

IndustryNews

Protochips Announces a New On-Line Store



Ordering E-chips, TEM grids, and *in situ* accessories is now easier than ever at the new Protochips E-commerce store. The new user interface is intuitive and simple to navigate, providing easy access to ordering guides and product information.

Protochips
protochips.shop/account/login?checkout_url=

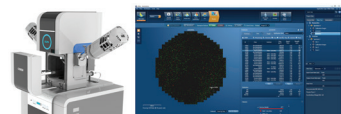
RELION: An Open-Source Program for Subtomogram Averaging and Single-Particle Analysis



RELION-4.0 provides a completely new approach to subtomogram averaging, a variable-metric gradient descent with adaptive moments (VDAM) for Relion refine, which provides faster and improved 2D classifications, automated 2D class selection, an improved framework (Schemes) for automated execution of workflows, and enhanced integration with the new CCPEM software suite.

MRC Laboratory of Molecular Biology
relion.readthedocs.io/en/latest/Installation.html

Using Artificial Intelligence to Analyze Particles in Electron Microscopy



COXEM's SELPA SEM with an Oxford EDS can automatically analyze large areas of fine particles, classifying both morphology and chemistry, allowing determination of the particle origin. However, when unexpected particles are detected, determining their origin can be difficult. COXEM has developed an AI program that arranges the composition ratio (chemistry) or morphology of fine particles in multi-dimensional space and then automatically groups particles containing similar chemical composition and/or morphology.

COXEM
elementpi.com

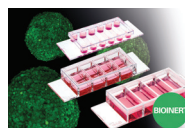
Multiphoton Microscopy Market Recent Trends and Future Growth Analysis



The global multiphoton microscopy market was valued at 181.74 million USD in 2020 and will grow at a 4.8% rate from 2021 to 2027. The drive for the multiphoton microscopy market stems from the ever-growing demand for better tools for real-time observation of cells, both for clinical and research applications. Multiphoton microscopy is also gaining traction as an advanced optical technique for imaging of living, intact biological tissues, notably from the tissue to sub-cellular scale.

Infinity Business Insights
www.infinitybusinessinsights.com

Adhesion of Suspension Cells and Spheroids



The Bioinert surface is a thin polyol hydrogel layer that is covalently bound to the ibidi Polymer Coverslip #1.5. In contrast to standard ultra-low attachment (ULA) coatings, Bioinert is completely non-adherent and allows no binding of any biomolecule, even in long-term experiments. Therefore, the Bioinert technology provides stable passivation in cell-based assays for several days or even weeks.

ibidi
[ibidi.com](https://www.ibidi.com)

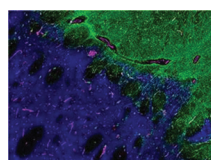
Dover Motion's SmartStage™ XY Linear Positioner Wins Multiple Awards



Dover Motion, a designer and manufacturer of motion solutions for life sciences and diagnostics instruments, announced that their newest product, SmartStage XY, has been named a winner in both Design World's 2021 LEAP Awards and Machine Design's 2021 Idea awards. SmartStage XY is the first high-performance sample positioning stage where the motion controller, drive circuit, and encoder are all built-in.

Dover Motion
[dovermotion.com](https://www.dovermotion.com)

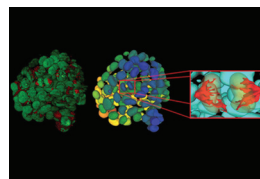
Akoya Biosciences Announces Founding Members of First-of-its-Kind Imaging Innovators (I²) Network



Akoya Biosciences Inc. has announced the first members of the Akoya Imaging Innovators (I²) Network, a collaboration of pioneering scientists with ambitions to advance the field of spatial biology. The new members were selected based on their contributions in applying spatial biology to cutting-edge work in oncology, neuroscience, immunology, infectious disease, and developmental biology. They will be able to pursue their goals by exploring novel approaches using Akoya's CODEX platform for single-cell spatial phenotyping and analysis.

