


## INDUSTRY NEWS

The Cooke Corporation introduces the **sensicam em**, a high Performance Electron Multiplication CCD Camera System incorporating the latest cutting-edge on-chip multiplication technologies. This unique approach of using on-chip multiplication (1-800X) allows this camera system's performance to deliver unprecedented high-sensitivity required in low light level imaging applications (low noise <1e - rms). The camera system features 12-bit dynamic range, 1000 X 1000 pixel resolution, thermo-electrical cooling (down to -16° C), binning and ROI, a framing rate up to >200 fps. The camera system is packaged complete with camera head, PCI interface card, power supply, interface cables and software. The sensicam em is ideal for Single-Molecule Imaging, Ion Imaging, Cellular Dynamics, 4D Microscopy, Voltage Sensitive Dyes and Fluorescence Microscopy. The Cooke Corporation provides imaging based solutions to the physical and life sciences marketplaces.

Cooke Corp, also announces **PixelFlyQE**: The latest addition to their line of digital ccd cameras, the PixelFlyQE now offers improved quantum efficiency with higher pixel resolution of 1390 x 1024. Designed to meet the most demanding scientific/medical inspection and machine vision applications, this 12-bit super-compact camera features Digital Temperature Compensation enabling the PixelFly to maintain the same noise performance regardless of any ambient temperature fluctuations. It's compact design eliminates the need for a space-consuming thermal electric cooling unit. All camera functions are remotely controlled with imaging software. Contact: Christine Haywood, Marketing Dept. Tel. (248) 276-8820 Email info@cookecorp.com Website <http://www.cookecorp.com>

**AccuStandard** now offers longer, 3-year Shelf Life on all single element ICP (plasma emission), AA (atomic absorption) and ICP/MS (plasma emission/mass spectroscopy) standards. AccuStandard offers more than 1000 Inorganic Standards, which are all formulated from ultra high purity starting materials and high purity acids. The full range of AccuStandard's Inorganic Standards is traceable to the National Institute of Standards and Technology (NIST) and is shipped with a certificate of analysis for ease of record keeping and availability at audits. Furthermore, Actual Lot Analysis is provided on the label whilst all standards are packaged in specially prepared acid leached containers. Finally, concentration is verified by wet chemical and instrumental analysis. In addition to the single solutions, AccuStandard manufactures custom metals solutions to meet individual laboratory needs. AccuStandard also offers the AccuNoHaz product line which consists of concentrates that do not receive hazardous shipping charges. AccuStandard offers over 30,000 Organic and Inorganic chemical reference standards, and stocks in several locations around the world for quick delivery. AccuStandard supplies, manufactures and also synthesizes standards for the environmental and petrochemical industries. Recognized for its wide range of both routine and rare standards, AccuStandard is certified to ISO 9001:2000 and is the only major international standards manufacturer to be accredited by the US Government's NIST as a Proficiency Provider under the NVLAP program (Lab Code 200389-0). For further information please visit [www.AccuStandard.com](http://www.AccuStandard.com)

The new version of **Soft Imaging System's** tried and tested image analysis platform **analySIS** has arrived on the market. The new features of **analySIS FIVE** are: a redesigned measurement interface, a new database for well structured data archiving and multiple, optimized, new acquisition routines. The trackIT! add-in for tracking and analyzing objects in motion is fully integrable with **analySIS FIVE**. Soft Imaging System's new transmission and scanning-electron microscopy platform packages - **iTEM** and **Scandium** - are also based on **analySIS FIVE**.



