become modular with the introduction of **LED Array Modules (LAM®s)**. These modules are interchangeable and allow the user to select the desired wavelengths for excitation. A range of LAM® s is now available and will be increased regularly as new wavelengths are added. Full information on precisExcite® and the interchangeable LED Array Modules can be found at www.coolled.com/precisExcite

Ted Pella, Inc. has introduced a large number of **new SEM specimen mounts and holders**. It has been long recognized that using the correct specimen mount or holder for SEM specimens lead to better examination results and increased efficiency. Ted Pella, Inc. has recently installed a state of the art machine shop and extended engineering capabilities in order to react to the demand for special SEM mounts and specimen holders. Many of the new SEM mounts and holders have been developed in cooperation with SEM users. The new SEM mounts and specimen holders are available for JEOL, Hitachi, FEI, ZEIS, Aspex, CamScan and Tescan SEM platform.

Many of the new holders enable direct mounting of a wide variety of specimens or parts without the use of adhesives. This saves preparation time, enables quicker loading of the specimen and avoids out-gassing of adhesives.

Ted Pella, Inc. will introduce the new NanoFilm TEM Auto Stainer system at M&M 2007 in Fort Lauderdale, FL. This new TEM stainer system has been developed to overcome many of the disadvantages of bench top procedures and to increase lab efficiency.Since most organic materials produce low contrast levels in TEM imaging, staining procedures are required to increase contrast. The contrast materials used are heavy metal salts and require very clean conditions as even minor contaminations are visible at high magnification in the TEM. Also staining material like lead citrate is very sensitive to carbon dioxide which causes precipitation and renders specimens unusable. In many labs, TEM staining is accomplished by hand and involves multiple washing steps and relatively low yield.

Ted Pella, Inc. will introduce the new **Cressington 308UHR precision coating system** at M&M 2007 in Fort Lauderdale, FL. The Cressington 308UHR coating system combines a new type DC magnetron sputter sources, plasma/ion cleaning and electron beam sources in one system providing advanced coating solutions for demanding FESEM and TEM applications. The extremely versatile 308UHR system provides advanced sample coating techniques for both ultra high FESEM applications and demanding TEM applications with the ability to clean sample surfaces before coating. The system is based on the Cressington 308 compact desktop high vacuum system, which comprises 12" stainless steel feedthrough collar with a light-weight stainless metal sample chamber and large rotary-tilting stage. Precise measurement of the coating thickness is provided by the Cressington high resolution thickness monitor system, which is a standard on each 308UHR. The controllable and powerful glow discharge plasma/ion cleaning head is capable of removing hydrocarbons, adsorbed on sample surfaces, to avoid imaging artifacts. The DC magnetron sputter source, which allows sputtering over a wide pressure range, provides grain-free ultra-thin conformal amorphous chromium coating for ultra high resolution FESEM imaging. The system also enables ultra-structural freeze drying combined with ultra high resolution sputter coating for FESEM imaging. The E-Beam sources of the 308UHR system provide excellent results for precision rotary metal shadowing for molecular biology and for ultra-thin high quality carbon support films for TEM. The 308UHR also yields excellent results when making rotary replications of deep-etched frozen material for TEM imaging. Furthermore the carbon E-Beam source can also provide accurate ultra-thin carbon coating for FESEM and EBSD applications.



Ted Pella, Inc. introduces a new **high resolution SEM replication kit**. The replication material in the kit is based on a two component silicon molding material with excellent low viscosity forming properties. The short mixing time of 10-20 seconds and the polymerization time of 5-7 minutes ensure ease of use and enable fast and reliable replication of many types of surfaces. This new replication material yields reliable results with relatively long micro structures of 10-30 µm with aspect ratios ranging from 1-20 and is capable of resolving small structures down to 20nm. It also is relatively easy to remove from most surfaces without distorting or destroying surface structures. Visit www.tedpella.com for more information.

The **Luca^{EM} *R*** is the latest EMCCD innovation from the **Andor Technology** and is a highly cost effective, yet powerful megapixel EMCCD camera. The Luca^{EM} R is particularly ideal for fluorescence microscopy across a range of signal levels. The camera's EM gain can be turned on when photons become scarce, whilst for brighter conditions; 'gain off' operation can be selected. With a 1 Megapixel sensor and 8 x 8µm pixels, the Luca^{EM} R offers high resolution over a large field of view. This latest EMCCD camera utilizes a monochrome MegaPixel frame transfer EMCCD sensor, providing single photon detection sensitivity and unrestrained QE up to 65% (with enhanced red response) at rapid frame rates, in a TE cooled, compact, USB 2.0 camera platform. Andor's exclusive RealGain^{TM} EM gain control offers enhanced user-friendliness and quantitative reproducibility, setting a new precedent in day-to-day EMCCD use. Andor's well established Baseline Clamp feature facilitates unprecedented quantitative EMCCD performance. Visit www.andor.com for more details.

