

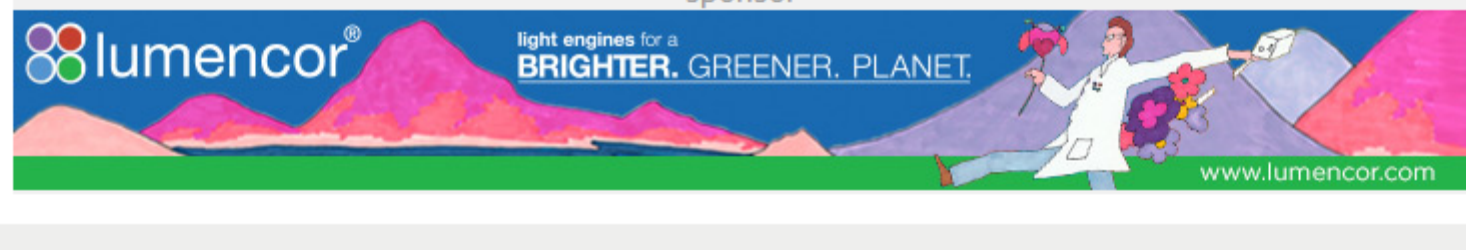
# BIOPHOTONICS

BRINGING LIGHT TO THE LIFE SCIENCES®

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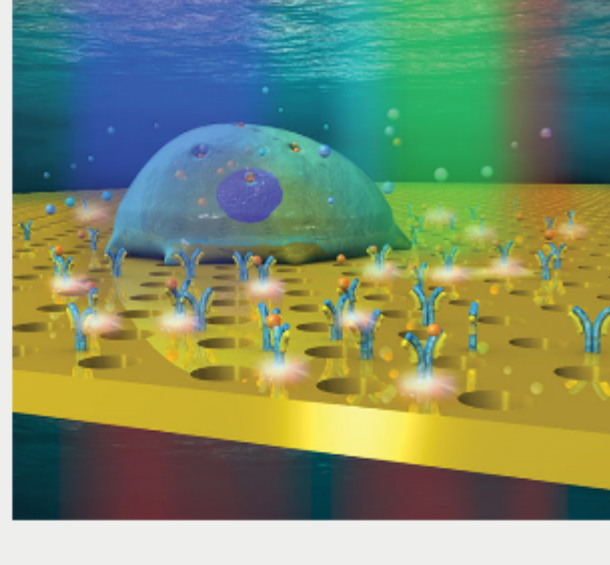


Monthly newsletter focusing on how light-based technologies are being used in the life sciences. Includes news, features and product developments in lasers, imaging, optics, spectroscopy, microscopy, lighting and more. Manage your Photonics Media membership at [Photonics.com/subscribe](http://Photonics.com/subscribe).



## Nanophotonic Biosensors Expand Live Cell Analysis

In an era of fast-emerging personalized therapies, accuracy and efficacy rely mainly on precise cell analysis and engineering. With advanced gene sequencing technologies, researchers have revealed the complex heterogeneity in the genomics, proteomics, and epigenomics among cells that share the same phenotype. Decoding the behavior of individual cells is not only essential to fully understanding the underlying mechanisms, it also enables the screening and selection of potential candidates for cell therapies.



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## Miniaturization, Increased Resolution Drive Microscopy's Future

are among emerging microscopy advancements that are bettering optical inspection in areas including the life sciences and machine vision. Now, such technology is taking researchers, microscopists, and others deeper into cellular and biological samples.



[Read Article](#)

## Smartphone Spectroscopy Takes the Lab to the People

By 2020, the number of smartphone users in the world is expected to reach almost 2.9 billion – nearly doubling in six years from about 1.6 billion in 2014. Technology companies and researchers have been directly and indirectly imbuing smartphones with additional capabilities, including spectroscopy for biological and medical applications, among other uses.



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## Featured Products



### Powerful Femtosecond Fiber Lasers

**TOPTICA Photonics Inc.**  
The FemtoFiber ultra series 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. These cost-effective and compact laser solutions provide femtosecond pulses with high average power and excellent beam quality.

[Visit Website](#) [Request Info](#)



### It Just Keeps Getting Better....

**Lumencor Inc.**  
Lumencor's new SOLA SE nIR Light Engine with added Cy7 excitation.

- Breadth: UV + visible + nIR light: 350–760 nm
- Brightness: ~ 4.0 W optical output
- Control: Light on/off and graduated intensities
- Ease: No maintenance, no consumables, mercury-free

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### Ultrafast 925 nm Fiber Laser

**Calmar Laser**  
Small, powerful, affordable: Carmel X-series of ultrafast fiber lasers with OptaPower™ long-term stability. High power (up to > 1 W). Ultra-short pulse widths (down to < 90 fs). Wavelength options of 780, 925 nm, etc. Air-cooled, Up to 100x smaller than competitive systems.

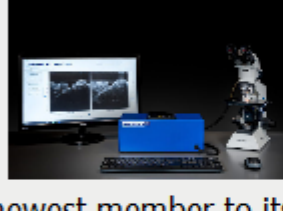
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### Dual Light Sheet Microscopy

**Applied Scientific Instrumentation Inc.**  
ASI's Dual Selective Plane Illumination Microscopy for Cleared Tissue (ct-dSPIM) is one of many light sheet microscopy configurations possible using our modular components. This flexible and easy-to-use Selective Plane Illumination Microscopy (SPIM) implementation allows for dual views of large samples.

[Visit Website](#) [Request Info](#)



### Introducing the Lumedica OQ PathScope

**Lumedica**  
Lumedica is proud to introduce the newest member to its low-cost OCT imaging OQ Series lineup: The OQ PathScope. OCT (Optical Coherence Tomography) is a valuable bench tool for pathology teams that want to process and analyze their histological sections with a smarter, more efficient workflow.