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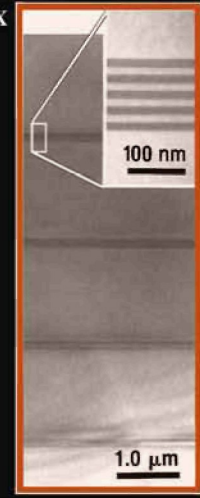
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## SCOPETRONIX

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### Introducing the MaxView Plus Digital Camera Attachment System

The MaxView Plus kit includes adapters to fit microscopes & optical devices with any of the following attachments; C-Mount, C/S-Mount, T-Mount, 23mm Eyepiece Port, 30mm Eyepiece Port, and 1.25" Eyepiece Ports

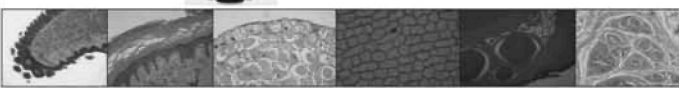


The MaxView Plus can also be used as a high quality wide angle eyepiece with the included thread-on eyeguard. The MaxView Plus is "T" threaded on top so you will need the appropriate Attachment Kit to mate it to your particular digital camera. We carry dozens of attachment kits to fit most all popular digital cameras and we update them regularly so your MaxView Plus will not become obsolete when it is time to upgrade to a new camera. If using it with a 35mm SLR you will need the appropriate T-Ring for your brand of camera.

The heart of the MaxView system. A wide field 40mm focal length four element symmetrical (Plossl) lens assembly specially mounted in a carefully designed custom cell. The lens is mounted only 1mm from the top to maintain the close coupling required to reduce vignetting. The cell features a unique sliding collar assembly which serves several important functions, it allows quick and easy removal of the camera, it allows you to adjust eyeguard height for easy visual use, allows you to adjust magnification when used with a 35mm camera, and allows you to adjust lens position to minimize vignetting with a digital camera.



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The newly designed measurement interface is more clearly structured, making image evaluation much easier. The 'magic wand' function is for fast and convenient measuring of arbitrarily shaped objects with regard to a broad range of measurement parameters. All measurement functions are now accessible via a single button bar. The order in which measurements are conducted is documented in a clearly structured tree control and any erroneous measurements can be deleted. The tree control can be saved along with the image, making it possible to interrupt a measurement sequence and continue it later. Online statistics keep track of things like the current mean and distribution of measurement values for the user. The database integrated with analySIS FIVE offers convenient, well structured archiving of images, sheets, diagrams, reports and any other files. Setting up new databases is greatly simplified with the database assistant. Acquiring entire image series has become standard for many applications including time-lapse investigations, Z stack and multifuorescence acquisitions. Users are looking for efficient acquisition, management and archiving of image series and want to be able to retrieve images easily. Users also require user-friendly processing and visualization. analySIS FIVE supports a multidimensional image format for meeting these expectations. A single image file can consist of multiple images, acquired at different Z positions, at different times or acquired with different wavelengths. One of the new acquisition routines is the mia-efi combination. At the click of a button, panorama images with infinite depth of focus are acquired - and all in one step. FastSnap and fis offer extremely fast acquisition of single images or entire series of live samples. With the SliceViewer, image stacks are easy to display onscreen in three dimensions, to animate and as necessary, generate two-dimensional projections of them.

Soft Imaging System Corp. introduces **iTEM** - A brand new image analysis platform for the transmission electron microscopy field. Based on analySIS FIVE, iTEM offers - alongside TEM-specific functions - the entire analySIS FIVE performance spectrum for processing, analysis, visualization, image and data archiving, as well as automation and report generation. Image stacks and image series are automatically acquired, aligned and visualized; energy filters are operated and images automatically evaluated; the microscope is remote controlled from an external source. Solutions expand the range of available functions and are finely tuned for specific tasks in the field of transmission electron microscopy. This includes evaluation of diffraction images, analyzing convergent images for analysis of semiconductor stress, evaluation and visualization of energy loss spectra, telemicroscopy, and automatic particle analysis as well as 3-D visualization. Most TEMs can be controlled and automated via iTEM. In addition, the user operates Soft Imaging System's TEM cameras, including their entire range of functions right from within the iTEM software. With a mere click of a button, images are transmitted from microscope camera to iTEM. An auto focus routine ensures that images are sharp and correctly calibrated. All current microscope parameters are saved along with the image. Within iTEM, the images can be processed, analyzed, archived and documented. A networkable database and a report generator for professional presentation of results are integrated.

