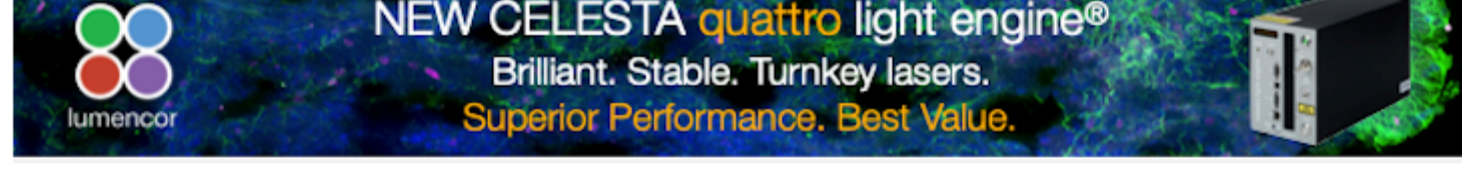


BIOPHOTONICS

BRINGING LIGHT TO THE LIFE SCIENCES®

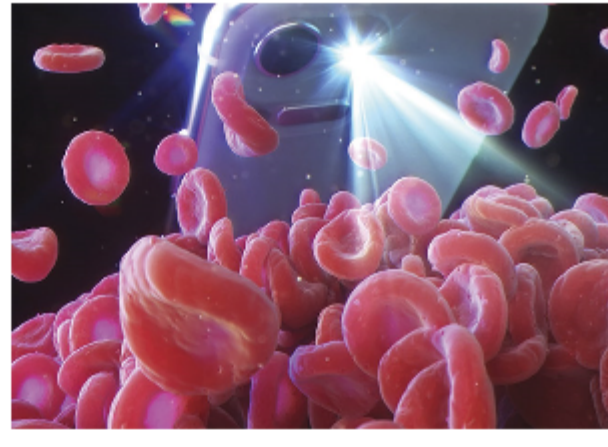


Monthly newsletter focusing on how light-based technologies are being used in the life sciences. Includes news, features and product developments in lasers, imaging, optics, spectroscopy, microscopy, lighting and more. Manage your Photonics Media membership at Photonics.com/subscribe.



Mobile Spectroscopy Enables Noninvasive Blood Hemoglobin Assessments

Several technologies are currently being developed to noninvasively measure blood hemoglobin levels and anemia. Researchers at Purdue University recently introduced a data-driven, less hardware-dependent method to incorporate optical reflectance spectroscopy into mobile health technologies. The technique allows for noninvasively quantifying blood hemoglobin content from the inner eyelid, using an unmodified smartphone.



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Eye Care, Laser Technology, and Imaging Modules Among 2021 Prism Award Finalists

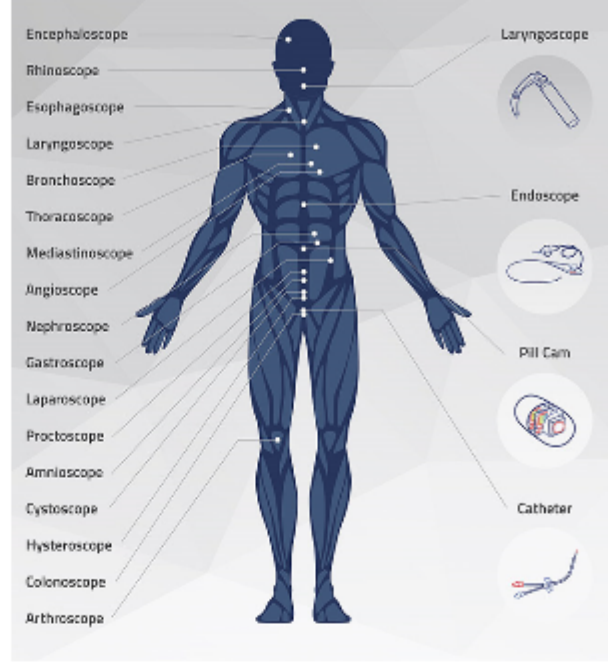
Six biophotonics technologies that enhance retinal imaging, disease diagnosis, and surgical precision are among the 30 finalists SPIE has selected for this year's Prism Awards. Winners in 10 categories will be announced as part of the SPIE Photonics West 2021 Digital Forum, to be held online March 6-11.



