

# New And/Or Interesting at Microscopy & Microanalysis '98

The following, for the hopeful interest of our readers who were not able to attend the recent M&M '98 Conference in Atlanta, is our effort to summarize the new and/or interesting products displayed.

⊕ **Advanced Microbeam, Inc.** demonstrated Probe for Windows - 32 electron microprobe automation software. This user-friendly, yet powerful, software takes advantage of the analytical strengths of WDS and EDS using simultaneous analysis. In addition, our ultra quiet motor system can move scanning spectrometers at high speeds without injecting microphonic noise into the EDS detector. Analytical time savings of over 50% can be achieved. Electron microprobe remote control software was also demonstrated. Advanced Microbeam, Inc. (330)394-1255, Fax: (330)394-1834, dlesher@advancedmicrobeam.com

⊕ **Advanced Microscopy Techniques** introduced the Advantage Plus, a new 2000 x 2000 pixel, fiber optic coupled CCD camera. This is a bottom mounted system with a wide field of view and compliments AMTs wide range of 1000 x 1000 pixel CCD systems and TV cameras. A secondary detector for use in variable pressure SEMs was introduced and this detector is retrofitable to existing microscopes. AMT also demonstrated a high precision stage for use in SEMs. This stage is capable of covering 50 mm x 100 mm with an accuracy of 0.25 microns. Advanced Microscopy Techniques: (978)774-5550, Fax: (978)739-4313, amtcorp@delphi.com

⊕ **ANS X-ray** introduced a new imaging product, Microlmage, which is an add-in feature to the ANS System 4000 spectrometer system. Microlmage provides active beam control with simultaneous video and X-ray imaging at the lowest price in the industry (\$5,000), making it the best value in EDS imaging. Microlmage provides a maximum resolution of 2048 x 2048 pixels with one video channel and eight x-ray mapping channels. Excellent, economical image acquisition is one of the many conveniences of Microlmage. For example, a 512 x 384 image with a dwell time of 0.2 msec per pixel can be acquired in less than a minute per frame. Microlmage software provides easy scan control, basic image processing and saving images in all common file formats. ANS X-ray: (800)980-9284, Fax: (423)482-6253, sales@ansxray.com

⊕ **AutoQuant Imaging, Inc.** showed the newest versions of AutoDeblur™ deconvolution and AutoVisualize 3D™ rendering and measurement software. This new generation of software makes it easy for anyone to accurately and rapidly extract, visualize, and measure, high-resolution information from conventional microscopes (fluorescence and transmitted light) as well as confocal microscopes. This new generation of processing does not require users to calibrate the software by imaging microbeads. Instead, the process automatically derives optical information from the specimen image and adaptively reverses distortion and out-of-focus haze. Researchers need only to point to the image set and launch the process. In addition to 3D volumes, the package includes a method for deblurring single 2D slices. The package permits visualization of images as orthogonal views, and surface renderings. It performs many types of 3D measurements and supports all common image files. Available for Windows 95/NT, and UNIX operating systems. AutoQuant Imaging, Inc.: (518)276-2138, Fax: (518)276-3069, sales@aqi.com

⊕ **BOC Edwards Vacuum Technology** had on display their Auto306 High Vacuum Deposition System, the Scancoat Six Table Top Sputter Coater and the XE200 High Resolution Chromium Sputter Coater. The Auto306 is a versatile, all purpose coater for EM preparation and general R&D. With its large range of accessories, the Auto306 can be used for carbon evaporation, plasma cleaning, thermal evaporation, rotary shadowing as well as a host of other applications. The Scancoat Six is an inexpensive gold sputter coater which features a water cooled table, height adjustable source to substrate magnetron and sputter etch capabilities. Finally, the XE200 Chromium Coater is specifically designed for deposition of high resolution chromium coatings and features a titanium sputter ion pump to achieve contaminant free conditions essential for structure free coatings. BOC Edwards Vacuum Technology: (978)658-5410, Fax: (978)658-7969

⊕ **Buehler** introduced the all new quantitative image analyzer, the Omnimet Enterprise - designed for the materials analysis industry. The Enterprise system features Windows 95, an Intel Pentium II 233 MHz processor, 64 MB RAM, 4 GB hard drive, and a 17" monitor. Higher specification options are available. The Buehler Omnimet application software provides rapid solution to the typical needs of today's microstructural analysis laboratory, with powerful imaging algorithms and an embedded database with report generator. Buehler Ltd.: (847)295-6500, Fax: (847)295-7929