Soft Imaging System Corp. introduces **Scandium** - a brand-new, universal SEM/FIB image analysis platform for all scanning electron microscopy applications. Images and data are acquired, transferred, saved and visualized in any number of ways and analyzed in the twinkling of an eye. Microscopes are remote controlled, fully automated and integrated as part of automated workflows. Scandium has been custom

designed for workflows in the SEM field and operating it is easy and user-friendly. Scandium offers SEM users the opportunity to fully exploit the advantages of digital computer technology. Universal exchange of data Scandium ensures smooth data exchange with the software of the SEM (Scanning Electron Microscope) and FIB (Focused Ion Beam) microscope. A broad range of data from other typical SEM hardware and software components - such as EDX devices of leading manufacturers - can be loaded into Scandium directly. Scandium is based on analySIS FIVE offering the user significant advantages. For one thing, Scandium and analySIS FIVE use the same database structure. Comprehensive workflow structures linking individual microscopes and workstations can be set up. Acquired images are automatically calibrated and XMI (eXtended Microscope Information) is supported. This means when an image is inserted into a database, all data is automatically transferred to the corresponding database fields. Scandium offers the SliceViewer, an efficient spectra and image processing tool, used for visualizing and animating image stacks such as those required by FIB microscopes. There is an integrated archive for managing all data as well as an integrated report generator for professional presentation of results. Reports can be created automatically with specifications entered by the user, and then e-mailed directly from within the software. Scandium controls connected devices, allowing complex processes to be automated. Ideally, the entire workflow, from first to last step, can all be conducted within Scandium. data the user requires can be accessed via the networkable database. CONTACT: North American Office, Dr. Mike Bode, Soft Imaging System Corp., Tel.: +1 (303) 234-9270

**BudgetSensors** introduces high quality conductive **AFM probes**, covered with a 30nm Chromium/Platinum coating on both sides of the cantilever. Due to its advanced manufacturing technology, the tips radius of the conductive AFM probes is smaller than 25nm. For detailed information, please visit [www.budgetsensors.com](http://www.budgetsensors.com).

**Thermo Electron Corporation** introduces OMNIC™ Atlys™ 7 software for infrared and Raman microspectroscopy and imaging. This new software version integrates data acquisition, spectral processing, and image visualization in a single powerful package. OMNIC Atlys 7 software automates the collection of spatially-resolved spectra from Thermo's infrared and Raman microspectroscopy and imaging instruments. Vivid false-color images are created that allow chemical heterogeneity to be readily visualized and compared to visual features. This new software supports Thermo's new research-grade FT-IR microscope, the Nicolet™ Continuum™ XL, combining white light microscopy with advanced imaging. Launched at PITTCON, this flagship instrument provides high performance infrared sampling, excellent visible-light microscopy and exceptional FT-IR imaging. OMNIC Atlys 7 is fully compatible with the OMNIC software suite from Thermo. This suite provides advanced chemometrics, rigorous qualification tools, and extensive spectral libraries for getting the most from infrared and Raman data. For more information about the OMNIC Atlys software, please call +1 800-532-4752 or e-mail [analyze@thermo.com](mailto:analyze@thermo.com)

**Media Cybernetics Inc.**, announces the release of **SharpStack** and **SharpStack Plus Versions 5.0**. The SharpStack plug-in modules allow Image-Pro Plus and Image-Pro Discovery image analysis software users to remove haze and improve resolution in two- and three-dimensional images stacks using deconvolution and deblurring algorithms. SharpStack Plus adds 3D Blind and 2D Blind deconvolution methods to the No Neighbor, Nearest Neighbor, and Inverse Filter algorithms found in SharpStack. The 3D Blind deconvolution method operates on the entire image volume. Photons are not removed so the image





