

# BIOPHOTONICS

BRINGING LIGHT TO THE LIFE SCIENCES®

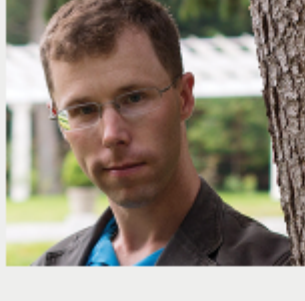


Monthly newsletter focusing on how light-based technologies are being used in the life sciences. Includes news, features and product developments in lasers, imaging, optics, spectroscopy, microscopy, lighting and more.

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## From the Editor's Desk



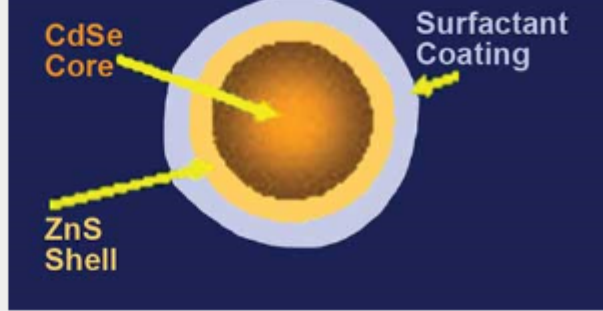
**Do No Harm**  
JAMES SCHLETT, EDITOR

Even though doctors are not bound to the requirement to do no harm, they should generally aim to inflict as little of it as possible, given the patient's condition and circumstances. And this issue of BioPhotonics highlights how photonics are stepping in to help ophthalmologists to do just that.

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## New Quantum Dots Excite In Vivo Imaging Advancements

New quantum dots made without heavy metals are poised to take optical in vivo imaging to the next level.



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## OCT Angiography Opens Eyes

The U.S. ophthalmology market over the past year has seen the first wave of commercial optical coherence tomography angiography systems, but this technology must overcome certain limitations before reaching 'gold standard' status.



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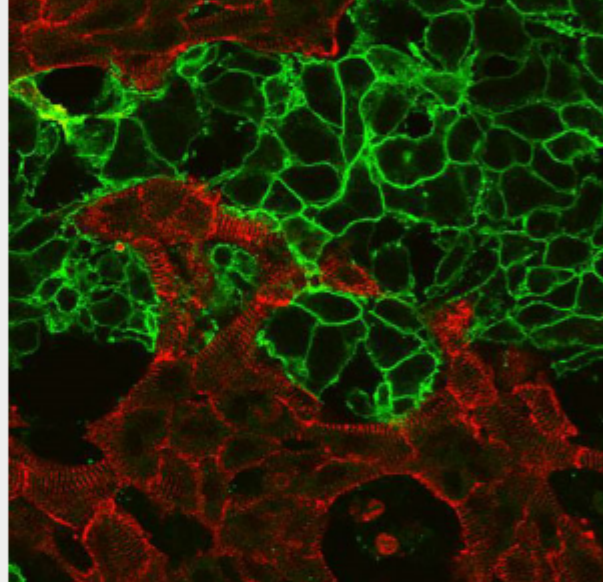
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## In Case You Missed It

### Optogenetic Technique Rapidly Screens for Cardiac Drug Safety

An optogenetic technique has been used to make cardiac cells beat and optically measure their response, enabling an automated drug-testing process called OptoDyCE.



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### Fluorescent Biosensors Shed Light on Heme Activity in Cells

Genetically encoded fluorescent sensors are providing a way to track the mobilization of labile heme in cells. The sensors offer significant insight into the nature and dynamics of this potentially dangerous nutrient of which there has been little understanding until now.

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### Heat from Laser Ablation May Treat Cancer Safely, Effectively

A novel fusion-imaging technique uses MRI to guide the insertion of a laser fiber into a cancerous tumor. The laser, once inserted, applies heat to the cancerous tissue, destroying it. This technique, known as MRI-guided focal laser ablation, could improve treatment options and outcomes for men with prostate cancer.

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## Featured Products



### Microscope Mounting Wings

**Prior Scientific Instruments Ltd.**  
Prior Scientific Instruments Ltd. announced accessory mounting wings for its H117 stage for inverted microscopes.

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### 8-color Microscopy Laser Engine

**TOPTICA Photonics Inc.**  
The multi-laser engine iChrome SLE provides up to eight different colors from a broad selection covering 405 - 640 nm.

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### USHIO Introduces New Analytical Tool, PICOEXPLORER™ Photo Absorption Sensor (PAS)

**USHIO America Inc.**

The USHIO PICOEXPLORER™ model PAS-110 handheld photo absorption sensor utilizes patent pending, Silicone Optical Technology™ (SOT), a unique new concept designed to suppress optical scattering and reduce scattering light noise.

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### Lumencor's SOLA SE FISH Light Engine

**Lumencor Inc.**

Lumencor's SOLA light engines offer access to modern solid state illumination, with all its performance and efficiency benefits, at a price comparable to most metal halide light sources. With reliability and maintenance-free service built in, they provide sustainable and cost-effective replacements for traditional...

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### Advanced Energy® UltraVolt® HVA Series—Precision High Voltage Amplifier

**Advanced Energy Industries Inc.**

The HVA series of DC-to-DC high voltage power supplies operates a precision filter/divider and linear HV switch to produce a high voltage amplifier (HVA). These modules provide a high-resolution, programmable, high voltage DC to full-scale waveform capability greater than 1 kHz output.

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### Dual Inverted SPIM from ASI

**Applied Scientific Instrumentation Inc.**

ASI has developed a new form of light sheet microscopy with our collaborators in the scientific community. The diSPIM system from ASI is an extremely cell friendly system for imaging live specimens.

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## Webinars

### Controlling Quality in Advanced Optics Manufacturing

Tue, Aug 23, 2016 12:00 PM - 1:00 PM EDT

John Davis, engineering manager for Particle Measuring Systems, provides an overview of particle generation sources, control methods and ISO standards and examines performance trends in the optics industry that are driving manufacturers to reduce the contamination levels to which a component is exposed during manufacturing. He provides multiple examples of particle excursions in the optics industry that have been found and fixed, illustrating the types of improvements that can be made through contamination control.

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