⊕ **Burleigh Instruments** displayed its complete line of surface topography instru-

mentation. The new VISTA™ large sample scanning probe microscope system is the most compact large sample SPM commercially available. Using the manual translation stage, six-inch samples can be positioned under the scanning probe. Removal of the stage results in the ability to accept a sample eleven inches wide and four inches high. In the booth, attendees were having their samples imaged in either contact or non-contact mode to, at least, nanometer resolution on the show floor, attesting to not only the power and sophistication of the VISTA's design but also the ease of use. Potential users were able to take home a copy of the interactive tutorial on CD-ROM. The tutorial instructs the instrument operator from initial instrument set-up through acquisition and analysis of images. Burleigh's full-featured small sample METRIS™ SPM and new HORIZON™ Optical Profiler were also on display. Burleigh Instruments: (716)924-9355, Fax: (716)924-9072, info@burleigh.com

⊕ **Codonics, Inc.** presented the NP-1660 Photographic Network Printer, a dry, desktop, dual-mode color and grayscale printer. The NP-1660 incorporates color dye-diffusion and direct thermal grayscale technology into one printer, offering cost-effective photography quality printing for the microscopy market. Using digital image processing, the result generates precise, continuous tone grayscale and color prints with superior image quality through a dry, daylight safe process. The new Direct Vista™ 8.5 x 11 grayscale paper produces high resolution images for only 49 cents per page. Ideal for SEM, TEM, and EDS, the NP-1660 Photographic Network Printer greatly reduces paper costs by eliminating conventional silver halide photography and dark rooms through its dry process. The Fixed Multi Format feature reduces the cost per image even more by allowing multiple images to be placed on a single page of output. Codonics, Inc.: (800)444-1198, Fax: (440)243-1334, info@codonics.com

⊕ **Cressington Scientific Instruments** unveiled its latest dedicated EM sample prep coating system, the 308EM. Designed as a true multi-purpose, multi-user coater with a 12" diameter chamber, it will accommodate several deposition sources and is ideal for laboratories with a need to analyze many different types of samples. The types of sources that can be installed are carbon (with feedback control), metal evaporation and sputtering. Glow discharge and aperture cleaning can also be provided. A new, highly efficient "mini" magnetron sputter head (with constant current control capabilities) was especially designed for use in the 308. The system has a benchtop design. An optional 4" high stainless steel collar utilizing 8 QF40 flanges for vacuum feedthrough's for additional deposition sources or accessories is easily added. Cressington Scientific Instruments: (724)772-0220, Fax: (724)772-0219, aberginc@cressington.com

⊕ **Delaware Diamond Knives** introduced three new products. First, the DDK sapphire knife has improved vibrating microtome section quality particularly in electrophysiology applications by reducing damage to the surface cells. This sapphire knife is highly durable and resharpenable. DDK also introduced a triangular tungsten carbide knife as a replacement for glass in trimming EM blocks. Additionally, these triangular tungsten carbide knives effectively replace glass in light microscopy applications for sectioning eyes. Finally, the company reintroduced the PS1000, a cost-effective cryo fixation tool. Delaware Diamond Knives: (800)222-5143, Fax: (302)999-8320, ddkjoe@inet.net

⊕ **Diatome U.S.** sported their complete line of diamond knives and accessories including their 35, 45 and 55 degree angle knives for ultra thin sectioning at room as well as cryo temperatures. On display as well was the histo knife which is now available in sizes from 3 mm thru 10 mm and able to cut sections from 0.1 micron thru 10 microns. Diatome U.S.: (800)523-5874, Fax: (215)646-8931, sgkcc@aal.com

⊕ **Digital Instruments** exhibited its complete line of NanoScope® AFMs, including the MultiMode™ AFM, the world's highest resolution SPM. Featured was the new Dimension™ 3100 AFM with enhanced sample positioning and illumination, and the BioScope™ AFM, now enhanced to support phase contrast and Nomarsky/DIC with its easily removable AFM unit. All AFMs now offer Phase Imaging for mapping compositional variations on surfaces, scanning thermal microscopy (STHM) for temperature mapping, and nanoindenting/scratching for thin film wear and hardness testing. Also introduced was the Dimension LS Series AFMs, the first long scanning AFMs with line scan capability up to 1 cm. Digital Instruments: (800)873-9750, Fax: (805)967-7717, info@di.com