Akoya Biosciences
www.akoyabio.com

Leica Microsystems Acquires Aivia, a Leading AI-Enabled 3D Microscopy, Image Visualization and Analysis Software Solution



Leica Microsystems announced its acquisition of Aivia from SVision LLC. Aivia is an artificial intelligence-enabled innovative visualization, analysis, and interpretation software solution. It includes a wide range of machine learning and deep learning algorithms, 2D-to-5D image visualization functionalities, cloud-based model training modules, web applications, and the ability to process large (terabytes) data sets.

Leica Microsystems
www.leica-microsystems.com

TESCAN Announces the First Installation of the New UniTOM HR Dynamic Micro-CT System



TESCAN announces the first installation of its new UniTOM HR dynamic micro-CT system at the KU Leuven XCT Core Facility in Belgium. UniTOM HR is the first dynamic micro-CT system to offer sub-micron resolution, 3D non-destructive imaging, and high temporal resolution for uninterrupted 4D dynamic CT experiments. It provides the extra step in resolution needed to fully understand the behavior of complex materials.

Tescan
www.tescan.com

The Future Depends on Optics



Optics and the manipulation of light are critical for countless applications that save lives and improve the quality of life across the world. From disease detection, to self-driving cars, to the manufacturing of the devices we depend on every day, optics touch nearly every aspect of our lives. The future depends on optics, and Edmund Optics® is proud to play a part. Learn more about how optics are changing the world at www.edmundoptics.com/future.

Edmund Optics
www.edmundoptics.com

CrestOptics Acquired by Aposite Capital LLP to Enable Rapid Commercial Growth and Innovation in Bioimaging



CrestOptics S.p.A., a manufacturer of high-end microscopy solutions and advanced systems for fluorescence microscopy and diagnostic applications, announced it has been acquired through a majority shareholding by Aposite Capital LLP, the healthcare specialist private equity investor. The investment will support CrestOptics' international commercial expansion and boost product development and innovation, establishing the company as an attractive commercial partner and employer in the life science industry.

CrestOptics
crestoptics.com/crestoptics-spa

EDAX Adds Velocity Pro to its EBSD Camera Series



EDAX, a leader in X-ray micro-analysis and electron diffraction instrumentation, has a new, fast, low-noise CMOS camera for electron backscatter diffraction (EBSD). The Velocity Pro offers high-speed EBSD mapping with the highest indexing performance on real-world materials. The Velocity EBSD Camera Series includes three cameras: the Velocity Pro (2,000 indexed points per second (p/s)), the Velocity Plus (3,000 indexed p/s), and the Velocity Super (4,500 indexed p/s).

EDAX/Ametek
www.edax.com/pressreleases

Extraordinary Spatial Resolution for *In Situ* Atomic Resolution TEM



Materials science researchers in Japan have collected extraordinary *in situ* atomic-resolution movies of growing carbon nanotubes and onion-shaped carbon nano-structures using a JEOL 300kV TEM with a cold field emission gun (JEM-ARM300F) and a new Luminary Micro laser technique. The structures were formed by laser irradiation of samples made of carbon films and iron nanoparticles.

JEOL
www.jeolusa.com/NEWS-EVENTS/Press-Releases

Oxford Instruments Releases Imaris 9.8



Imaris 9.8 brings improvements, including easier volume visualization modes and virtual sample sectioning (clipping planes), that are applicable when visualizing large and thick samples. New capabilities for object detection validation and editing in dense datasets as object boundaries are rendered together with the microscopy signal on a slicer. The Filament Tracer module has been enriched with a soma model, which ensures optimal reconstruction and measurements of cell bodies and dendrites.

Oxford Instruments
imaris.oxinst.com/newrelease

New Olympus DP28 and DP23 Cameras Win Premier Innovation Award



The Olympus DP28 and DP23 microscope cameras received a Premier Innovation Award for their potential to meet unmet clinical needs and improve patient care. Offering flexibility for clinical research applications, the DP28 camera's 4K ultra-high-definition image quality shows samples in detail, while the DP23 camera has 6.4-megapixel resolution and a 45 frames per second rate. Both offer a wide field-of-view and produce exceptional color accuracy.

