NEW PRODUCTS: MICROSCOPY/IMAGING

sCMOS Microscope Camera
The Leica DFC9000, a monochrome microscope camera with a highly sensitive, third-generation scientific complementary metal-oxide semiconductor (sCMOS) sensor, enables researchers to image live cells under near-native conditions, and allows them to gain a better understanding of cellular processes and dynamics. The camera features an sCMOS sensor with superior quantum efficiency over the entire spectrum of light, which provides a high signal-to-noise ratio to securely detect even faint signals. A crisp fluorescence signal against a dark background is the end product—an effect very much desired in high-end fluorescence live-cell imaging. The sensitivity of the camera eliminates the need to monitor green fluorescent protein (GFP)-overexpressing specimens and protects cells from phototoxicity. The camera acquires full-frame images at a standard rate of 50 frames per second (fps) in the USB 3.0 interface version and at 90 fps with the Camera Link interface version. Researchers will not miss any fast cellular processes.

Leica Microsystems
For info: 800-248-0123
www.leica-microsystems.com

Translation Stages
A new line of XR-Series cross-roller bearing, aluminum-bodied translation stages is now available, including both rear- and side-actuated 1-in. travel stages and all components needed for left- or right-handed X, XY, XZ, YZ, and XYZ configurations. A dovetail feature is incorporated into the design for stacking; it could also be used to provide custom mounting options.

When stacking two stages, coarse positional alignment in the axis perpendicular to stage travel is achieved by sliding the dovetail along the mating dovetail prior to lockdown. These products provide less than 150 microradians of angular deviation in pitch and yaw, with easy conversion between the two options, and deep and blind 1/4 in. -20 (M6) tapped holes on the moving world. A 2-in. travel option is also available.

Thorlabs
For info: 973-300-3000
www.thorlabs.com

Biomolecular Imager
Amersham Typhoon biomolecular imagers are the next generation of Typhoon FLA scanners from GE Healthcare Life Sciences. Four instruments in one, these imagers offer versatility and precise quantitation of fluorescent, color-stained, and radiolabeled molecules such as proteins and nucleic acids. Featuring sensitive detection down to 3 picograms of protein, Typhoon delivers a combination of phosphor imaging, RGB fluorescence, near-infrared fluorescence, and optical density measurement in a single instrument. Its five-laser configuration option and advanced photomultiplier tubes offer a greater degree of fluorescent multiplexed detection, and its broad linear dynamic range provides the enhanced sensitivity and accuracy required to detect subtle differences in protein levels. Phosphor imaging allows for radiolabeled target detection with high sensitivity. Typhoon can image gels, membranes, multowell plates, dishes, and tissue sections, and its modular configuration allows stages, detectors, and filters to be selected and updated as required.

GE Healthcare Life Sciences
For info: 800-526-3593
http://gelifesciences.com/Typhoon

Superresolution Microscopy Cubes
Commercially available microscope cubes with guaranteed λ/2 peak-to-valley (PV) per-inch flatness for super-resolution microscopy are now available. Conventional microscopy cubes can significantly compromise the flatness of the dichroic beamsplitters, thereby introducing aberrations. These cubes maximize signal-to-noise ratio and minimize artifacts in TIRF, confocal, PALM, STORM, SIM, and other superresolution techniques. Offered at attractive pricing, the assembled cubes are compatible with popular microscopes. Utilizing a 1-mm thick dichroic beamsplitter in the light path minimizes beam deviation, reduces light scatter in the emission path, and enables faster switching speed between different cubes. The beamsplitters are designed to minimize reflected wavefront distortion for even large-diameter illumination beams, and are readily available for the most popular microscope cubes (e.g., Olympus U-MF2 and U-FF, Zeiss FL Cube EC P&C, and Nikon TE2000).

Semrock
For info: 866-736-7625
www.semrock.com

Filter Wheel
Filtering of excitation and emission light is vital in fluorescence microscopy. The HF110A/32 filter wheel offers a way to quickly and precisely change the wavelengths of light a sample is exposed to. It holds 10 32-mm diameter filters and fits on the excitation ports of a range of popular microscopes from manufacturers including Leica, Nikon, Olympus, and Zeiss. The filter wheel takes less than 95 milliseconds to move between adjacent positions—ideal for multifluorophore applications in which rapid imaging is essential. Both filter wheels and shutters can be easily controlled using the Prior Scientific ProScan III control system, which is compatible with a wide range of imaging software packages. The end user can therefore control all aspects of their microscope system from a single point, allowing precise coordination of illumination, stage movement, focus movement, shutter and filter wheel operation, and image capturing.

Prior Scientific
For info: +44-(0)-1223-881711
www.prior.com

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