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ANNOUNCING

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Circle Reader Inquiry #7

## New And/Or Interesting at M&M '89

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❖ **E.A. Fischione Instruments, Inc.**, a manufacturer of TEM/SEM specimen preparation and cleaning instruments announced two new products. The LAMP (Low Angle Polishing and Milling) Ion Mill allows the preparation of difficult TEM samples through the use of advanced sample handling materials, rocking motion of the sample stage, and milling angles as low as 1 degree. The new biological TEM cryotransfer systems permit the independent rapid freezing and storing of samples in liquid nitrogen and the loading of the frozen samples on a TEM sample holder. The performance of this equipment on high performance microscopes is truly superior: (i) The system's shutters are at the same temperature as the holder, precluding the formation of ice on the sample, (ii) The shutter actuating rod does not include O-rings, which leads to long lifetimes, (iii) The sample tip and shutter are made of copper, (iv) The specimen clamping plate is square and is held in place by the shutter, keeping all critical parts at the same low temperature and creating a very tight fit eliminating any risk of atmospheric vapor reaching the sample during transfer, and, (v) The system also includes the effective K-DAMP™ active vibration dampening mechanism. E.A. Fischione Instruments: (724)325-5444, Fax: (724)325-5443, pef@fischione.com

❖ **EDAX Inc.** introduced the Falcon microanalysis system. This new system allows for speed and throughput, including Digital Signal Processing to increase x-ray throughput to 100,000 counts per second. Falcon provides an intuitive design using Windows 95/98 or NT operating systems, allowing the crisp performance expected with true 32 bit architecture. The Falcon architecture is designed for economy and performance, as compared to the more flexible and sophisticated design approach of the Phoenix and Phoenix Pro microanalyzers. The latest advances in the second generation of Sapphire detectors include a 10 mm specification with 133 eV standard and 130 eV for premium performance, and 30 mm specification with 138 eV standard and 135 for premium performance. Sapphire maintains resolution with increased throughput. Resolution does not appreciably degrade at count rates under 10,000 cps and will only degrade about 10 eV for each additional 10,000 cps increase in throughput. EDAX Inc.: (201)529-4880, Fax: (201)529-3156, info@edax.com

❖ **E. Fjeld Company** introduced a reconditioned Scanning Electron Microscope equipped with Digital Imaging and Energy Dispersive X-ray analysis. The system is an integrated PC based SEM - EDS package designed for storage, archival and processing of digital images. Offering significant savings, the system comes complete with installation and service warranty. Also introduced was a series of high resolution stages for Field Emission SEMs. An extended motion, five axes specimen stage was on display. Ideal for submicron positioning, the stage was designed for applications which demand high accuracy and precision. Submicron position electronics are under development and were introduced. The microstepping electronics provides precision and accurate positioning capabilities. In a FE SEM, smooth operation was observed at 300 - 500,000x magnification. The design is flexible to interface with third party vendors. E. Fjeld Co.: (978)667-1416, Fax: (978)667-9059, efield@tiac.net

❖ **Electron Microscopy Sciences** displayed a complete digital imaging line including varying resolution cameras, scanners and printers as well as their unique oscillating tissue slicers, laboratory microwave ovens and a complete line of chemicals and supplies for electron and light microscopy. Electron Microscopy Sciences: (800)523-5874, Fax: (215)646-8931, sgkock@aol.com

❖ **Empix Imaging Inc.** demonstrated their latest version of Northern Eclipse image analysis software, featuring Windows 98 scripting. This new feature provides another level for non-programmers to automate their imaging routines in conjunction with macro writing or OLE automation using VB or C++. Northern Eclipse supports a full range of digital or analog cameras and automated microscope accessories. Unique presentations illustrated 3D reconstruction, morphometry, densitometry, image processing, multi-layered image processing, user defined geometrical equations, real time averaging and background subtraction. Hundreds of automated applications allow Northern Eclipse clients to rapidly execute tasks such as time-lapse, insitu, GFP, particle sizing, image alignment, comet assays, image montage, and ion ratioing. Empix Imaging Inc.: (905)820-2944, Fax: (905)820-3193,

❖ **ETP-USA** introduced the new Series 6 Robinson Backscattered Electron Detector for Scanning Electron Microscopes. Now capable of operating at accelerating voltages from less than 1 kV to 30 kV, and displaying image formation at 2 kV, 1 pico ampere beam current, the new Robinson Detector is the most powerful backscattered detector available. Signal increase from this new model is said to be in the order of a magnitude from the last model, proving it to be the detector of choice for serious electron microscopists. Also on display was the new ETP-USA Picture in Picture Infrared ChamberView System, which is controlled via Windows 95 on the SEM PC. The ChamberView System is also available with a separate 9" black & white monitor

for non-PC controlled SEMs. ETP-USA: (510)449-8534, Fax: (510)449-8996, tom@etp-usa.com