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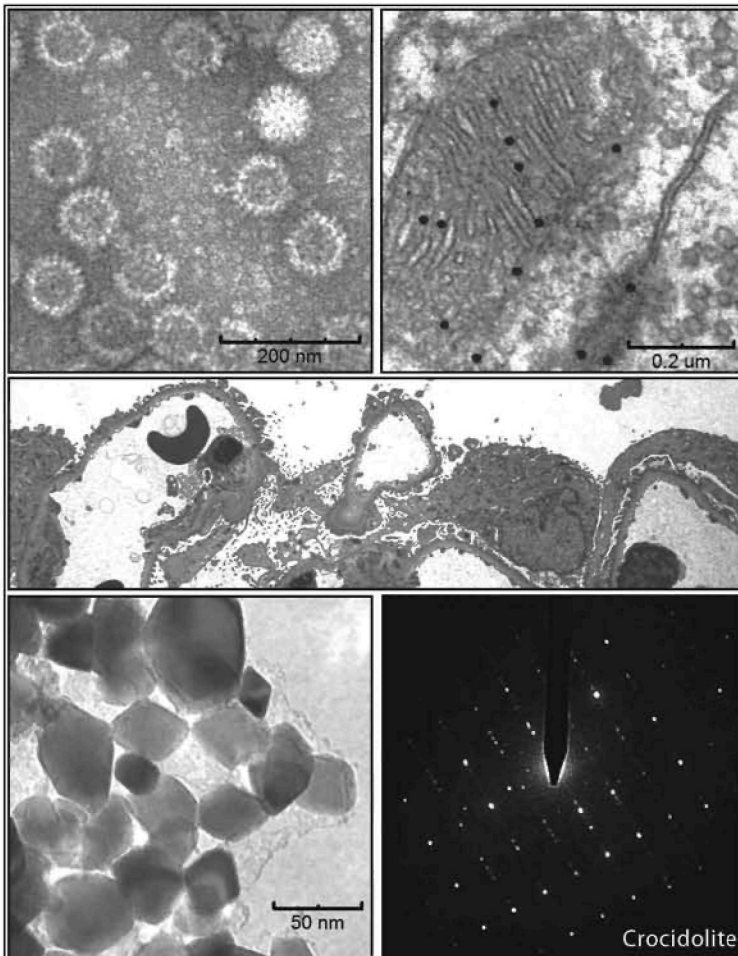
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remains quantifiable. The 2D Blind deconvolution method operates in an iterative manner on a single image plane. This method has better noise suppression and resolution improvement compared to Neighbor-based methods. This method also retains captured photos, yielding a quantifiable image.

Media Cybernetics Inc., also announces the release of the **AFA 5.0 Plug-in Module for Image-Pro Plus and Image-Pro Discovery** imaging software. The AFA Plug-in Module is designed for research microscopists who need to acquire and manage image sets in multiple dimensions including channel (wavelength), focus (Z-stack), time, and stage position. The Version 5.0 release of AFA offers new tools that simplify the setup of complex acquisition parameters including a Configuration Wizard and Status Update. The Configuration Wizard guides users through the necessary setup procedures to ensure the success of their acquisitions. The Status Update feature allows users to monitor the progress of their acquisition by viewing the total elapsed time, time left between cycles, current sample position, wavelength, and Z-position. For more information about Media Cybernetics, visit [www.mediacy.com](http://www.mediacy.com).