Olympus Life Sciences
olympus-lifescience.com

Nikon ECLIPSE Ei Receives 2021 iF Design Award



The ECLIPSE Ei educational microscope has received a 2021 iF Design Award. Nikon's ECLIPSE Ei has several innovative design features, including intuitive graphic indicators and an online guide, a lightweight body that is easy to hold and carry, and a design that provides clean, organized storage for accessories. These innovations make teaching and learning easier, supports teachers in their instruction, and increases productivity for students by giving them more essential time for learning sciences and medicine.

Nikon Instruments, Inc.
www.microscope.healthcare.nikon.com

ProductNews

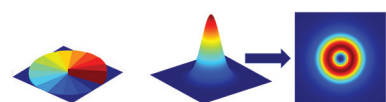
Diamond Knives from DiATOME



DiATOME provides several diamond knives for various applications, including the Ultra 45° with a score-free, hydrophilic cutting edge; the Semi knife for alternate ultrathin/semithin sectioning; the Cryo for sectioning at low temperature; the Histo for semi-thin sections for light microscopy; the Ultra 35° for optimized sectioning results in almost all applications; the Static Line II for eliminating electrostatic charging in ultramicrotomy; and the Cryo-P knife with a patented platform for section pick-up.

DiATOME
www.diatomeknives.com

Cost-Effective Vortex Generator for Microscopy Laser Applications



Vortex phase plates are used in advanced microscopy, mostly in STED and laser tweezing applications. With a vortex phase plate, it is possible to shape the laser spot to a donut-like distribution, with a central hole that is smaller than the diffraction limit of light. This enables sub-diffraction limit of optical resolution by depleting fluorescent excitation in all areas outside the hole for super-resolution microscopy, or for trapping and manipulating very small particles.

HOLO/OR Ltd.
www.holor.com

New UniFlow (SL) Fume Hood



The NEW SL fume hoods are constructed of chemical-resistant, flame-retardant, light-weight composite resin. This non-metallic fume hood has an interior fume chamber that is seamless, with all corners coved and a slotted VaraFlow baffle system for superior airflow uniformity. All hardware is of chemically resistant PVC. It features a 54" height with an extended front post to accommodate additional service fixtures and electrical services.

HEMCO Corp.
www.hemcocorp.com

Dragonfly Benchtop Confocal Microscope



Dragonfly is now available in a more compact package, the 200 series, suitable for both inverted and upright microscopes. The 200 series offers many of the key features that make Dragonfly performance exceptional: confocal speeds of up to 400 fps, Borealis™ enhanced illumination for a large and flat field-of-view, ClearView-GPU™ deconvolution, dual-camera acquisition, and choice of optical zoom and pinhole size.

Andor Technology
andor.oxinst.com/products/dragonfly-confocal-microscope-system

Hitachi ArBlade® 5000 Broad Ion Beam Milling System



The ArBlade features a new ion-gun design that doubles the milling rate (as compared with Hitachi's previous models), while expanding available features including wide-area milling, cryo milling, air protection, Flatmilling®, cross-section milling, holders for SEM linkage, a recipe creator, and more. The ArBlade's unique design allows switching between cross-section milling and Flatmilling in seconds.

Hitachi High-Tech America
www.hitachi-hightech.com/us

Supercharged Calcium Imaging and Beyond



Discover more with the new pE-800^{fura} LED Illumination System for lightning-fast, 8-channel control of calcium imaging and beyond, from Fura-2 to Cy5. CoolLED, a global expert in LED microscopy illumination, has built on the success of its groundbreaking 8-channel pE-800 to deliver the most versatile illumination system for the calcium imaging community. Capabilities include calcium imaging, pH monitoring, ratiometric fluorescence, FRET, optogenetics, and everyday fluorescence microscopy.

CoolLED
www.coolled.com/products/pe-800fura

Upgrade to the Cryo-Dryer from Subangstrom



Heat guns and blow dryers are a fire hazard. Quickly and safely warm up all cryo-EM sample preparation tools using an inert medium. With the Cryo-Dryer there is no noise or unsafe air turbulence nearby. Warm up clipping stations, pucks, and anything else that can fit in the vessel. The system comes in a 110 V or 220 V configuration for use worldwide.