❖ **FEI Components** displayed a two-lens electron column and its complete line of LaB6/CeB6 emitters. FEI Components' two-lens electron column produces the beam sizes and current density needed to meet today's growing demand for nanometer-scale applications. Their LaB6 and CeB6 emitters offer reliable, long-life operation and are available for all major microscopy instruments. FEI Components is the leading supplier of products based on advanced field, Schottky, and thermionic emission technologies to the world's major microscopy and analytical systems manufacturers. Products include LaB6 and CeB6 cathodes, Schottky thermal field emitters, liquid metal ion sources, and focused electron and ion beam columns. FEI Components: (503)844-2520, Fax: (503)640-7509, components@feico.com

❖ **Gatan Inc.** introduced several new holder designs for cryomicroscopy. Included was the 630 high tilt tomography holder and the 915 double tilt cryotransfer holder for specimen preparation, the 677.FIB single tilt holder, and the 917 double tilt FIB holder, as well as the models 900 cold and 901 hot SmartSet programmable controllers for temperature control of cooling and heating holders. Also introduced was the new GIF2000 energy-filter series. These filters are able to form electron energy-loss spectra with high resolution at various dispersions without any rotation of the spectra and also can form any kind of energy filtered images, such as elemental maps or diffraction patterns with up to 2048 x 2048 independent image pixels. In addition, the Gatan DualView is a unique low-cost CCD camera that offers the possibility of both digital imaging and near real-time video output. The camera uses a lens-coupled CCD and high resolution retractable phosphor scintillator screen to capture images. Gatan Inc.: (510)463-0200, Fax: (510)463-0204

❖ **Geller MicroAnalytical Laboratory** presented the MRS-3 "Magnification Reference Standard" and stage micrometer, a NIST traceable three dimensional standard which allows calibrations from 10X to 50,000X and a pattern height of 100 nm. The standard can be used on scanning electron and optical microscopes as well as atomic force profilometers. Chemical imaging using techniques such as SIMS and XPS is possible since the pattern is composed of chromium oxide on either a quartz or ITO (indium tin oxide is optically transparent yet electrically conductive) film. The unique pattern of nested square boxes allows simultaneous X and Y magnification measurements. The composition gives excellent SEM contrast even below 1 keV accelerating potentials. The MRS-3 is used by most of the larger fabs to calibrate their critical dimensional measurement tools and many college and industrial laboratories around the world. Also presented was the dPicT (digital photo image collection tool), an IBM PC based hardware and software system to automate older analog SEMs. dPicT includes an active scan generator which allows collection of up to nine images simultaneously. Images are stored in the industry compatible "tiff" format. Geller Microanalytical Laboratory: (978)887-7000, Fax: (978)887-6671, Jg@gellermicro.com

❖ **Gresham Scientific Instruments** supplies state-of-the-art semiconductor x-ray detectors to the analytical instrument market. Gresham showed its successful range of Sinus Si(Li) and Gemini (HPG) detectors, as well as the recent addition of HPSirius, an intrinsic silicon detector and Antares, a cost effective general purpose detector. Gresham's policy is to provide application specific detectors. Gresham also offers a comprehensive repair and upgrade service for all makes of x-ray detectors. Gresham is represented in the Americas by Advanced Technologies Technologies (ATT): (904)743-5525, Fax: (904)743-3699

❖ **GW Electronics** introduced "Peeperscope", a low power optical inspection tool that will allow the SEM user to view a sample while in the chamber. "Peeperscope" can take the guesswork out of sample positioning by providing a view of the sample at magnifications up to about 25X. This view also provides correlation between the electron image of the sample and optical images of the same area. The full color image may be displayed on a dedicated monitor or inserted into an existing Windows 95 screen as a Picture-in-Picture. GW Electronics: (800)325-5556 or (70)449-0707.

❖ **KeveX Instruments** introduced new programs for the Sigma microanalyzer to improve ease-of-operation. Quasar-Pro combines qualitative and quantitative analysis software. Locator-Chemistry quickly acquires SEM images so analysts may rapidly analyze features for easy insertion in spreadsheets. DMA-PRO provides flexibility to automatically graph and print automated, quantitative stage or beamscan analysis. Also presented were highlighted and enhanced performance aspects of QuantumDry light-element detectors using the KeveX QUANTIFIER assembly process. This technique features a special pairing of the x-ray crystal assembly and FET. The linearity, resolution and throughput have all been improved for greater light element sensitivity. As a result, resolution is maintained during high throughput spectral acquisitions and x-ray mapping operations. KeveX Instruments: (805)295-0019, Fax: (805)295-8714

