

IndustryNews

Protochips Announces the Winner of Axon System Giveaway



Congratulations to the Dresden Center for Nanoanalysis at the Technical University Dresden for being selected as the winner of the Protochips AXON System giveaway. Protochips is excited to install this system for them and to get them up and running as quickly as possible so they can experience the impact AXON will have on their work.

Protochips, Inc
www.protochips.com

Electron Microscopy Sciences (EMS) Provides Novel SEM Technology



NanoSuit is a novel technology that enables the observation of cells, microorganisms, etc., in a living state using SEM.

NanoSuit is an aqueous solution of a bio-compatible polymer that forms a very thin barrier layer on the surface of an object, which holds moisture in the object under vacuum condition in electron microscopy. The barrier layer is electrically conductive. Therefore, NanoSuit makes it possible to observe biological objects with their natural image texture.

EMSDIASUM
emsdiasum.com

Cephalopod + Tomocube = New Formula for Molecular Probes



The seemingly effortless and instantaneous color and iridescence changes displayed by octopi, squid, and cuttlefish are one of nature's most amazing sights. Researchers have discovered how to use the cephalopod proteins responsible for these changes to manipulate the optical refractive index (RI) of mammalian cellular compartments. By changing this intrinsic physical property of the cell, microscopists could soon be using the refractive indices of live cells as molecular probes and capturing the resulting label-free quantitative phase images using Tomocube's holotomography microscope. For more information: www.news-medical.net/news/20200923/Cephalopod-2b-Tomocube-3d-New-Formula-for-Molecular-Probes.aspx

Tomocube, Inc.
www.tomocube.com

Haydon Kerk Pittman Launches the MiniSlide™ MSA Series of Linear Actuators



The MiniSlide series offers flexibility with two motor options: a 21 mm, size 8 hybrid linear actuator, and a 20 mm, 19000 series can stack linear actuator. Nine lead screw options ranging from ~0.3 mm to 8 mm provide resolution down to 0.001524 mm (0.00006 inches) per step, axial forces up to 45N, and accommodating stroke lengths of up to 150 mm. Four lubrication options, a rotary encoder feedback option, and English or metric mounting hardware standards are available.

Haydon Kerk Pittman Ametek
www.haydonkerkpittman.com

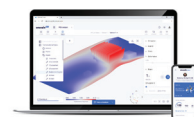
Leica STELLARIS' Smart User Interface ImageCompass



For fast and easy setup of confocal multicolor experiments, Leica's STELLARIS confocal microscopes reimagine the image-acquisition workflow with a new, smart user interface, ImageCompass. With little training, ImageCompass enables microscopists to successfully run experiments from setup to result, all in one screen with all the needed controls. It also saves time and adapts to sample preparation, letting investigators focus on an experiment.

Leica
www.leica-microsystems.com/products/confocal-microscopes/p/stellaris-8/media

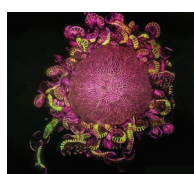
The World's First Cloud Engineering Simulation Platform



OnScale released *OnScale Solve*, the web-based cloud engineering simulation platform bringing powerful multiphysics solvers and scalable cloud supercomputer resources. *OnScale Solve* gives engineers, designers, and analysts access to the powerful cloud-native engineering simulation tools and cloud supercomputer resources they need to innovate, solve complex problems, and efficiently work from any location and device. It delivers streamlined simulation workflows, powerful multiphysics solvers, and extensible simulation application programming interface (API), which are all accessible from a web browser on a pay-as-you-simulate SaaS subscription model.

Onscale
onscale.com

Lumencor Named Makers & Manufacturers Honoree in Portland Business Journal Product Innovation Awards 2020



The new generation SOLA light engine features increased power, longevity, stability, and robustness over the projected 15-year lifetime with no replacement parts. The light engine is used in fluorescence microscopy for life and materials science applications. The solid-state optical excitation subsystems are designed and manufactured for a broad array of life science equipment including fluorescence microscopes, cellular analysis and high content screening tools, endoscopes, and robotic surgical tools.

Lumencor
www.lumencor.com

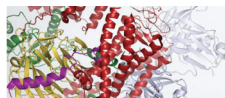
Introducing COXEM's New Representative – Scientific Sales



Scientific Sales is the new representative for element Pi and Coxem electron microscopes in the Southeastern US. Rich Fiore of Scientific Sales said, "Over the last few years, I've been impressed watching element Pi (the exclusive distributor for Coxem in North America) and Coxem's growth and innovative new offerings in electron microscopes and accessories." Scientific Sales provides sales and service for Virginia to Florida as well as Tennessee, Alabama, and Mississippi.