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**Carl Zeiss SMT's** Nano Technology Systems Division unveiled the first **CrossBeam® EsB FIB/SEM** workstation with combined SE and BSE in-column detection systems at the Microscopy & Microanalysis 2004 conference in Savannah, Georgia. The Zeiss EsB CrossBeam® combines the advantages of the ultra-high resolution and proprietary GEMINI® Field Emission Scanning Electron Microscope (FESEM) technology with a high-performance Focussed Ion Beam (FIB) system. In particular, the new EsB CrossBeam® incorporates a revolutionary in-column BackScattered Electron (BSE) detection principle built into the unique CrossBeam® technology. The new in-column EsB detector offers Energy and angle Selective backscattered electron (EsB) imaging at ultra-high resolution without any further column adjustment required. This enables the operator to achieve high contrast and material selective imaging at the utmost physical level. Applications are as diverse as materials analysis, subsurface root cause failure analysis, high precision TEM sample preparation, nano structuring and e-Beam lithography. The system extends the unique CrossBeam® operation mode with ultra-high resolution material contrast imaging during FIB operation with a precision and a success rate never seen before. It now enables precise feature analysis down to the nano-scale level. The EsB CrossBeam® comprises a compact, five-channel gas injection system and a large ultra-precise fully eucentric specimen stage, satisfying even the most demanding applications. It is the state-of-the-art combination of real-time 3D analysis, nano-scale manipulation and ultra-high resolution imaging tool. Contact: Jack Vermeulen, Carl Zeiss SMT, Marketing Director, 73446 Oberkochen, Germany, Phone +49 7364 20-3836; Fax +49 7364 20-4970, E-Mail: [vermeulen@smt.zeiss.com](mailto:vermeulen@smt.zeiss.com), Internet: <http://www.smt.zeiss.com>

Carl Zeiss has introduced the **AxioVision LE**, a "Light Edition" of its AxioVision software package available free of charge for easy entry into digital microscopy. The AxioVision LE software offers the following basic functions: image acquisition using a TWAIN driver, image display, storage and printing, processing of multi-dimensional images, insertion of captions and rulers, interactive measuring functions with export of measured values to other programs. AxioVision LE is also beneficial for those who already use AxioVision to generate images in the Zeiss ZVI image format and want to forward them to other users. AxioVision LE reads and displays ZVI images. Therefore, every user can benefit from the advantages of the ZVI format specially tailored to microscopy and all its integrated additional information (Meta data). The new software is available on CD or can be downloaded from the internet at [www.zeiss.com/AxioVision](http://www.zeiss.com/AxioVision) by clicking on "free demo software".

Carl Zeiss MicroImaging has introduced **TIRF microscopy** – a promising method for visualizing thin layers of microscope samples in fluorescence microscopy. Compared to the traditional methods, the new TIRF technique provides higher Z-resolution and improved contrast. TIRF offers major benefits, particularly in biophysical research. Processes in the border regions between plasma membrane and the cell interior can be examined in great detail and with a resolution along the optical axis that has never before been possible with any other technology. Membrane-related processes such as exocytosis and endocytosis can be viewed on a single-vesicle level, practically isolated from the background. Carl Zeiss offers a complete system solution for cellular, molecular and developmental biology and biochemistry by integrating TIRF with the Axiovert 200 inverted microscope. The new TIRF system combines laser light in the fluorescence beam path (plane of the luminous-field diaphragm). The TIRF slider contains a Pol beam splitter which reflects 100% of the linearly polarized light and transmits 50% of the light from the HBO illuminator. One special benefit of the TIRF microscopy from Carl Zeiss is the ability of using conventional epi-fluorescence and TIRF simultaneously with the same instrument, changing between techniques quickly and easily. The entire 23 mm field of view is always available in epi-fluorescence. The Alpha Plan-Fluar 100x/ 1.45 Oil top-of-the-line objective is ideal for TIRF microscopy. It allows the use of both standard cover slips and standard immersion oil, i.e. expensive cover slips and toxic, slightly crystallizing immersion oil are not required. The intelligent safety system – consisting of cover, light barrier on the TIRF slider and various shutters – prevents the escape of dangerous laser radiation. The TIRF slider system can be easily installed in all existing Axiovert 200 microscopes through a standardized interface that make it easy for users to integrate their own lasers. For more information contact Carl Zeiss MicroImaging, Inc., Thornwood, NY 10594, 800-233-2343, [www.zeiss.com/micro](http://www.zeiss.com/micro), or email at [micro@zeiss.com](mailto:micro@zeiss.com).