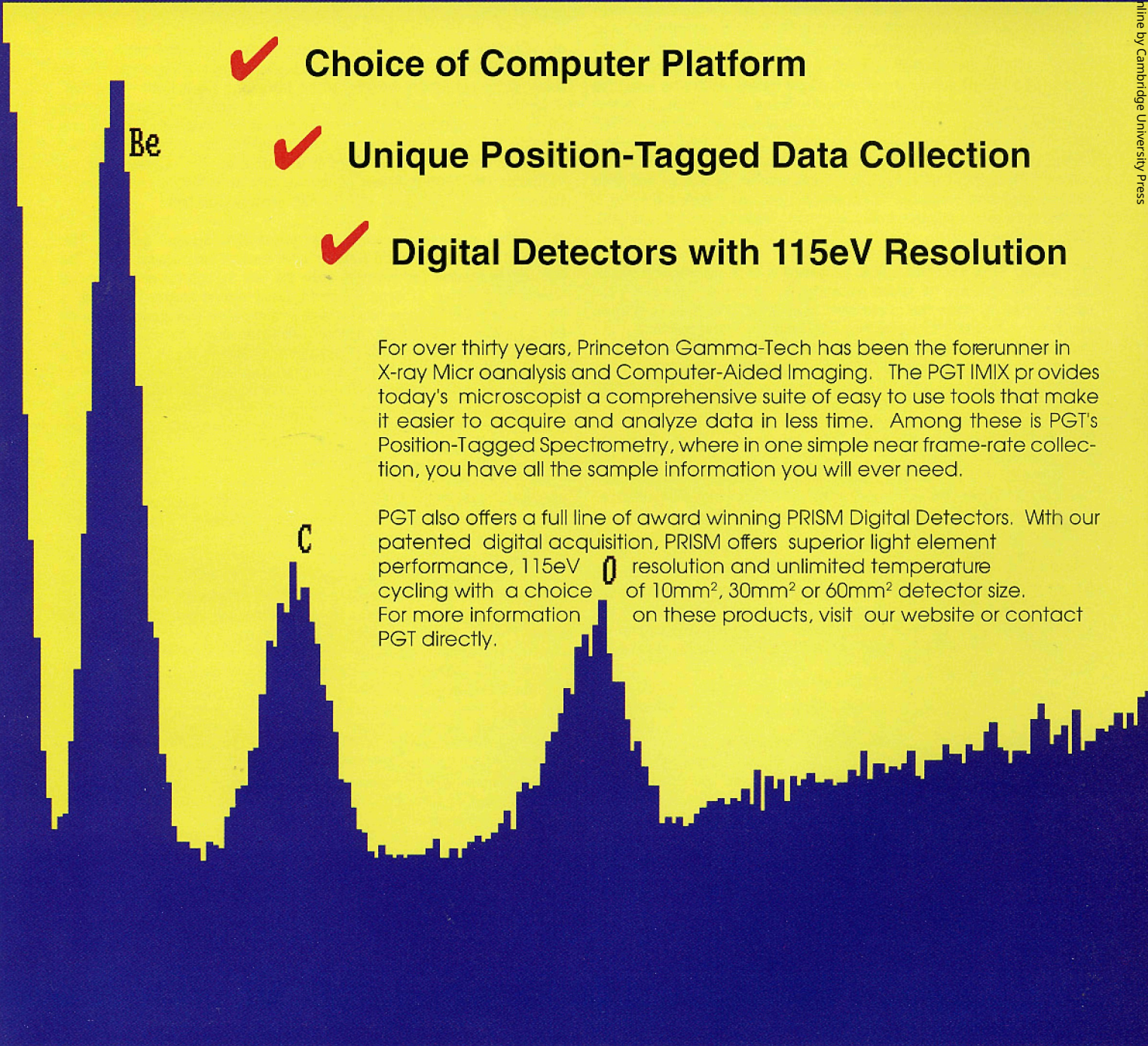
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# A Cut Above the Rest . . .

✓ Choice of Computer Platform

✓ Unique Position-Tagged Data Collection

✓ Digital Detectors with 115eV Resolution



For over thirty years, Princeton Gamma-Tech has been the forerunner in X-ray Microanalysis and Computer-Aided Imaging. The PGT IMIX provides today's microscopist a comprehensive suite of easy to use tools that make it easier to acquire and analyze data in less time. Among these is PGT's Position-Tagged Spectrometry, where in one simple near frame-rate collection, you have all the sample information you will ever need.

PGT also offers a full line of award winning PRISM Digital Detectors. With our patented digital acquisition, PRISM offers superior light element performance, 115eV resolution and unlimited temperature cycling with a choice of 10mm<sup>2</sup>, 30mm<sup>2</sup> or 60mm<sup>2</sup> detector size. For more information on these products, visit our website or contact PGT directly.