Scientific Sales
www.elementpi.com

Thermo Fisher Scientific Provides a Cryo-EM ebook



Cryo-electron microscopy (cryo-EM) can achieve near-atomic resolution for challenging proteins, such as membrane proteins and large protein complexes. With greater access to structures of macromolecular complexes, researchers are better able to understand protein function, which drives biomedical research for improved drug design. Learn more about adopting cryo-EM and how it can advance your research in a new ebook. To download go to: https://www.thermofisher.com/us/en/home/global/forms/industrial/cryo-em-ebook.html?cid=2020-ls-midrange&en=msd_ls_xx_em_con_2008_c03168_p132135_mid-range-cryo-em-ebook-3&utm_source=eloqua&utm_medium=email&utm_campaign=2020-ls-midrange&cta=button_3

Thermo Fisher Scientific
www.thermofisher.com

One Million Foldscope Microscopes



Frugal science and Foldscope microscopes are among topics discussed with Manu Prakash in Part 1 of the Photonics multiweek conversation with the Unilever Colworth Prize recipient and MacArthur Fellow from Stanford University. Prakash recounts the road to putting high-level microscopes in the hands of more than 1 million users around the world, as well as his earliest scientific memories. Also discussed in the podcast is science's role in our current global pandemic situation and how a problem-solving mentality extends beyond the laboratory.

Photonics.com
www.photonics.com/PodcastEpisode.aspx?PCEID=21

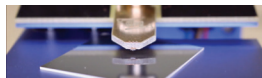
World's Smallest UV-C LED Water Treatment System from Aquisense Technologies



The PearlAqua Micro is the world's smallest UV-C LED water treatment system, with production reaching over 10,000 units each month. The system series includes five discrete model sizes and a broad range of custom variants offering flow rates of up to 8 LPM. Supplemental third-party disinfection validation in accordance with US EPA Ultraviolet *Disinfection Guidance Manual* protocols show up to 6-log (99.9999%) bacterial reduction, with additional certifications and compliance.

Aquisense
www.aquisense.com

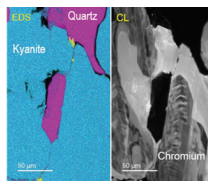
News from ICSPi – Makers of the nGauge AFM



The Waterloo Institute for Nanotechnology (WIN) has partnered with Japanese accelerator Landing Pad Tokyo (LPT) to bring University of Waterloo-developed technologies to the Japanese market. An example of how this relationship works to help nanotech companies is ICSPi, a company that manufactures microscopes-on-a-chip, led by Prof. Raafat Mansour (a WIN member and Professor in the Department of Electrical and Computer Engineering). Through the WIN/LPT partnership, ICSPi is working with Nissin Inc. in Hyogo, Japan, to develop a new product for industrial measurement applications.

ICSPi Corp.
www.icspicorp.com

Streamlined Microanalysis in the SEM



The latest EDAX and GATAN experiment brief shows how the combined analytical power of their products can improve results. The brief highlights the ability to extend microanalysis in the SEM by collecting energy dispersive spectroscopy (EDS) and cathodoluminescence (CL) maps simultaneously. The EDAX Octane Elite EDS Analysis System was used in conjunction with the Gatan Monarc CL detector to capture EDS, CL, and SEM signals of the mineral kyanite (Al_2SiO_5) within the Gatan Microscopy Suite software. To download go to: <https://www.edax.com/resources/experiment-briefs/streamlined-microanalysis-in-the-sem>.

EDAX and GATAN, Inc.
www.edax.com

ioLight Illustrates Scientific Findings of Largest Phylogenetic Study on Phorid Fly Genus, *Megaselia*



ioLight, creator of the world's first high-resolution portable microscope, appears in its first peer-reviewed scientific paper by Emily Hartop et al., *Scuttling towards monophyly: phylogeny of the mega-diverse genus Megaselia (Diptera: Phoridae)*. The Magnificent Mobile Microscope collection helped the study's researchers' further understanding of the phorid fly *Megaselia* Rondani. Using ioLight's 1 mm pocket microscope, the research team captured 1-micron resolution images of the specimens' setae to illustrate the morphological differences between three groups. Results were published in September 2020 in *Systematic Entomology*.

iolight
iolight.co.uk

Rose-Hulman Institute of Technology Installs New JEOL Field Emission SEM



A new JEOL field emission SEM has been installed at Rose-Hulman, one of the highest-ranked STEM schools in the USA, replacing a 21-year-old microscope that had been upgraded extensively. "We had worked ourselves technology- and IT-wise right out of the machine," said Roger Sladek, Technician/Machinist for the Department of Physics and Optical Engineering said. One of the great things about Rose-Hulman is that undergraduate students are allowed to use equipment that normally only graduate level students would use.