**Wyatt Technology** announces the **Eclipse** and the **DAWN EOS** – to make absolute particle sizing an accessible alternative to traditional liquid chromatography methods. Individually, both instruments offer state-of-the-art functionality, but when combined, they form the ultimate package for the biotechnology and pharmaceutical applications. By integrating the Eclipse Field Flow Fractionation with the DAWN Multi-Angle Light Scattering detection, reproducible absolute particle sizing can be achieved without the need for calibration or sizing standards. The DAWN EOS is the *only* multi-angle light scattering (MALS) detector capable of determining radius and molar mass results simultaneously, and is able to calculate masses directly from the variation of the light scattering pattern. It works with absolute precision, meaning



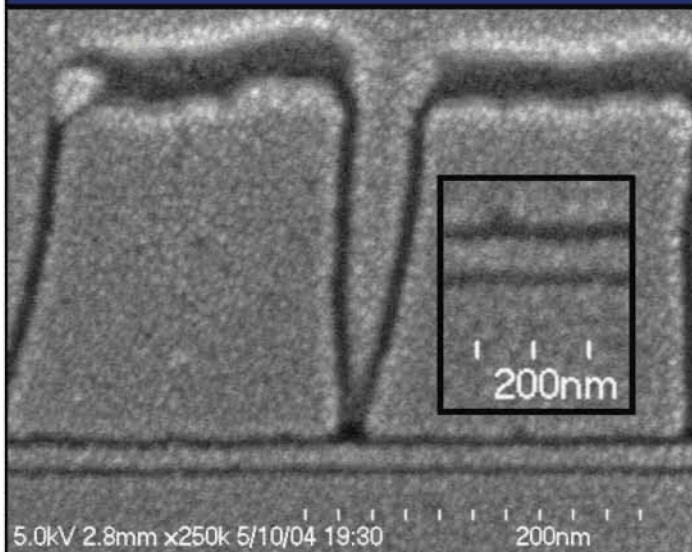
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that there is no need to refer to standards or assumptions *a priori*. Only the Eclipse plus the DAWN can obtain particle sizes *without* the need for channel calibration with arbitrary standards. Wyatt Technology has also incorporated various safety features into the design of the Eclipse, such as automatic shut-down and a pressure relief-valve actuation. In addition, the instruments are easy to service and incredibly robust. The Eclipse takes up little bench space and can be stacked with the DAWN EOS and other Wyatt detectors. Taking such features into account, it was natural for Wyatt Technology to combine the separating powers of FFF with the measuring powers of MALS, to establish the ultimate separation system. For more information about absolute macromolecular characterization and light scattering instrumentation, please visit [www.wyatt.com](http://www.wyatt.com) or e-mail [info@wyatt.com](mailto:info@wyatt.com)

