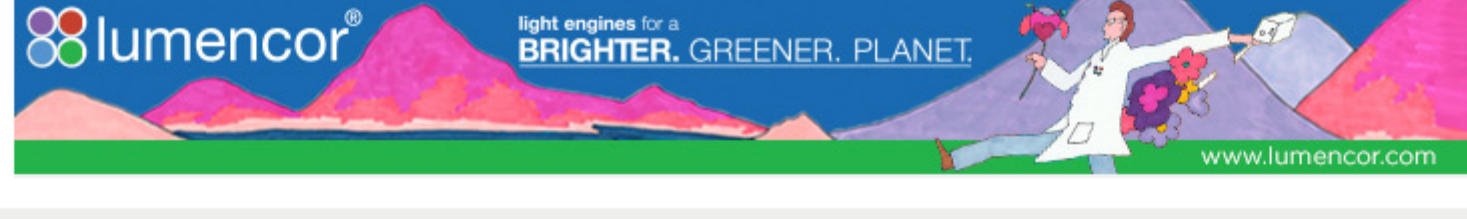


BIOPHOTONICS

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.



LED Technology Advances Endoscopy

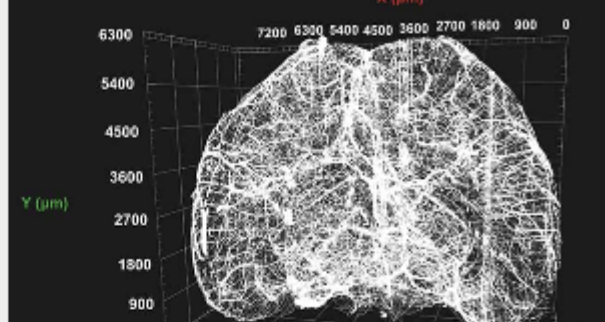
LED technology is becoming the preferred light source for endoscopy because of its long life, stability, reliability and ease of integration into endoscopy units. Combined with the rapid evolution of microelectronics and optics, LED illumination has enabled new advances and applications in the field.



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Histology Breaks a Speed Barrier

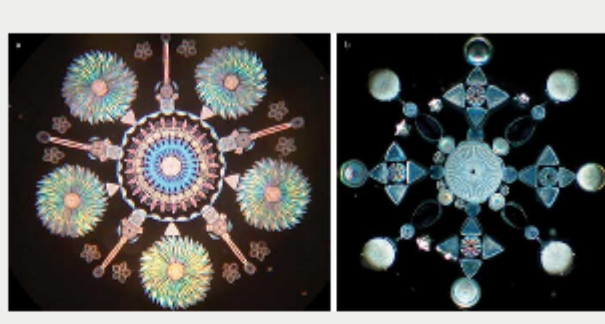
High-bandwidth sensing has brought data volumes previously unconsidered into everyday tools. Tightly coupled with this are modern, powerful computational approaches, including machine learning and scalable computation, that enable intelligent data interpretation with virtually no human in the loop. Today's optical instruments, which have integrated software and compute layers, are outpacing human bandwidth and forcing their human designers and end users to operate more like orchestrators of complex, interlocked components.



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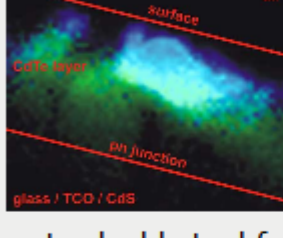
Bio-Inspired Photonics Comes Full Circle

Nothing compares with nature's ability to design complex biological organisms and structures, refined by eons of evolution. Natural design has inspired scientists for centuries to try to imitate natural phenomena such as the sticky grip of a gecko, the camouflage of an octopus or the flight of a bird. Similarly, bio-inspired photonics extracts inspiration from the way organisms interact with light, applying it to photonics technology and manmade systems.



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Featured Products



Combined Spectrometer / Microscope

PicoQuant GmbH

Time-resolved fluorescence spectroscopy is a spectroscopist's most valuable tool for the investigation of excited state dynamics in molecules, complexes, or semi-conductors. With its newly released fiber coupling sample holder, the modular, time-resolved and steady state spectrometer FluorTime 300 from PicoQuant can be combined with a microscope.

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Award Winning Microscopy Illumination

CoolLED Ltd.

The award winning pE-300 Series is a range of LED Illumination Systems for Fluorescence, Optogenetics, Electrophysiology and high-speed microscopy applications. It comprises 3 systems providing a solution that covers a range of everyday fluorescence microscopy.

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1919-R High Performance Optical Power Meter

Newport Corporation

The Newport 1919-R High Performance Optical Power Meter is an advanced power/energy meter capable of measuring from pW to thousands of Watts in an ergonomically designed compact body. It features on-board processing for advanced math and statistics functions, a color screen, and a comprehensive menu structure.

