

sponsor



bright, clean, green, solid state illumination
why buy a lamp when you can have a light engine?






www.lumencor.com

PHOTONICS MEDIA
THE PULSE OF THE INDUSTRY

biophotonics.com

LIGHT EXCHANGE

Follow Photonics Media on Facebook and Twitter



Live-Cell Imaging Evolves to Find New Niches

Both bright-field and fluorescence techniques can capture cellular processes for observation of real-time dynamics. Since its introduction in the 1600s, improvements in microscope technology have continually broadened the types of cells and cellular processes that can be studied. Advances in automation have made this already-simple tool faster and more capable, and time-lapse imaging reveals function and dynamics in addition to structure. Live-cell imaging has enabled us to witness incredible moments in biology in unprecedented detail. Even embryogenesis - the process of cell division and cellular differentiation that occurs at the earliest stages of life - has recently been captured.

[Read Article >>](#) [Share](#) [Email](#) [Facebook](#) [Twitter](#)

Moving Past the Articulated Arm

Fiber lasers offer surgical applications more versatility and flexibility, and easier integration into medical instruments. Surgery requires a deft hand and a fluid touch. And yet, for some time, the most common method of delivery of surgical lasers was the use of mechanical articulated arms. Many clinicians were reluctant to use the lasers because they felt they were too heavy or cumbersome, and that they restricted their movement in the operating theater.

[Read Article >>](#) [Share](#) [Email](#) [Facebook](#) [Twitter](#)

Q&A: Adaptive Optics 'On the Rise'


Three company representatives touch on the variables driving the market for adaptive optics for biological applications. Adaptive optics started off looking out to the sky, helping astronomers correct for distortions caused by the Earth's atmosphere - but the technology has since found additional applications of a more inward nature: in biology, where it helps researchers correct for the distortions they encounter as they send light into tissue. To take the pulse of the bio market for adaptive optics, BioPhotonics spoke with: Michael Feinberg, director of sales and marketing at Boston Micromachines Corp. in Boston; James Joubert, applications scientist at Photometrics in Tucson, Ariz.; and Christian Theriault, president and CEO of Tag Optics Inc. in Princeton, N.J.

[Read Article >>](#) [Share](#) [Email](#) [Facebook](#) [Twitter](#)

The Recent History of Endoscope Design: Way More Than Candlelight and Specula

The history of endoscopy is the history of advances in technology leading doctors deeper into the gastrointestinal tract and providing clearer views of what they find there. And the past several years have seen tremendous strides in endoscope design, offering greater access to the GI tract, higher sensitivity and an ability to probe areas that are often inaccessible to conventional systems.

[Read Article >>](#) [Share](#) [Email](#) [Facebook](#) [Twitter](#)



sponsored by

pco

In this edition of the industry's premier weekly newscast: an array pushes solar deep into buildings, a special camera detects tumors, and a fiber optic switch is controlled by a single atom. Hosted by Photonics Media's Laura Marshall and Melinda Rose.

Sculpted Light Captures Brain Activity

A high-speed imaging technique that "sculpts" the 3-D distribution of light in a sample can resolve a single neuron in a living worm, opening possibilities for studying the function of the organism's nervous system and pairing brain function to anatomy. A major aim of neuroscience today is to understand how an organism's nervous system processes sensory input and generates behavior by observing the activity of cells across the entire brain. But to do this, scientists need detailed maps of how the nerve cells are wired in the brain as well as information on how these networks interact in real time.

[Read Article >>](#) [Share](#) [Email](#) [Facebook](#) [Twitter](#)

Laser-Based Tool Tells Normal Tissue From Tumors

A new laser tool can microscopically distinguish between normal and cancerous brain tissue in real time. It doesn't miss cells that could trigger new tumor growth, so it could make brain cancer surgery much more effective. The approach, called SRS (stimulated Raman scattering) microscopy, was developed and tested by a multidisciplinary team of chemists, neurosurgeons, pathologists and others affiliated with the University of Michigan Medical School and Harvard University.

[Read Article >>](#) [Share](#) [Email](#) [Facebook](#) [Twitter](#)

Spaghettilike Surface Makes Stronger SERS Sensor

Spaghettilike arrays of gold-coated metallic carbon nanotubes can amplify the signals of surface-enhanced Raman spectroscopy (SERS) enough to allow the performance of analyses that are more reliable, sensitive and cost-effective. Potential applications include real-time point-of-care monitoring of physiological levels, fast screening of drugs and toxins in law enforcement, and early detection of biological weapons.