JEOL USA Inc.
jeolusa.com

Top 25 Healthcare Technology CEOs of Europe 2020



Ibidi, developer of cell-based assays for academia, biotech, and pharma laboratories has announced that their CEOs, Dr. Valentin Kahl and Dr. Roman Zantl, have been recognized in the ranking of the Top 25 Healthcare Technology CEOs of Europe for 2020. This year has provided new challenges to the healthcare industry, which has had to adapt to shifting priorities in the market. The 2020 awardees successfully led their companies through these challenging times, and their leadership has guided the production of innovative solutions for complex problems across healthcare technology.

Ibidi
ibidi.com

ProductNews

Automated Cell Imaging with the ImageExpress Pico System



The ImageExpress Pico system by Molecular Devices provides high-throughput, remote access capable imaging for increased productivity and reduced cost by providing full-service, customization,

and automation to meet diverse research needs. Instruments can be customized to automate entire workflows and to meet the specific needs of various assays, methods, or protocols. Molecular Devices takes a consultative approach to understand application requirements and recommend labware, automated robotics, and software solutions that best match the unique needs of an application and workflow.

Molecular Devices

go.moleculardevices.com/promotion/dd/ix_pico/automation

Tapping Mode Imaging with Premium Olympus AC160 Probes



The AC160 probes offer several improvements over commonly used tapping mode probes like the NC-series, TESP, and Tap300.

These include a front-set tip located at the very end of the cantilever, making it easier to precisely line up and land on the point of interest, tighter specification tolerances that provide more consistent setup and results, and vertical side walls that enable easy probe gripping. This results in fewer dropped probes and less unwanted debris from chipping.

Asylum Research

afm.oxinst.com/outreach/asylum-research-afm-probes

Hitachi Virtually Highlighted Several Instruments at M&M 2020

HITACHI

Inspire the Next

Hitachi used the virtual M&M 2020 meeting to highlight several electron microscopes, including the SU3900 VP-SEM that can image sample sizes up to 300 mm in diameter and 130 mm tall; the SU7000 FE-SEM, which is a variable-pressure, ultra-high-resolution instrument with a Schottky source, variable-pressure mode, and large chamber; and the HT7800 120kV TEM available in three lens configurations with several “integrated” standard features. This design allows for efficient workflows and specialized applications.

Hitachi

hitachi-hta.com

Tomocube Holotomography Microscope



The Tomocube holotomography microscope delivers quantitative, nanoscale, real-time, label-free 3D images of individual living cells quickly and simply without any sample preparation. The images deliver vital information on unique cell properties, including cell volume, shapes of sub-cellular organelles, cytoplasmic density, surface area, and deformability. The latest HT-2 model combines the quantitative phase imaging (QPI) approach of label-free, 3D refractive index (RI) tomography with 3D fluorescence imaging. This microscope won a *Microscopy Today* 2019 Innovation Award.

Tomocube, Inc.

www.tomocube.com

New Microscope Imaging Software

INSCOPER

The INSCOPER Imaging Suite is compatible with motorized microscopes produced by the top four manufacturers (Leica, Nikon, Olympus, and Zeiss) and with all third-party devices and add-ons used with these microscopes, including cameras, light sources, optical modules, microfluidic devices, etc. The user interface is designed so all microscopy manipulations (SPIM, FRAP, high-content screening, etc.) can be combined with each other and with all time and space dimensions. In choosing to use INSCOPER, research teams and core facilities have microscopes that are more efficient and easier to handle.

INSCOPER

www.inscoper.com

Keyence and 5G



The Keyence Instant Measurement System impacts manufacturing and supports the development of the 5G industry. With a 5G connection, consumers can enjoy high-quality 4K and 8K streaming on mobile devices such as smartphones and tablets—impossible with conventional communication infrastructures—as well as a smoother VR experience. Exchanging data in a business setting can also be handled more comfortably from smart devices without the need for a Wi-Fi environment.

Keyence

www.keyence.com

Lyncée Tec Holographic Microscopes



Unique advantages of phenotyping using Lyncée Tec digital holographic microscopes (DHM[®]) include acquisition of morphology and intracellular (dry mass) measurements without perturbing the cells, millisecond to multi-day continuous recording, label-free, non-invasive imaging, and dynamic monitoring of

biological processes used in monitoring of cell health and underlying physiopathological processes.

Lyncée Tec

www.lynceetec.com

Laser Diffraction Update from Horiba Scientific



The LA-960V2 laser diffraction particle size analyzer advances scientific knowledge through intuitive software, unique accessories, and high performance. The new “V2” easily measures nanoparticles

from 10 nm to 5,000 μm in size in less than 60 seconds with accurate, reproducible results. By adding the optional LY-9610 Imaging Unit Accessory, real-time monitoring of particles in a wet system can be performed. The LA-960V2 is the next level in the evolution of particle size technology.