Oxford Instruments shipped its 100th INCAx-act Analytical Drift Detector from its factory in the UK on May 11th 2007. INCAx-act is the result of a unique marriage of experience between Oxford Instruments NanoAnalysis, the world's leading supplier of X-ray analysis systems for the electron microscope, and Ketek GmbH the acknowledged leader in the design and manufacture of silicon drift detector (SDD) sensors.

Nikon Instruments Inc. recently announced the **appointment of company veteran, Mr. Yoshinobu Ishikawa, to President and Chief Executive Officer**. In this role, Ishikawa will be fully responsible for all Nikon Instruments divisions in North, Central and South America. Bringing a global perspective to this position, Ishikawa will build upon the corporation's strengths in developing state-of-the-art, innovative microscopes and imaging equipment for a stronger company. He continues the company's tradition of developing products that anticipate the needs of the science community and their specific instrumentation requirements. Ishikawa most recently served as President and CEO of Nikon Instruments, Europe. Previously, he has held a range of key management positions for Nikon Instruments, UK, as well as with the International Sales Department in Japan.

Harvard University's Office of Technology Development (OTD) and **Leica Microsystems** announced that **Harvard has licensed its CARS microscopy technology to Leica** for use in the company's confocal microscopes. The technology was developed in the lab of Xiaoliang Sunney Xie, Professor of Chemistry and Chemical Biology at Harvard. Coherent anti-Stokes Raman scattering (CARS) microscopy allows rapid and non-perturbative imaging of biological specimens with chemical selectivity. The contrast in CARS microscopy arises from the intrinsic vibrations of molecules. Every molecule has one or more chemical bonds, the bending or stretching of which have characteristic vibrational frequencies that depend on the bond length and strength. For example, lipids, a primary component of fat, contain carbon-hydrogen bonds, which vibrate at certain distinct frequencies. CARS microscopy "tunes" into these characteristic frequencies to build chemically-selective images with extremely high sensitivity in living cells or organisms.

Navitar has expanded the capabilities of their flagship product, the **Zoom 6000 high magnification zoom lens system**, to be compatible with large format sensors up to 30 mm in diagonal - including the Kodak KAI sensor (15.6 x 15.6). Navitar also introduced their new line of high resolution Double-Sided Telecentric Lenses with object and image space telecentricity producing more accurate images than a typical object-side telecentric lens. These new lenses are designed to work with CCD and CMOS cameras with sensors up to 28.7mm diagonal. Lenses are available with magnification from 0.03X to 2.00X and also for large format cameras with magnification from 0.239X to 0.478X. These lenses have less than 0.1% image distortion, produce no parallax error or image vignetting, and maintain magnification within the entire depth of field. LED ring light, coaxial, and collimated illumination accessories have been specially designed for these lenses to provide uniform illumination. Navitar, a leading manufacturer of machine vision optics, introduced today their new line of high resolution Double-Sided Telecentric Lenses with object and image space telecentricity producing more accurate images than a typical object-side telecentric lens. These new lenses are designed to work with CCD and CMOS cameras with sensors up to 28.7mm diagonal. Lenses are available with magnification from 0.03X to 2.00X and also for large format cameras with magnification from 0.239X to 0.478X. These lenses have less than 0.1% image distortion, produce no parallax error or image vignetting, and maintain magnification within the entire depth of field. LED ring light, coaxial, and collimated illumination accessories have been specially designed for these lenses to provide uniform illumination. Visit the company's web site at www.navitar.com

Carl Zeiss MicroImaging GmbH introduces the **Colibri, a patented high-performance, Light Emitting Diode (LED) light source for fluorescence microscopy**. The company holds the exclusive North American license to distribute this breakthrough technology. The narrow band LEDs replace conventional white light sources to produce extremely high contrast images with an excellent signal-to-noise ratio, enabling the detection of weak signals and fine details in applications ranging from routine biomedical research to complex live cell imaging. The intensity of the narrow-band LEDs can be quickly and accurately set for any wavelength and exactly adapted to the specimen, therefore ensuring maximum protection. As the switching procedure is purely opto-electronic, there is no motion or vibration that could impair image quality in high speed time series experiments. With Colibri it is possible to switch excitation wavelengths in micro seconds. Minimized heat build-up also results in more stable conditions during experiments. This makes Colibri ideal for working with sensitive living cells, but also offers numerous enhancements for fluorescence microscopy with fixed specimen.A selection of four LEDs can be used individually, sequentially or simultaneously with any intensity setting, which is particularly helpful in balancing intensities of the various fluorescence channels.Due to its innovative design, Colibri offers high flexibility: ten different wavelengths from UV to dark red are currently available. Further advances of the rapidly developing LED technology, like new wavelengths or higher emissions, can therefore be implemented quickly and without complication by the customer.The LED modules are equipped with automatic component recognition (ACR) and automatically recognized by the system, ruling out the possibility of incorrect operation. A motorized switching capability to a fiber-optically coupled white Metal Halide light source is integrated to add flexibility.Colibri can be operated as a stand-alone unit or upright and inverted with manual or motorized microscopes, but can also be controlled with the basic version of AxioVision software without additional cost.