**Nikon Instruments, Inc.**, introduces the **COOLSCOPE VS**, the next generation of its COOLSCOPE digital microscope featuring an integrated software suite for virtual microscopy developed by Bacus Laboratories Inc. ([www.baculabs.com](http://www.baculabs.com)). The COOLSCOPE VS offers a cost-effective Virtual Slide solution to pathologists, clinical researchers and medical educators by integrating a high-precision optical microscope, a five mega pixel digital camera, web server and database at a fraction of the cost of competing systems. The COOLSCOPE VS lets users digitize entire glass slide specimens, or specific areas of interest, and then create a virtual slide with the quality and resolution similar to the original glass slide viewed on a microscope. The results are high-resolution diagnostic quality digital images viewable through a PC or standard web browser, anywhere, anytime. Bacus' WebSlide Server, a personal desktop Internet/Intranet server, is designed to provide virtual slides for access on a network through the COOLSCOPE VS. The server allows multiple users to observe a synchronized view of a particular slide along with an interactive pointer and discussion window. COOLSCOPE VS is ideal for universities and colleges, teaching hospitals, medical, dental and veterinary schools, and is also useful for clinical and research applications. Life sciences students can use the COOLSCOPE VS to remotely control the microscope over the internet, and to view the same slide specimen simultaneously. Instructors find using digital slides eliminates the gradual fading and breakage associated with glass slides; and, teaching sets can be created on CD-ROM or DVD and distributed for easy and continual access, and to ensure consistent quality and continuity of instructional content. Clinical research professionals find the COOLSCOPE VS effective for providing a convenient archiving database that stores slide specimens on a network or local drive that can be easily retrieved and viewed. Reliable, high-quality remote collaboration is possible through COOLSCOPE VS's network accessibility, and its virtual slide capabilities provide an ideal way to display specimens at conference settings. COOLSCOPE VS generates brightfield images from low-power, whole specimens to high resolution, sub-scanned regions, to full specimen scans at 40x. Micro and macro images of the specimen are simultaneously visible on a monitor through the unit's five-mega pixel digital camera. With the memory function, users can save up to 12 previous observation conditions and specimen positions for instant image recall. Aperture and brightness are automatically adjusted, while stage movement, focusing, and magnification changeover are all motorized. An LED illuminator provides bright, uniform, and cool light with a constant color temperature. For more information visit the Nikon website at [www.nikonusa.com](http://www.nikonusa.com). Product related inquiries can be directed to Nikon Instruments at 800-52-NIKON

Nikon Instruments also announced the **Digital Eclipse C1-Plus Modular Confocal System**. A new generation of confocal microscope

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systems designed with improved scan head optics to boost optical performance to 400nm. The C1-Plus also includes faster image acquisition with bi-directional scanning, support for X and Y scan axes rotation and new laser options for improved control over laser illumination intensity. Also available for the C1-Plus are directly modulated 408nm, 440nm and 638nm diode lasers, as well as a new diode pumped solid state laser at 561nm. Continuously variable attenuation for each laser line, either manually or through EZC1 software by Acousto-Optical Modulators (AOM), improves live cell imaging and FRAP and FRET applications. In addition, Nikon's new EX-type three laser table can accommodate all of the new lasers plus a filter exchanger for selecting either the 488nm or 514nm line of a multiline Argon ion laser. EZC1 v2.2 software controls the C1 System and operates in either a Windows 2000 or Windows XP-Professional environment. The EZC1 software easily integrates new C1-Plus hardware, enabling many new C1-Plus capabilities including bi-directional scanning for faster frame rates used in live cell imaging applications. The software controls AOM's and directly modulated diode lasers for using FRAP and other applications requiring precise and automated control of laser illumination intensity. Enhanced animated rendering easily animates a single cell slice from a 4-dimension X, Y, Z, and Time acquisition, or animates a projection from the same data, to detect movement within a cell over time. Additionally, a new merge function allows a separately acquired differential interference contrast (DIC) image to be merged with a projection of a stack acquired to match the DIC section thickness making it possible to map the precise location of a specific fluorescence dye within the cell. For more information visit the Nikon website at [www.nikonusa.com](http://www.nikonusa.com). Product related inquiries can be directed to Nikon Instruments at 800-52-NIKON

**Technical Manufacturing Corporation (TMC)** designs and manufactures **custom acoustic enclosures** specifically for precision instruments. Designed to prevent background acoustic noise from disturbing delicate measurements and micro-manufacturing processes, these enclosures are used in OEM applications such as scanning-probe microscopes, interferometers, and other sensitive metrology instruments. The integrated steel and stainless steel systems incorporate TMC's proprietary acoustic control techniques to ensure optimal equipment performance at the difficult-to-isolate frequencies including those below the human hearing threshold. Unlike the more familiar anechoic panel constructions, which target frequencies at which human hearing is most sensitive, TMC enclosures are specifically designed to provide maximum attenuation in the 5-to-50Hz. frequency range at which precision instrument are most sensitive. Contact: Steve Ryan, TMC V. P., Marketing, 978-532-6330, email: [sryan@techmfg.com](mailto:sryan@techmfg.com)

## NETNOTES

Thomas E. Phillips, Ph.D.