[Read Article >>](#) [Share](#) [Email](#) [Facebook](#) [Twitter](#)

Biophotonics Products



iFLEX-iRIS Lasers
Qioptiq

Qioptiq is proud to present the new iFLEX-iRIS™ series of miniaturized high performance laser systems, designed for integration into precision instrumentation.

[More info >>](#)



157 Series Optical Thickness Gauge
Bristol Instruments, Inc.

Bristol Instruments has introduced the 157 Series optical thickness gauge for manufacturers whose development and production processes require precise thickness information about materials such as specialty plastic films, medical membranes and ophthalmic products.

[More info >>](#)



Dual-Inverted Selective Plane Illumination Microscopy
Applied Scientific Instrumentation, Inc.

Applied Scientific Instrumentation (ASI) Inc.'s dual-inverted selective plane illumination microscope generates 3-D volumes with isotropic resolution (330 nm) in all directions.


[More info >>](#)



DeltaRAM-X Fluorescence Microscope Illuminator
Optical Building Blocks Corp.

Optical Building Blocks Corp. has introduced the DeltaRAM-X millisecond wavelength-switching fluorescence microscope illuminator for applications in the life sciences.

[More info >>](#)



Real-time Profiling for Focusing, M2, Divergence & Alignment
DataRay Inc.

Beam intensity profiling is an essential tool in many aspects of photonics. The precise intensity distribution in a focused laser beam is critical in many applications: flow cytometry, laser printing, medical lasers, and cutting lasers are just a few examples. Intensity profile measurements can characterize and improve a product or process, leading to substantial cost and time savings that can pay for the measurement instrument many times over. This white paper describes how the unique, patented, real-time multiple z-plane XYZTF capabilities of the BeamMap2 slit-scan profiler can speed and simplify laser assembly alignment.

[DOWNLOAD WHITE PAPER >>](#)

Industry Events

EPIC Workshop on Biophotonics "Unmet Healthcare Needs as Opportunities for Technologies" 2013 - November 27 - 28, 2013 - Maastricht The Netherlands

EPIC, the industry association promoting the sustainable development of organizations working in photonics in Europe, will hold the workshop "Unmet Healthcare Needs as Opportunities for Technologies" Nov. 27 and 28 in Maastricht, Netherlands. The conference is divided into four sessions. Session 1, "Setting the Scene - Introductory Presentations," will include discussions on the technology and business landscape, developing new ways to fund biophotonics devices, and the regulatory environment for medical devices. Session 2 covers "Electronics & Optics for Point-of-Care Devices for Chronic and Infectious Diseases," while Session 3 encompasses "Photonics Components for Medical Imaging & Microscopy" and Session 4 pertains to "Unmet Health Care Needs as opportunities for Photonics Technologies."

[MORE INFO >>](#)

Unsubscribe: <http://www.photonics.com/Newsletter/EmailUnsubscribe.aspx>
Questions: pr@photonics.com

[Subscribe](#) | [Manage Subscriptions](#) | [Privacy Policy](#) | [Terms and Conditions of Use](#)

sponsor

LIGHT EXCHANGE

Follow Photonics Media on Facebook and Twitter



Digital Cameras



USB 2.0, 3.0
Gigabit Ethernet
Smart/Programmable
3D Imaging

[Click Here](#) 

sponsor



TracePro

Illumination
Design, Analysis,
& Optimization
Software

sponsor

HD Video Camera for Microscopy

View live up to 60 fps and capture stills via USB.


[Click for information](#)



sponsor

THERE ARE FEW THINGS AS SMALL AND POWERFUL AS OUR NEW XS USB CAMERA

Very small, really easy, just ingenious



iDS

sponsor



ofs

A Furukawa Company

Your Optical Fiber Solutions Partner™

Medical Grade:
Optical Fiber
Cable
Assemblies

www.SpecialtyPhotonics.com

sponsor

High performance lasers




DPSS lasers
355nm - 1064 nm
up to 3W

Laser diode modules
405nm - 660nm
Fast modulation

Cobolt

[Read more >](#)

sponsor



click to sCMOS technical brochure

pco.edge - the first camera system with the revolutionary sCMOS image sensor

pco.

PHOTONICS buyers' guide

Looking for Biophotonics products? Search the Photonics Buyers' Guide or Browse these product categories:

- [Cell Assay Imaging Systems](#)
- [Fluorescence Spectrophotometers](#)
- [Microscope Accessories](#)
- [Near Infrared Spectrometers](#)
- [Safety Goggles and Glasses](#)
- [Video Microscopes](#)



LIGHT EXCHANGE

Follow Photonics Media on Facebook and Twitter