Subangstrom
subangstrom.com

Bruker's AFM Offers New Ringing Mode



Ring Mode is an extension of PeakForce Tapping that simultaneously records up to eight new quantitative compositional imaging channels in a single scan. This sub-resonant mode enables nanoscale mapping of previously inaccessible information on surface adhesion properties of materials. It provides exclusive access to new data channels through unique use of the ringing portion of peak force feedback signal.

Bruker
www.bruker.com/en/products-and-solutions/microscopes/materials-afm.html

New DSX1000 Software Adds Powerful Analytical Capabilities for Faster Workflows



The DSX1000 digital microscope offers a series of simple-to-use advanced measurement functions. Automatic edge detection is available on in-plane and profile measurements, enabling users to easily measure features and defects during QA/QC inspections. Other new functions include measuring the difference between two data points, analysis templates that enable users to automate analysis tasks, stitched images with a wider field-of-view, and higher resolution and time-lapse imaging.

Olympus
www.olympus-ims.com

MilliporeSigma's New Millicell DCI Digital Cell Imager for Fast, Accurate, and Objective Cell Monitoring



MilliporeSigma's new Millicell DCI Digital Cell Imager improves cell culture lab productivity by assessing a broad range of parameters including confluency, morphology, and cell growth trends. The system provides faster and more accurate analysis results with reduced user bias. It has an intuitive, built-in touchpad display for more efficient execution of the repetitive daily techniques in the laboratory associated with cell passaging and screening.

MilliporeSigma
www.emdmillipore.com/US/en

Addition of Water Vapor to a Gas Mixture for *In Situ* Experiments



With the DENSsolutions Climate G+ Vaporizer, water vapor can be added to a mixture of up to three other gases immediately, before it is introduced to the TEM holder, without worrying about lengthy cleaning and bakeout cycles. The Climate G+ Vaporizer allows precision control of flow rate, pressure, and gas composition, and isolates the water vapor from the gas supply system, eliminating water vapor contamination.

DENSsolutions
denssolutions.com

Gatan's New BioContinuum HD



The BioContinuum cryo-EM imaging filter is available with EELS and EFTEM. The powerful combination of direct detection, energy filtering, and software allows insight into the atomic structure of biological macromolecules and disease progression at the molecular level. BioContinuum offers the lowest image and energy distortion, provides uniform imaging over the entire field-of-view, and provides stable zero loss peak (ZLP) imaging for consistent data quality with no downtime.

Gatan/Ametek
www.gatan.com

TESCAN's New Large-Volume Workflow Speeds Sample Processing Time for Semiconductor Failure Analysis and Materials Research



Reduce time and cost-per-sample by combining the thousands-times faster laser ablation technique with a plasma focused ion beam to improve sample analysis workflows. The new approach implements correlative microscopy techniques to provide parallel processing through stand-alone laser ablation and plasma focused ion beam systems. The net result is an increase in analytical throughput and productivity that ultimately reduces cost per analysis.

Tescan
www.tescan.com

Linkam Launches a New Water Circulation Pump to Optimize Cooling of Temperature Control Stages



Linkam Scientific Instruments has launched a new water circulation pump (WCP) designed specifically to provide optimized water cooling to its range of temperature and environmental control stages. When used with Linkam's Peltier stages, the WCP can hold sample temperatures as low as -30°C (with an ambient temperature of 21°C). The WCP also provides cooling for high-temperature stages running up to 1500°C .

Linkam Scientific Instruments Ltd.
www.linkam.co.uk

Capture Fluorescent and Bright-Field Images Even When Not in the Lab



The CytoSMART Lux3 FL fluorescence imaging microscope automatically creates time-lapse videos that contain many cellular features. Having the ability to monitor cell culture over an extended period of time offers insight into cell dynamics and function. Live cell imaging microscopes open exciting and unique avenues to analyze cell viability, health, migration, and responses to external factors.

Scintica
www.scintica.com

Advanced Multi-Photon Microscope and Lasers for Life Science Applications



The MPX-series includes multimodal microscopes with integrated fixed (1040 nm) and tunable (750–1150 nm) wavelength femtosecond lasers. The new FSX-series femtosecond lasers are flexible, turn-key, and compact, providing options that are perfect for multi-photon imaging and other bio-photonics applications (for example, SHG, THG, CARS, three-photon).

Prospective Instruments
www.p-inst.com