Princeton Gamma-Tech, Inc. C/N 863 Princeton, NJ 08542-0863

Telephone: 609•924•7310 • Facsimile: 609•924-1729 • Website: [www.pgt.com](http://www.pgt.com) • e-mail: [sales@pgt.com](mailto:sales@pgt.com)

**New And/Or Interesting at M & M '98**

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Leica Microsystems Inc. demonstrated state-of-the-art equipment for the preparation of samples for TEM and SEM. Featured was the market leading LEICA UCT ultramicrotome and FCS low temperature sectioning system. This instrument was shown with video camera and monitor as well as computer control and database software. Other instruments shown include the AFS automated cryosubstitution system and the RM 2165 fully automated rotary microtome. Leica also shown microscopes and image analysis instrumentation. Leica Microsystems Inc.: (847)405-0123, Fax: (847)405-0147, info@leica-microsystems.com

Media Cybernetics recently released Materials-Pro Analyzer Version 3.1, a software solution specifically designed to help materials science engineers, laboratory researchers, and metallurgists analyze and test metals, ceramics, polymers, and other materials. A plug-in module for Image-Pro Plus, the premier image analysis software package, Materials-Pro Analyzer is Windows-based and runs on standard PCs. Version 3.1 includes a number of new and updated features which allow tests to be done automatically and with just a click of the mouse. These additions include Dendritic Arm Spacing (DAS), support for Vickers and Knoop microhardness (ASTM E 384) and updated grain size measurements (ASTM E 112). Materials-Pro Analyzer Version 3.1 follows pre-defined image enhancement procedures based on the class of material being analyzed. The dialog boxes use materials terminology and follow standard operational sequences. Complete and accurate statistical reporting is provided in a variety of industry standard data tables. Media Cybernetics: ((301)495-3305 or www.mediacy.com

MICRO STAR TECHNOLOGIES, established in 1982, manufactures ultramicrotomy diamond knives for sample preparation in electron, scanning probe and optical microscopy. Micro Star makes seven types of diamond knives for standard ultra thin, cryo sectioning, thick sectioning and materials science applications. Ultra thin sectioning knives range in size from 1 to 8 mm. Histology knives range from 4 to 12 mm. They are sold to research and medical laboratories in 59 countries. Micro Star accepts all types and brands of diamond knives for exchange or sharpening. Micro Star Technologies: (800)533-2509, Fax: (409)294-9861, mistar@msn.com

The NSOM-100™ (Near-Field Optical/Confocal/Scanned Probe) Microscope Integrator™, a near-field optical microscope attachment which can be simply placed at will on the stage of any conventional far-field optical microscope, has been introduced by Nanonics Imaging. The award-winning NSOM-100 Head bridges and integrates low resolution far-field optical, medium resolution confocal, and super-resolution optical/scanned probe imaging. Based on innovative, patented, flat scanning technology and cantilevered normal force sensing near-field optical elements, the whole sample can be reviewed at the highest of lens-based resolutions by upright or inverted far-field microscopes. This permits ultra-accurate tip positioning over a 16 mm field and on-line viewing during scanned probe image acquisition. The NSOM-100 also allows angstrom resolution axial or z translation over 70 µm. This singular 3D capability is a breakthrough for optical sectioning and optical tweezer applications. Nanonics Imaging Ltd.(Israel): 972-2-678-9573, Fax: 972-2-648-0827

National Graphic Supply presented the Kodak Microscopy Documentation System (MDS120), a low cost, megapixel image capture system for brightfield, darkfield, bright fluorescence, phase contrast DIC/Nomarski and polarized light photomicroscopy. The MDS120 features the Kodak DC120 digital camera, an optical C-mount adapter, and software. The DC120 Camera features 1280 x 960 resolution, a 3X (38-114 mm) zoom lens with macro and a built in LCD viewfinder. Easy to use camera drivers and image enhancement software are included. Available for Macintosh or Windows computers. The MDS120 accessory kit is available for current DC120 owners. The optional SP700 printer provides instant 4 x 6 photo quality dye sublimation prints from Macintosh or Windows computers. National Graphic Supply: (800)223-7130, ext. 3109, Fax: (800)832-2205, laing@ngscorp.com

Nikon, Inc. presented the new "Eclipse E600FN PhysioStation", the first microscope designed expressly for patch clamp experiments. It, however, has a niche in the neuroscience, physiology, and microcirculation sectors as well. These target areas seem to be the up and coming research areas of the new millennium. A high-performance upright microscope, like the one Nikon has just developed, allows the scientist to overcome the obstacles that conventional inverted microscopes present. Nikon went back to the drawing board to custom design an upright research microscope that would offer scientists flexibility, rock-solid vibration free construction, and generous clearance around the objectives, giving the widest angle of approach for micromanipulation. Nikon, Inc. (516)547-8500, Fax: (516)547-0306