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Chip-on-Tip Technology Expands Endoscopy's Use in Localized Procedures

Many patients would prefer to undergo surgery in which tools enter their bodies through a natural opening or small incision, over an operation involving the opening of their chests or abdominal cavities. Improvements in medical imaging over the past few decades have allowed for many procedures that use the former method. Endoscopy is the technique that has enabled doctors and their patients to make this choice.



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Featured Products



Light Sheet for Cleared Tissue

Applied Scientific Instrumentation Inc.

A flexible and easy-to-use SPIM configuration optimized to image large cleared samples. The sample is mounted horizontally on an XYZ stage. Two multi-immersion objective lenses are held in an upright "V" geometry for light sheet illumination and detection.

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Alluxa Ultra Series Filters and Coatings

Alluxa

Alluxa Ultra Series Filters, including Narrowband, Dichroic, UV, IR, and Notch filters, provide the highest performance optical thin film solutions available today. For example, the Ultra Series Flat Top Narrowband filters offer the narrowest bandwidths and squarest filter profiles in the industry.

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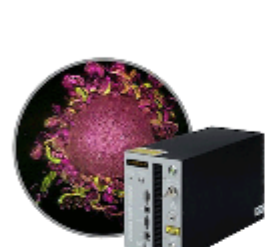
Keylight™ OEM Microscopy Light Source

Phoseon Technology Inc.

KeyLight™ illumination sources for fluorescence microscopy are the perfect solution to integrate into your equipment. Phoseon's proprietary LED solutions offer intense, broad-spectrum wavelengths for various colors from UV through visible into the infrared.

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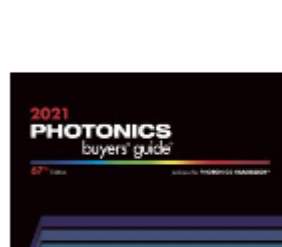
NEW CELESTA quattro Light Engine

Lumencor Inc.

Lumencor's CELESTA quattro Light Engine is a turnkey illuminator designed to support imaging applications with bright, stable, long-lived lasers. Four solid-state outputs, ~1000 mW/laser, from a common fiber are available in off-the-shelf and OEM configurations.

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Photonics Media

If you buy products and services related to lasers, optics, imaging, sensors, detectors, test and measurement, light sources, fiber optics, spectroscopy, materials and coatings -- you need the Photonics Buyers' Guide. Our editors verify all 4000+ company listings annually...

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Think BIG: Go Small with XENON's X-1100 Benchtop Research System

XENON Corp.

You have discoveries to make, theories to be proven, and challenges to overcome. Who'd have thought that the Pulsed Light tool to provide such big answers could come in such a small package. The X-1100 Benchtop Pulsed Light System is XENON's ground-breaking...

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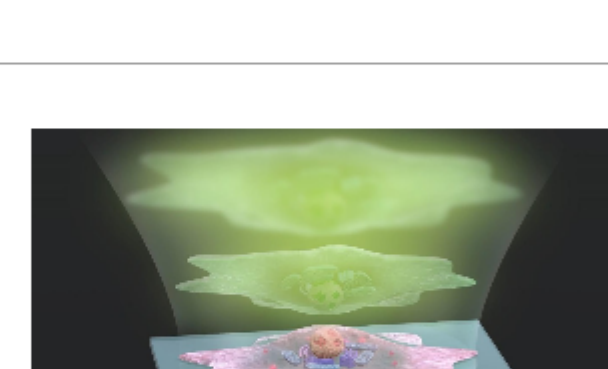
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In Case You Missed It

Microscopy Method Seven Times More Sensitive for Live Cell Viewing

Researchers from the University of Tokyo have developed a way to increase the extent and types of information they are able to ascertain about the insides of living cells by using existing microscopy techniques. Their method does not require staining or fluorescent dyes.



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Optogenetics Approach Delivers Precision Necessary to Study Bacteria in the Gut

