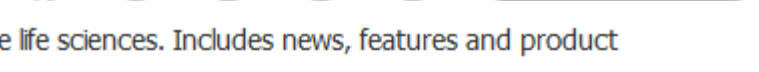


# BIOPHOTONICS

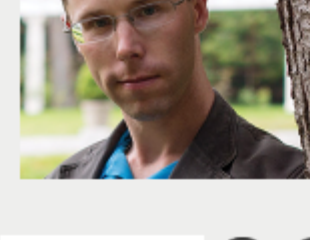
BRINGING LIGHT TO THE LIFE SCIENCES®



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



### Time to Speed Up Technology Transfer

JAMES SCHLETT, EDITOR

All too often, the journey from bench to bedside is measured not with a stopwatch but with a calendar. There are reasons for this slow pace: Time is the cost of a thorough vetting. But it's unfortunate how some photonics technologies show so much promise to save lives, but — because of funding constraints — don't reach their potential.

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### Holotomography Unlocks New Potential for Life Sciences Research

3D holographic microscopy enables quantitative and noninvasive investigation of cells' intrinsic properties — without labeling agents. Holotomography is now poised to advance disease diagnosis and treatment.



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### NIR and Optoacoustic Spectroscopy Cerebral Oximeters Aim to Save Premies

Cerebral near-infrared spectroscopy oximeters can alert physicians to premature infants' exposure to hypoxia. As European researchers push to make this technology a standard clinical tool in neonatal intensive care units, an optoacoustic alternative is emerging.



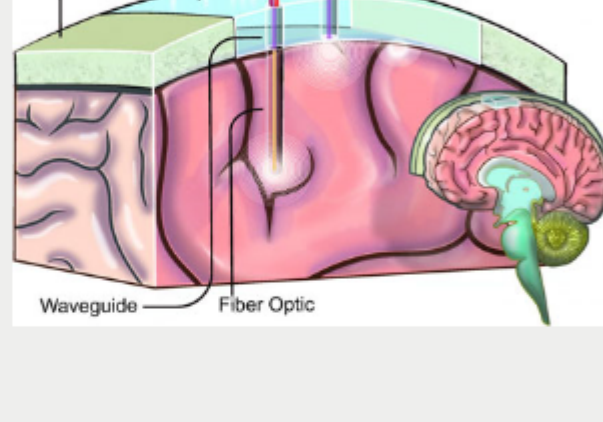
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## In Case You Missed It

### Window to the Brain Could Enable Laser Surgery

Use of a novel material, nanocrystalline yttria-stabilized zirconia (nc-YSZ), to make cranial implants may allow the safe and efficacious use of laser-based therapies to treat brain disorders and combat the bacterial infections that are a leading cause of cranial implant failure.



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### Neurovision Receives Financing for Retinal Imaging Technology

Imaging and diagnostic solutions provider Neurovision Imaging LLC has raised financing for regulatory approval of its retinal imaging technology for the early detection and monitoring of Alzheimer's-related amyloid pathology.

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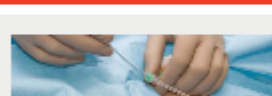
### BioTek Begins \$4M Expansion in Vermont

Microplate instrumentation developer BioTek Instruments Inc. has begun a \$4 million expansion of its facility, adding 22,000 sq ft to support its design and manufacturing needs.

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## Featured Products



### Fiber, Components and Assemblies

**AFL**

Minimally-invasive surgical and diagnostic procedures have been enabled by the advance of various medical technologies. One of these technologies is the use of thin, flexible fiber optics to visualize, measure, ablate or cauterize.

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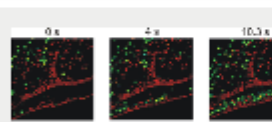


### Expanded Alluxa Filter Catalog

**Alluxa**

Alluxa's online optical filter catalog showcases Alluxa's standard high performance narrowband and life sciences solutions. New ultra-narrow and life sciences filters are being added to the catalog each week.

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### A New Standard for Dynamic FLIM

**PicoQuant GmbH**

Fluorescence Lifetime Imaging (FLIM) is a very versatile microscopy method where fluorescence lifetime information is combined with spatial localization in the sample, allowing investigating, for example, biochemical and physical processes, detecting changes in the local environment of the sample, molecular interactions, or conformational changes via Förster Resonance Energy Transfer (FRET).

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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.