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Eight Bright Solid-State Light Sources

Lumencor Inc.

Lumencor's new SPECTRA III Light Engine® is here, with

- Eight independent solid-state light sources
- Spectrally optimized DAPI, CFP, GFP, YFP, Cy3, mCherry, Cy5 and Cy7 excitation
- ~0.5W per output channel from a standard liquid light guide

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Powerful Femtosecond Fiber Lasers

TOPTICA Photonics Inc.

The FemtoFiber ultra series is TOPTICA's third generation of ultrafast fiber lasers. The systems are compact lasers that work reliably after a push-button start. No water-cooling is required since simple air-cooling is sufficient for stable operation.

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Tunable Lens Focus Device

Applied Scientific Instrumentation Inc.

Our Tunable Lens system consists of the C60-TUNELENS- 4F assembly along with the TGTLC card of the TG1000 controller. The system lets user remotely control the focus of the system without moving the objective. C-Mounts are used to mount the C60 Tunable 4F assembly to the imaging camera and to the microscope's photo port.

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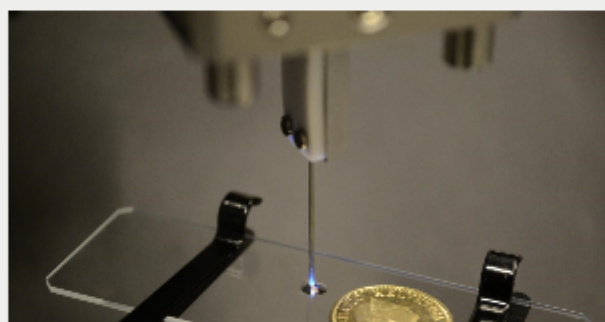
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In Case You Missed It

Using Optical Fibers to 3D Print Microstructures

Researchers have used ultrathin optical fibers to create microscopic structures via laser-based 3D printing. The microstructures exhibited a 1.0- μ m lateral and 21.5- μ m axial printing resolution. The approach could one day be used to build tiny biocompatible structures inside the human body.



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Silicone Immersion Objectives Boost 3D Live-Cell Imaging

Refractive index mismatch and resulting spherical aberration has historically plagued researchers interested in long-term, live-cell imaging at high resolution. The use of silicone oil objectives helps mitigate this mismatch.

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Team Studies Optical Properties of Plasmonic Nanovesicles Using Computational Approach

An on-demand, light-triggered drug release method, known as vesicular assembly of small plasmonic nanoparticles, or plasmonic vesicle, could be used to treat disease; support the study of the nervous system in real time; provide insight into how the brain works; and provide insight of small inorganic particles of the body.

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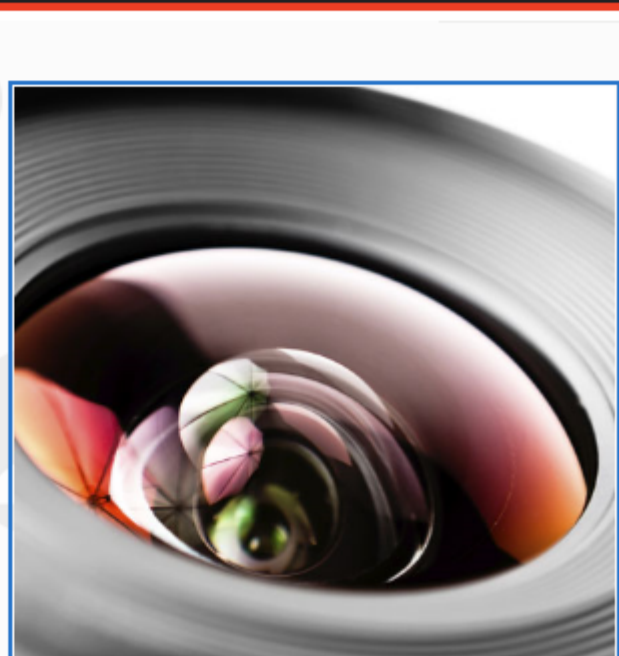
Webinars

Smart Cameras: Technology and Applications

Tue, Mar 13, 2018 1:00 PM - 2:00 PM EDT

The capabilities of smart cameras have increased dramatically over the past few years. This webinar will explore the characteristics of today's smart cameras, and how to ensure that you select the camera that best meets your needs. You will learn how smart cameras can be used to solve unique machine vision requirements and how they can reduce the overall cost of a machine vision application.

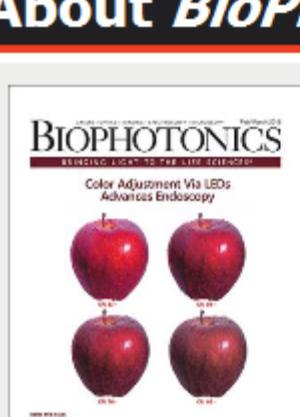
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