Wednesday, June 27, 2018

BIOPHOTONICS

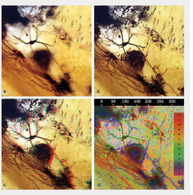
BRINGING LIGHT TO THE LIFE SCIENCES®

PHOTONICS MEDIA

Monthly newsletter focusing on how light-based technologies are being used in the life sciences. Includes news, features and product developments in lasers, imaging, optics, spectroscopy, microscopy, lighting and more. Manage your Photonics Media membership at Photonics.com/subscribe.

Nonconfocal 3D Microscopy Combines Real-Time Images with Depth of Focus

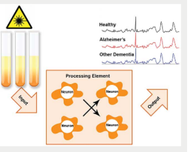
The technique holds the promise of greater accuracy and efficiency for neuroscience, vascular research, and cytopathology. Stereo 3D microscopes produce real-time 3D images, but they are usually limited to low-magnification applications, such as dissection. Most compound light microscopes produce flat, 2D images because high-magnification microscope lenses have inherently shallow depth of field, rendering most of the image out of focus.



Read Article

Raman Hyperspectroscopy Shows Promise for Diagnosis of Alzheimer's

Raman hyperspectroscopy combined with advanced statistics is uniquely suitable for characterizing microheterogeneous systems. Understanding the structure and biochemical composition of samples at the microscopic level is important for many practical applications, including various bioanalytical tasks.



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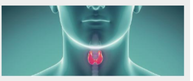
Point-of-Care Device Could Improve Thyroid Cancer Screening

A team of international researchers developed a point-of-care device that could enable consistent and cost-effective screening for thyroid nodules. This novel device builds on the current ultrasound standard with a hybrid optics/ultrasound probe.



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Featured Products

It Just Keeps Getting Better....

Lumencor Inc.
Lumencor's new SOLA SE nIR Light Engine with added Cy7 excitation.

- Breadth: UV + visible + nIR light: 350–760 nm
- Brightness: ~ 4.0 W optical output
- Control: Light on/off and graduated intensities
- Ease: No maintenance, no consumables, mercury–free

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Brilliance Across the Spectrum

Excelitas Technologies Corp.
X-Cite® XYLIS is a true arc lamp replacement for routine and advanced fluorescence imaging applications. It has the broadest spectrum available in a white light LED for fluorescence microscopy and rivals traditional arc lamps for brightness – making it ideal for both compound and stereomicroscopes.

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New Wavelengths for Raman by Cobolt

Cobolt AB
Cobolt AB, a part of HÜBNER Photonics, introduces new wavelengths on the 08-01 Series of 457 nm, 473 nm, 515 nm, 660 nm and 1064 nm, complementing already available wavelengths of 405 nm, 532 nm, 561 nm and 785 nm. The 08-01 Series of single-frequency and narrow-linewidth lasers are ideal for Raman spectroscopy applications.

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Dual Light Sheet Microscopy

Applied Scientific Instrumentation Inc.
ASI's Dual Selective Plane Illumination Microscopy for Cleared Tissue (ct-dSPIM) is one of many light sheet microscope configurations possible using our modular components. This flexible and easy-to-use Selective Plane Illumination Microscopy (SPIM) implementation allows for dual views of large samples.

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Optical Biomedical Imaging

Photonics Media
At last, a reference work has been compiled that offers in one place a broad survey of technologies, applications and markets for optical biomedical imaging, as only Photonics Media could produce it. This collection is a practical resource for those engaged in the research and development of relevant technologies.

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NEW pE-4000 with Enhanced Intensity

CoolLED Ltd.
The CoolLED pE-4000 now benefits from our award winning sustainable Green technology. This provides enhanced intensity where it matters for imaging and dramatically reduces the power consumption. Every pE-4000 boasts 16 selectable LED sources arranged conveniently in 4 channels, using our patented wavelength grouping concept.

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In Case You Missed It

Scientists Discover How Light and Gold Interact

Physicists have devised a way to determine the electronic properties of thin gold films after they interact with light, a discovery that could further scientific understanding of how light affects materials.

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Optical Probes Allow Ultrafast, High-Resolution Imaging of Dopamine Activity

Fluorescent sensors that optically record dopamine activity in the brains of behaving mice could help facilitate the discovery of therapeutics for depression and addition. The technology precisely captures where and when dopamine activity occurs in the mouse brain within milliseconds and at the cellular level.

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QCL-based IR Microscopy Performs Rapid Cancer Diagnosis

A quantum cascade laser-based IR microscope was used for the rapid, label-free classification of colorectal cancer tissues.

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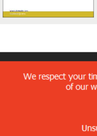
Coming in July...

Features
Diffuse Optical Tomography, Nanoscale Imaging, Noninvasive Diagnosis of Infectious Diseases, Computational Imaging Optics

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *BioPhotonics*. Please submit an informal 100-word abstract to Senior Editor Justine Murphy at Justine.Murphy@photonics.com or use our online submission form www.photonics.com/submitfeature.aspx.

About *BioPhotonics*



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