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### High Speed Multispectral Camera

**Teledyne DALSA, Machine Vision OEM Components**

The Piranha4 2K quadlinear line scan camera offers industry leading speeds for higher throughput in multi-spectral imaging applications. Built around Teledyne DALSA's advanced CMOS image sensor design, the Piranha4 delivers outstanding color plus near-infrared (NIR) fidelity.

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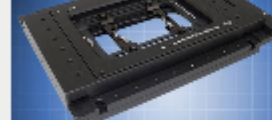


### Advanced Energy® UltraVolt® HVA Series—Precision High Voltage Amplifier

**Advanced Energy**

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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### Ultra Precise Piezo-Z Axis Stage

**Applied Scientific Instrumentation Inc.**

Ultra Precise Piezo-Z Focusing stage has been specifically designed to provide a high resolution, and highly repeatable, means of controlling the X, Y, and Z position of the microscope stage.

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### AvaSpec Hero: A Real HERO for your Application!

**Avantes BV**

AvaSpec Hero combines the best of both worlds; resolution and sensitivity! This combination will give you an excellent instrument capable of using longer integration times in low light applications yet ensuring perfect signal to noise performance.

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## Webinars

### Choosing the Right LED for Medical Diagnostics and Bioanalytical Systems

Wed, Oct 19, 2016 1:00 PM - 2:00 PM EDT

With recent advancements in LED technology, OEMs are presented with new possibilities through a growing number of light source options. There are key factors to consider when determining which light source is best suited for your application, including: wavelengths; uniformity; technology platforms; thermal management; light delivery; power budget; and economy of space. Which light source will provide reliable and repeatable results? How can these factors impact the path to market and ensure success? In this webinar, Dr. Kavita Aswani and Tom Papanek will discuss these factors in detail and their impact on biomedical or diagnostic design, engineering and integration. Dr. Kavita Aswani is the Senior Applications Scientist for the Life Sciences products at Excelitas Technologies. Tom Papanek is Director of Global Product Development for Excelitas Technologies, Solid State Lighting.

[Register Now](#)

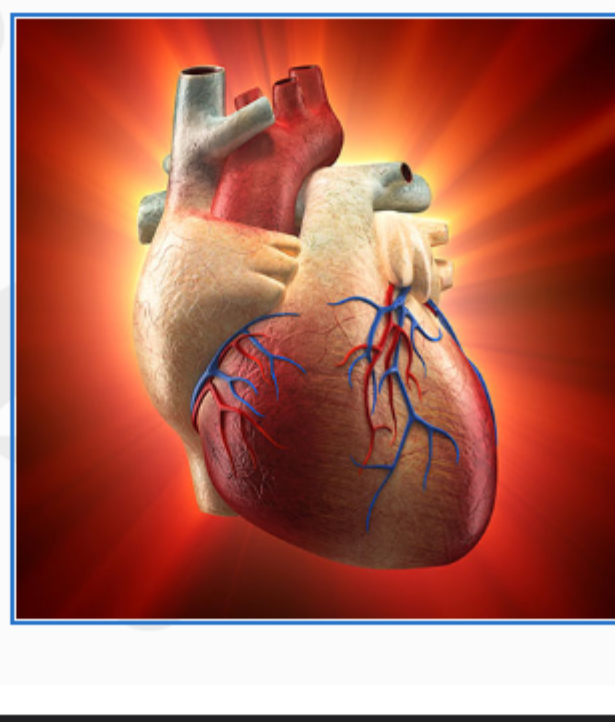


### Intracoronary NIRF Molecular Imaging - Translatable Approaches

Mon, Oct 24, 2016 1:00 PM - 2:00 PM EDT

Dr. Farouk Jaffer of Harvard Medical School and Massachusetts General Hospital (MGH) will discuss his lab's use of cutting-edge fluorescence molecular imaging technology to develop intravital microscopy, for the purpose of understanding in vivo the molecular mechanisms of atherosclerosis, thrombosis and vascular injury. Dr. Jaffer performed the first intracoronary human studies at MGH using a novel OCT-fluorescence imaging catheter. He will speak on these studies and include specific examples based on preclinical trials.

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## Coming in October...

### Features

New Tools for Optogenetics; Swept-source OCT for Eyes; SRS Microscopy; Near-Infrared Spectroscopy

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 Editor James Schlett at [james.schlett@photonics.com](mailto:james.schlett@photonics.com) or use our online submission form [www.photonics.com/submitfeature.aspx](http://www.photonics.com/submitfeature.aspx).

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