NORAN Instruments introduced the new VANTAGE™ Digital Microanalysis System, and two new products for electron backscatter diffraction in SEMs, Phase ID and ORKID™. The new Phase ID Imaging System, winner of a 1998 R&D 100 Award for innovation and technological significance, increases the analytical capabilities of scanning electron microscopes. Phase ID uses electron backscatter diffraction (EBSP) to capture and analyze diffraction patterns, resulting in fast and accurate identification of crystalline compounds in the SEM at sub-micron levels. NORAN also introduced another electron diffraction product, ORKID, for automated crystal orientation mapping in SEMs. ORKID is used in applications such as texture imaging, misorientation mapping, and orientation analysis. Maps are created at a rate of over 12,000 points per hour using precise digital beam control and fast analysis algorithms. Phase ID and ORKID Imaging Systems are designed to interface with the new VANTAGE™ Digital Microanalysis System for one platform performance. However, any properly configured PC platform could host either system. NORAN Instruments: (608)831-6511, Fax: (608)836-7224, micro\_info@noran.com

Omicron had its new Twin SNOM scanning near field optical microscope on display and operating. The SNOM technique represents the next step in resolution for optical microscopy, clearly resolving sample features of 100 nm size and smaller. Omicron's instrument can be operated in either transmission or reflection mode and can be used for samples as varied as semiconductor devices to objects of biological interest. The Twin SNOM scans the sample under a fiber probe, which is itself attached to a piezo bimorph operating as a shear force AFM. Consequently, the microscope provides true surface topographic data along with all optical images. Omicron: (412)831-2262, Fax: (412)831-9828, omiasoc@aol.com

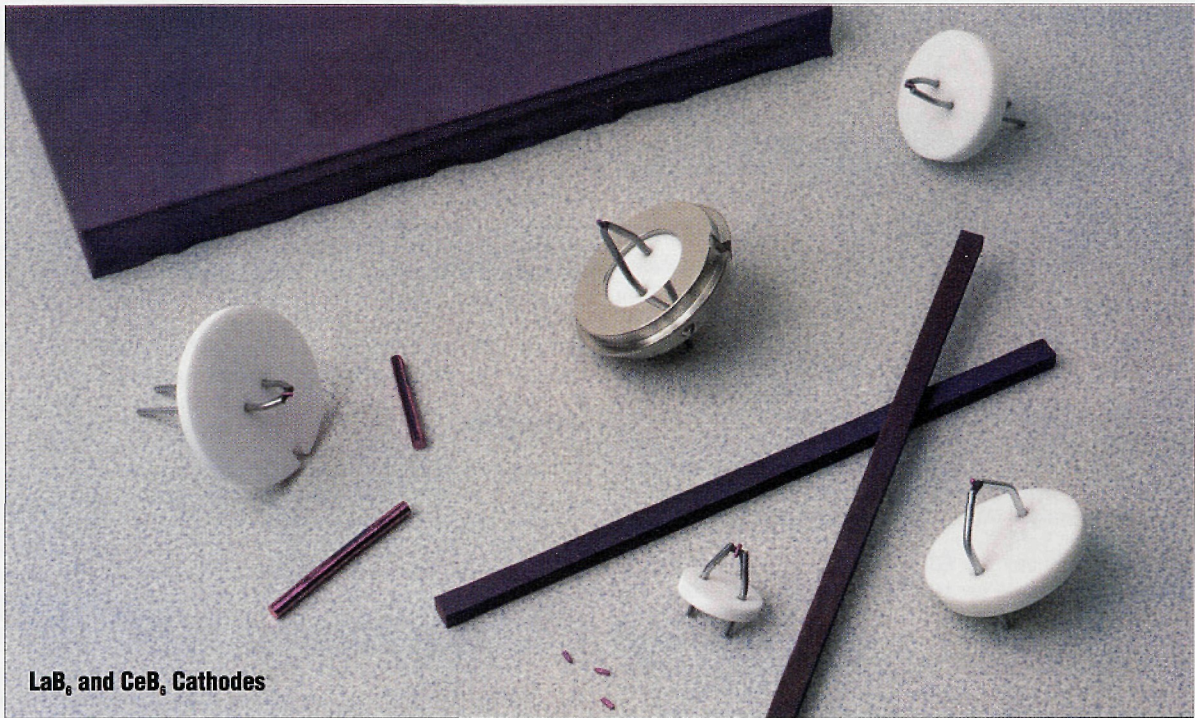
Oxford Instruments unveiled a new microanalysis system - the Inca. This instrument is the result of over 5 years of market research into customer needs. The Inca uses Navigation Technology to guide the user through the entire analytical process from start-up to report. Oxford's award winning multimedia training is incorporated into Inca's online help to create a microanalysis encyclopedia, which will educate and advise the operator. A second new Oxford product featured was the Alto 2500, the first of a new generation of cryo-transfer systems for the FE SEM. The new turbo pumped cryo-preparation chamber with an integral nitrogen dewar provides up to 8 hours hold-time, superior cold-trapping and rapid cool down. Both visibility and ease of use are significantly improved. Oxford Instruments America, Inc., Microanalysis Group: (978)369-9933, Fax: (978)369-8287, bosherj@oxford.usa.com

