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Wednesday, June 28, 2017

BIOPHOTONICS

BRINGING LIGHT TO THE LIFE SCIENCES®

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.

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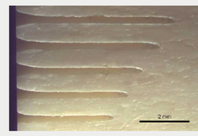
Medical Lasers Cut and Heal

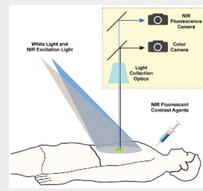
For medical lasers, the future may include both addition and subtraction. That's because in medicine, lasers have traditionally been used for ablation, cutting and other processes that remove tissue. Now researchers and companies are looking into harnessing the power of light to stimulate a bioresponse, thereby triggering growth and ushering in an additive approach.



Read Article

Fluorescence Imaging Enters the Surgical Suite

In the last decade, researchers have worked extensively on medical devices and applications that measure the spectral response of tissue to various wavelengths of light. These applications, in a lab or proof-of-principle setup, have proven the usefulness of spectral imaging to strengthen diagnosis by uncovering information hidden in the spectral signature.



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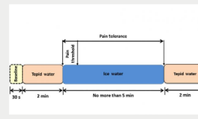
fNIRS Tool Measures Brain's Response to Acute Pain

Functional near-infrared spectroscopy (fNIRS) — an optical imaging tool for monitoring regional blood flow and tissue oxygenation — is being explored as an option to track the brain's response to acute pain in adults and infants. The fNIRS technique is portable and noninvasive, which is an advantage over other hemodynamic-based imaging techniques. It also does not require ionizing radiation or drug injection and can withstand a certain amount of motion.



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In Case You Missed It

Lighting up the Lungs to Detect Disease

A novel imaging tool that rapidly diagnoses bacterial lung infections could help physicians customize antibiotic treatment for patients in intensive care units.

Read Article

Holographic Technique Traps Microscopic Objects With Irregular Shapes

An optical manipulation technique that can securely control the position, orientation and shape of non-spherical microscopic samples, such as living cells, could have direct applications in biophotonics and soft matter physics.

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Jellyfish Proteins Used to Create Unconventional Laser

A polariton laser based on lab-grown, fluorescent jellyfish proteins could impact the fabrication of artificial optical devices, advance the field of optical computing, and aid in new biomedical applications.

Read Article

Featured Products

Light Sheet Microscopy (oSPIM)

Applied Scientific Instrumentation Inc.

ASI's Oblique Single Illumination Microscope (oSPIM) is an excellent platform for high resolution light sheet microscopy for samples mounted in standard coverslip-bottom culture dishes. The oSPIM is a single-view light sheet system where the illumination light sheet is generated at an oblique angle using an oil immersion objective below the sample dish.

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Lasers for Deep-UV Lithography

TOPTICA Photonics Inc.

TA-FHG pro is a tunable, diode-based laser that provides powerful laser light in the deep-UV spectral range. It is an ideal solution for testing and inspection or advanced material processing, e.g. lithography patterning for holographic applications.

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C-FLEX Laser Combiner

HUBNER GmbH & Co. KG

HÜBNER Photonics, the youngest division of HÜBNER GmbH & Co KG, are proud to introduce a new compact and flexible laser combiner, C-FLEX. The C-FLEX laser combiner is available with up to 6 wavelengths from a selection of 30 wavelengths over the visible spectrum.

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Combine 4 Light Sources Into a Single Beam

SUTTER INSTRUMENT

Scientists have long requested a light source with sub millisecond switching accuracy powerful enough for fast imaging in order to accomplish their most demanding experimental protocols such as optogenetic stimulation. The Lambda 421 answers this request with integrated high power LEDs and a unique, efficient and flexible way of combining the individual beams for unprecedented high switching speed and high power light performance through a reflective pentagon based beam combiner.

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Coming in July...

Features

Spectroscopy for Blood Testing; SWIR Cameras; Laser Market Report; Handheld/Smartphone Digital Microscopes for Field Research

Issue Bonus

Annual Microscopy Sourcebook: Confocal Microscopy, Market Report, Directory

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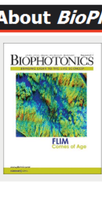

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