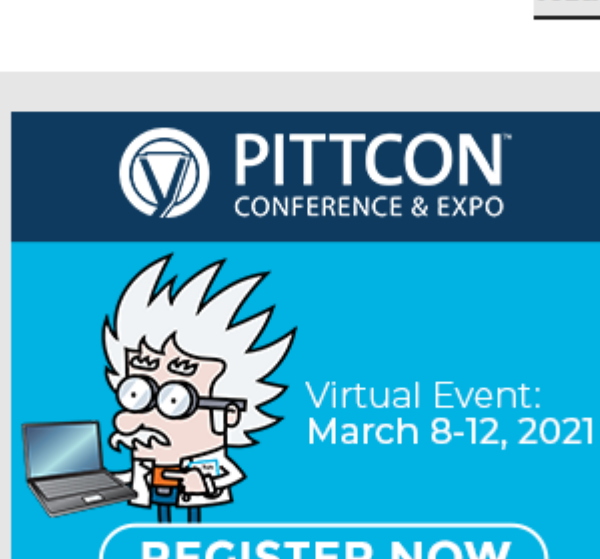
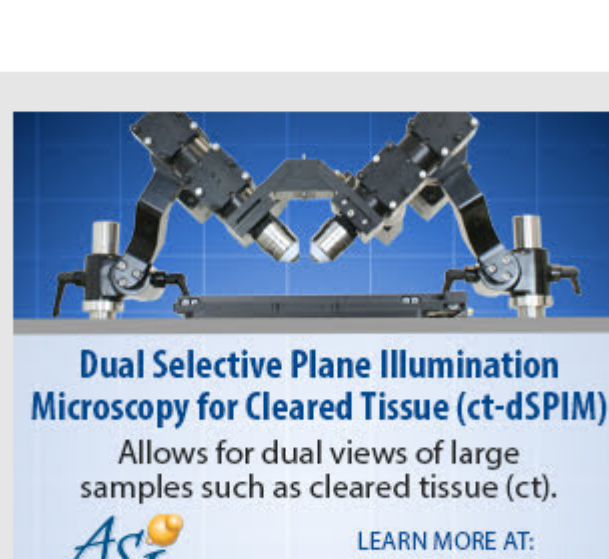
Researchers in Texas have succeeded in effectively turning gut bacteria inside the intestines of worms "on" and "off" by applying different colors of light, via an optogenetic control mechanism. The work helped the research team led by Baylor College of Medicine's Meng Wang and Rice University's Jeffrey Tabor show that colanic acid, a metabolite, is produced by intestinal bacteria, rather than digested in the stomach.

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Tiny Pressure Sensor Measures Minute Changes Within the Body

Researchers from The Hong Kong Polytechnic University developed a miniaturized, highly sensitive optical fiber sensor that could be used to measure small pressure changes within the body — changes as minute as 2 kilopascals. The sensor is made from a polymer called Zeonex, and its basis for operation is a fiber Bragg grating — periodic microstructures that can be inscribed onto a fiber.

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Upcoming Webinars



How the Kinetix sCMOS Camera Broke the Golden Rule of Compromise in Scientific Imaging

Tue, Mar 23, 2021 1:00 PM - 2:00 PM EDT

Product and applications experts from Teledyne Photometrics are joined by leading imaging scientists to discuss how the latest developments in scientific CMOS (sCMOS) technology are opening up new possibilities in imaging. Presenters Dan Croucher, Ph.D. and Rachit Mohindra discuss how they are using the Kinetix to solve challenges from the high-speed collection of large, 3D volumes in live cells to the lowest light single molecule and super-resolution imaging. Presented by Teledyne Photometrics.

[Register Now](#)

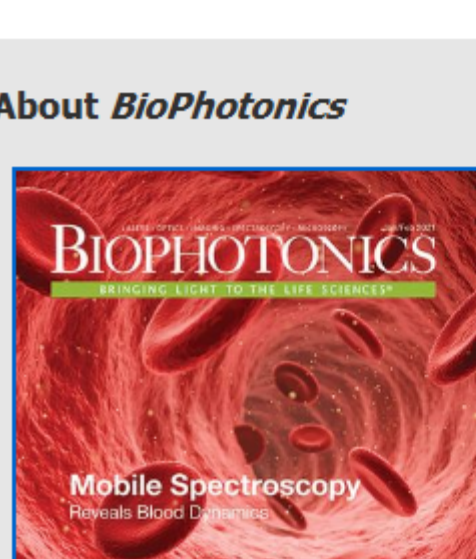
Next Issue:

Features

Ultrafast Lasers, Fluorescence Spectroscopy, 3D Imaging, and more.

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 Doug Farmer at Doug.Farmer@Photonics.com, or use our online submission form www.photonics.com/submitfeature.aspx.

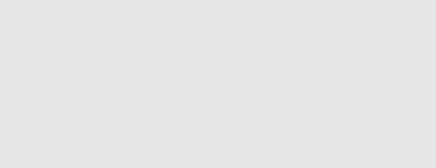
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