Polaroid Corporation announced the Polaroid DMC-ES Digital Microscope Camera with Enhanced Software. The enhanced software offers several benefits to the scientist capturing digital images from the light microscope and copystand. The microscopist now has the ability to calibrate and save settings for each microscope objective, allowing a measurement marker to be placed in the lower right hand corner of the digital image. An annotation feature has also been added. The DMC also allows the user to custom white balance the camera for the particular microscope light source. An improvement in the preview mode of the software is a zoom function that allows up to 400% magnification of the preview image to facilitate focusing of the image. The DMC-ES will be available the week of August 2, and current owners of the DMC Camera can download the new software from our website at www.Polaroid.com/at-work/DMC Polaroid Corporation: (781)386-6826, Fax: (781)386-6266, suny@polaroid.com

Princeton Gamma-Tech displayed their latest applications based EDS package for the Field Emission SEM. For microanalysis under high-resolution imaging conditions, PGT combines a large area detector (60 mm<sup>2</sup>), high-speed digital electronics and their position-tagged spectrometry system to collect X-ray data at low beam current with high efficiency and minimal specimen damage. Princeton Gamma-Tech: (609)924-7310, Fax: (609)924-1729, sales@pgt.com

Quesant Instrument Corporation is a manufacturer of innovative and affordable Scanning Probe Microscopes. Q-Scope™ SPMs offer multiple AFM scanning modes, including WaveMode™ intermittent-contact mode. They include innovative features such as the patented Isotopic Focal System™, scan up to 10x faster than other SPMs, and are easy to use. All prices make sense. Also new was the ScanAtomic™ Software Version 3.1 for Atomic Force Microscopy. Written in the latest 32-bit release of MS Visual Basic (Version 5.0), it contains a number of enhancements, and substantially speeds up image processing, editing and other graphics functions of Quesant AFMs. Quesant Instrument Corporation: (818)597-0311, Fax: (818)991-5490, qsales@quesant.com

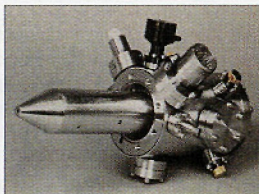
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LaB<sub>6</sub> and CeB<sub>6</sub> Cathodes

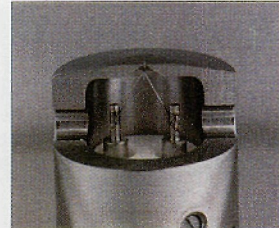
# What does **fei** stand for? components

FEI's Mini Vogel Mount, the *first* universally compatible long-life, high-stability LaB<sub>6</sub> cathode, provides *excellent* performance and the best cost-per-use value for *installation* into your EM systems.



### Two-Lens Focusing Column

Our compact, UHV, *field* emission columns are used by researchers worldwide. Innovative *electrostatic* optics and dedicated electronics allow you to *integrate* a high current density electron or ion column into most vacuum systems. FEI also supplies researchers with other specialized products.



### Schottky Field Emission Cathodes

FEI supplies Schottky *field* emitters to EM manufacturers worldwide. Schottky *emission's* high current *intensity* has established it as the preferred electron source for high resolution SEM, TEM, Auger, ESCA, EDX, and lithography.



### New Components Facilities

Dedicated FEI Components Group *facilities enabling* new technology development through *key investments* in R&D and manufacturing.



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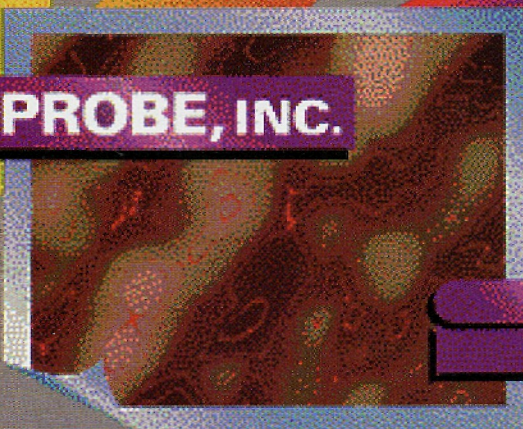
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