University of Missouri  
[phillipst@missouri.edu](mailto:phillipst@missouri.edu)

**Selected postings from the MSA Microscopy Listserver ([listserv@msa.microscopy.com](mailto:listserv@msa.microscopy.com)) from 6/9/04 to 8/10/04. Postings may have been edited to conserve space or for clarity.**

### **IMMUNOCYTOCHEMISTRY – Colloidal gold stability**

*I am not very happy with my current supplier of secondary gold immunoreagents. I would appreciate input regarding potential new suppliers, as well as general comments about the shelf-life, stability, sensitivity of your favorite immunoreagent brand. From: Peter Rohloff <[rohloff@uiuc.edu](mailto:rohloff@uiuc.edu)> 09 Jun 2004*

Immunogold reagents are a peculiar lot. The characteristics of the gold particle itself is dependant on which reducing agent is used. Unfortunately, the most common method involves the reduction of chloroauric acid with citrate-tannic acid. There is a stoichiometric relationship between the ratio of the chemicals used and diameter of the gold particle produced. This results in tremendous affinity for cytoskeletal components. Tannic acid is a mordant often used to preserve microtubules. However, if the reducing agent is sodium borohydride, one can circumvent this affinity. You may wish to ask potential suppliers which reduction method they employ. In addition, it is paramount that one uses teleostan fish gelatin as a stabilizer instead of BSA. (Reference: Birrel et al., "Pitfalls of Immunogold Labeling," J. Histochem. Cytochem. 35(8):843-53; 1987). Michael C. Peters <[petersmc@stanford.edu](mailto:petersmc@stanford.edu)> 09 Jun 2004 20:40

### **IMMUNOCYTOCHEMISTRY – Control for ABC reaction**

*I am looking for any suggestions regarding the visualization of the neural tracer cholera toxin subunit B, CTB, in tissue sections. The CTB was injected into either the eye or the cortex and allowed to transport for 2 days. The tissue was fixed and sliced and now I am attempting to label the CTB with DAB. The CTB has biotin conjugated to it already. Since it already has biotin, I have tried proceeding with an ABC (avidin-biotin complex) reaction and then DAB. Twice, varying the time in ABC, the reaction has not worked. Besides CTB concentration and injection issues as possible causes of the failure, I am trying to determine if the visualization reaction I am trying to perform is correct. If anybody can make any suggestions for visualizing something already tagged with biotin, I would appreciate it. Anita McCauley <[mccaualak@wfu.edu](mailto:mccaualak@wfu.edu)> 26 Jul 2004*

Take a 1-3  $\mu$ l droplet of your biotinylated probe and spot it on a 0.5 cm wide strip of nitrocellulose paper (get it from somebody who does western blots). Block the rest of the sites on the paper by incubation in 1% BSA for several hours. Incubate in your streptavidin-HRP or ABC kit and then develop. You can do these steps in a microcentrifuge tube or small glass test tube. It should show a brown spot if it is working. Tom Phillips <[phillipst@missouri.edu](mailto:phillipst@missouri.edu)> 27 Jul 2004

### **LM - Photographing Protozoa**

*I am photographing protozoa and am looking for a way to slow them down or even kill them for digital photomicroscopy. I am using methyl cellulose to slow them down but I'd like to find a way to incapacitate them without their cellular structure disintegrating. Michael Reese Much <[muchphoto@earthlink.net](mailto:muchphoto@earthlink.net)> 15 Jun 2004*

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