Wednesday, March 22, 2017

BIOPHOTONICS

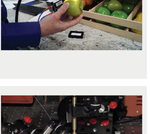
BRINGING LIGHT TO THE LIFE SCIENCES®

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.

Near-Infrared Spectroscopy Probes Food Freshness

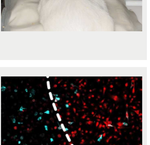
Near-infrared (NIR) spectroscopy is well-suited to analysis of bulk, high-moisture agricultural samples such as fruit, grains, fish and meat. Light at NIR wavelengths penetrates samples with less scattering than other techniques, allowing internal composition to be analyzed nondestructively. Although NIR spectra are often broad, overlapping and complex, statistical modeling can be used to unlock their secrets.



Read Article

Photobiomodulation Therapy Comes of Age

Important advances in our understanding of the basic science of photobiomodulation (PBM) are influencing the development of laser technology and the use of these devices to treat a number of diseases and injuries. PBM is the mechanism by which non-ionizing optical radiation in the visible and NIR spectral range is absorbed by endogenous chromophores to elicit photo-physical and photo-chemical events at various biological scales.



Read Article

New Treatment for Inflammatory Disease Uses Optogenetic Tool

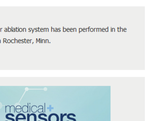
An optogenetic approach to regulating inflammation and immunity in the human body employs photocontrolled inhibitors that are selectively delivered to the target cells via UV radiation. This novel approach could further the study of inflammation and the immune system, and could ultimately lead to a means to control inflammation in vivo, while minimizing side effects to healthy tissues.

Read Article

In Case You Missed It

Graphene-Laced Silly Putty Creates Sensors

By infusing silly putty (polysiloxane) with graphene, researchers have produced an extremely sensitive sensor they call "G-putty." They found that when the graphene was added, the silly putty was able to conduct electricity and became very sensitive to deformation and impact.



Read Article

Photonic-Based Smart Needle Detects At-Risk Blood Vessels

A new high-tech tiny imaging probe encased with a brain biopsy needle could make brain surgery safer. Researchers from the University of Adelaide developed the medical device that will let surgeons "see" at-risk blood vessels as they insert the needle.

Read Article

Medtronic Visualase System Used in Mayo Clinic Epilepsy Trial

Medical technology developer Medtronic PLC has announced that its Visualase MRI-guided laser ablation system has been performed in the Stereotactic Laser Ablation for Temporal Lobe Epilepsy (SLATE) clinical trial at the Mayo Clinic in Rochester, Minn.

Read Article

Featured Products

Lumencor's LIDA Light Engine

Lumencor Inc.

Lumencor's LIDA light engine® works hand-in-hand with the latest monochrome cameras to generate RGB color transmitted light images with unprecedented sensitivity, spatial resolution, speed and color fidelity.

Visit Website | Request Info

TOPTICA's Difference Frequency Comb

TOPTICA Photonics Inc.

TOPTICA's frequency comb product line is a modular system that supports a broad variety of applications. Three basic versions of the DFC are available: DFC CORE, DFC CORE+ and DFC SEED.

Visit Website | Request Info

Sputtered Metal Deep-UV Interference Filters

Chroma Technology Corp.

Chroma Technology's sputtered metal UV interference filters offer the highest levels of Deep UV transmission of any UV metal coated filters available.

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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.

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Photonics Spectrum Reference Chart

Photonics Media

This full-color, 30 × 20.5-inch poster of the photonics spectrum displays the major commercial laser lines, detectors and optical materials in the ultraviolet to the far-infrared and beyond.

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Automated Fluorescence Spectroscopy

PicoQuant GmbH

One of the most valuable tools for a spectroscopist is time-resolved fluorescence spectroscopy, as it allows investigating exited state dynamics in molecules, complexes, or semiconductors.

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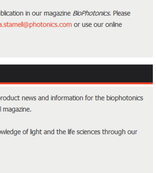
Webinars

Large-Scale, Deep-Tissue Neuronal Imaging

Thu, Apr 20, 2017 1:00 PM - 2:00 PM EDT

Lingjie Kong, Ph.D., will speak on advances in large-scale deep tissue imaging of biological dynamics, focusing on applications in neuroscience. Kong received his Ph.D. in Optical Engineering from Tsinghua University in 2012. For postdoctoral training, he worked at X. Sunney Xie's group at Harvard University, Meng Cui's group at Howard Hughes Medical Institute's Janelia Research Campus and Purdue University. He is currently engaged in research work at Purdue University and is planning to join the faculty at Tsinghua University.

Register Now

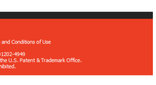


Introducing the CAOS Smart Camera - Empowering Extreme Imaging

Wed, Apr 26, 2017 1:00 PM - 2:00 PM EDT

Nabeel A. Riza, Ph.D., chair professor of Electrical and Electronic Engineering at University College Cork, will discuss the development of the Coded Access Optical Sensor (CAOS) and how the CAOS sensor, working in unison with CMOS sensors, can smartly extract scene contrast pixel light intensity information using time-frequency coding of selected angle pixels. He will discuss how CAOS addresses the challenges to reaching extreme all-linear, instantaneous dynamic ranges with multicolor smart capture of targets of interest within extreme contrast images and provide a demonstration of a version of CAOS called the CAOS-CMOS camera. Who should attend: engineers, scientists, researchers and technical professionals who may require or are interested in extreme contrast imaging.

Register Now



Coming in April...

Features

Raman Tissue Analysis; Point-of-Care Imaging; Lasers for Photodynamic Therapy (Photochemical Reactions); Surgical Microscopes

Issue Bonus

Annual Laser Sourcebook: Research, Market Report, and Directory

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 Associate Managing Editor Marcia Stamell at marcia.stamell@photonics.com or use our online submission form www.photonics.com/submitfeature.aspx.

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