Horiba

www.horiba.com/en_en/products/by-segment/scientific

Renishaw Introduces New Particle Analysis Module

RENISHAW
apply innovation™

inVia™ automates the inVia confocal Raman microscope to identify particles and chemically analyze them

using Raman spectroscopy. Renishaw's inVia Raman system has a high-quality microscope for producing optical images of particles on surfaces and can be used to guide Raman spectroscopy measurements that rapidly give chemically specific, high spatial-resolution information. The software pinpoints multiple particles for automated Raman analysis, giving chemical information on each particle and its morphology statistics enabling correlations between particle size, shape, and chemistry.

Renishaw plc.

www.renishaw.com/en/particle-analysis-automated-image-targeted-identification--45591

DiATOME Ultra Sonic Oscillating Diamond Knife

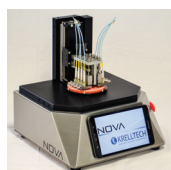


The DiATOME oscillating diamond knife can be used for room-temperature ultramicrotomy. Developed in collaboration with Dr. Daniel Studer, Lab. of Anatomy, University of Berne, it uses a piezo actuator to produce an oscillation of the knife at a desired frequency and amplitude, parallel with the cutting edge. The new knife produces ultrathin sections almost free of compression. The sections become thinner at the same thickness setting; since the volume of the section remains the same, the increased length leads to a decrease in thickness.

EMSDIASUM

www.emsdiasum.com/microscopy/products/diamond/sonic.aspx

The Most Advanced Polisher for All Photonic Applications



Maximum flexibility for optical surface processing is now available with NOVA™. KrellTech has integrated the proven performance and features of its industry-leading Scepter, Trig, and FLEX polishers into this configurable and cost-effective system. NOVA™ supports a variety of polishing applications from connectors to waveguides, and bare fibers to custom components. NOVA™ is scalable for R&D projects, high-volume production, and the rigors of harsh environments and field installation.

KrellTech

https://krelltech.com/polishers/detail/nova-optical-polisher_copy

SPECTRO Introduces the SPECTROGREEN TI ICP-OES Analyzer

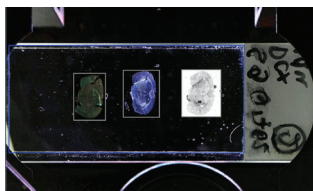


The SPECTROGREEN TI inductively coupled plasma optical emission spectrometry (ICP-OES) analyzer's twin interface automatically combines both axial and radial plasma views—looking both across the plasma and from end-to-end—optimizing sensitivity, linearity, and dynamic range while avoiding matrix effects like easily ionizable elements (EIE). The result: SPECTROGREEN TI offers the highest sensitivity for trace elements, as well as freedom from matrix interferences, plus good accuracy for challenging environmental matrices.

Spectro/AMETEK Materials Analysis Division

www.spectro.com

ZEISS AI Sample Finder



Microscopes are becoming increasingly automated. However, sample placement, focus adjustment, and identification of the relevant sample areas still require manual adjustments. The ZEISS AI Sample Finder automates this sequence to a few simple steps,

including placement of the sample, acquisition of an overview image, identification of the sample carrier, detection of relevant sample areas, and focus adjustment for each region of interest. In seconds, all sample areas can be directly accessed and the experiment started.

Zeiss

www.zeiss.com/us/microscopy

Protochips New AXON Machine Vision Platform



AXON synchronizes the optical column, detectors, and holders for instant stability at any magnification—no waiting for

things to settle after inserting the holder, no waiting after moving the stage position or adjusting tilt, and no waiting after changes in accelerating voltage or swapping of the imaging detector modes. Synchronization reclaims lost time while waiting through delays caused by the unavoidable drift and instability that occur during normal operation of a TEM.

Protochips, Inc.

www.protochips.com

Multi-Immersion Objectives



ASI and Special Optics have developed two dipping objective lenses designed for light sheet microscopy. They work in any refractive index media without correction collars because of a unique curved first

surface. They are robust to immersion in harsh media including DBE and BABB. The original objective lens has a nominal NA of 0.4 and a WD of 12 mm, and it allows imaging over 5 mm deep into a flat sample. The second objective has an increased NA of 0.7 with a WD of 10 mm.

Applied Scientific Instrumentation

www.asiimaging.com/products/light-sheet-microscopy/cleared-tissue-objective

Agar Scientific Sodium Cacodylate Buffers and Glutaraldehyde



Agar Scientific manufactures ready-to-use buffers to maintain pH during fixation. Pre-mixed solutions for convenience are available to help maintain quality processes and to eliminate extra steps required when preparing samples. Solutions are serialized, fully traceable, and optimized for biological sample processing. Alternative pH and concentrations

can be supplied for specific volume applications.

Agar Scientific

www.agarscientific.com