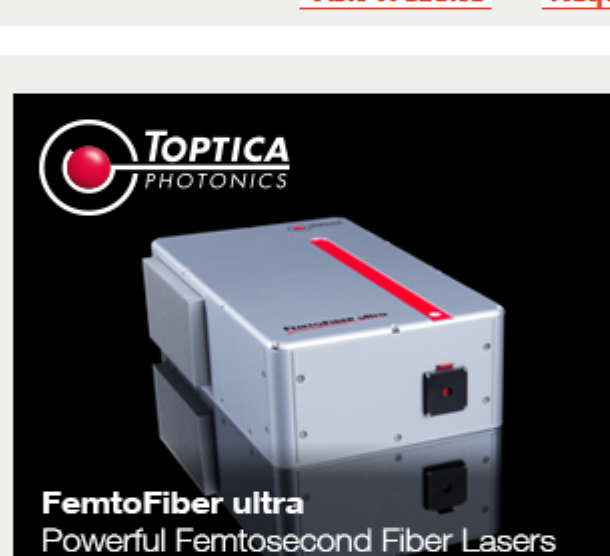
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### LED Illumination for Fura-2 Calcium Imaging

**CoolLED Ltd.**  
Through partnership with The University of Strathclyde, CoolLED announces the latest leap forward in LED illumination for microscopy – the pE-340fura. The pE-340fura is a bespoke LED illuminator for Fura-2 imaging which also supports everyday fluorescence microscopy in a compact, affordable package.

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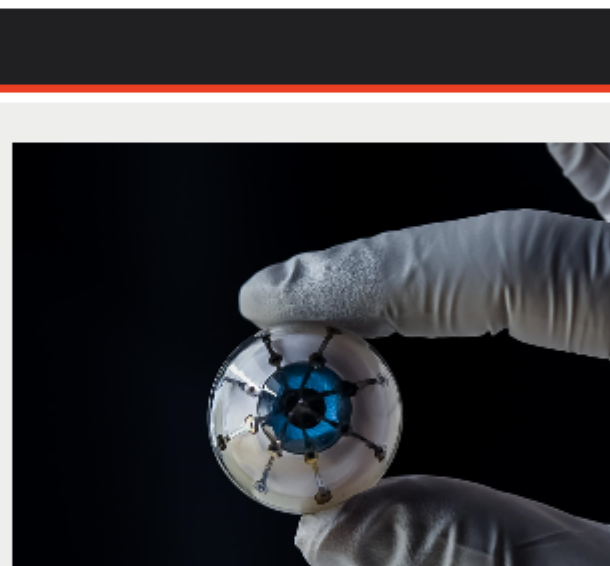
sponsors



## In Case You Missed It

### 3D-Printed Photodetectors on Curved Surface Could be Basis for 'Bionic Eye'

A research team has 3D-printed an array of light receptors on a hemispherical surface, in a first step toward creating a "bionic eye" that could someday help blind people see or sighted people see better.



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### EOS Installs Imaging System in Shriners Hospital for Children—Mexico

2D and 3D imaging technology developer EOS Imaging has installed its imaging system in Shriners Hospital for Children—Mexico in Mexico City. The EOS system produces images with far less patient exposure to radiation than conventional x-rays.

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### Superman's Heat Vision Inspires Ocular Lasers

Using semiconducting organic polymers, a research team at the University of St. Andrews in Scotland has developed an ultrathin membrane laser that could be used for new applications in security, biophotonics, and photomedicine.

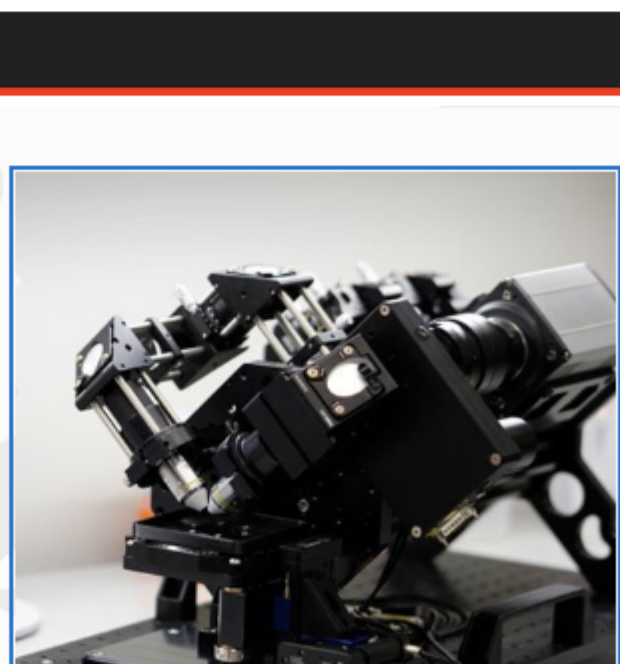
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## Webinars

### Shareable Advanced Light-Sheet Microscopy Using Flamingo

Thu, Oct 25, 2018 1:00 PM – 2:00 PM EDT

This webinar will discuss Flamingo, a new model for advanced microscopy based on shareable, modular instruments. Flamingo modules are configurable to a broad range of applications, are easy to upgrade, and offer a greater choice of functions. Presenter Jan Huisken, a principal investigator at the Morgridge Institute for Research and one of the founders of light-sheet microscopy, will begin with a history of this versatile technique and will discuss the benefits of light-sheet microscopy, such as low phototoxicity and high-speed image acquisition. He will then describe the development of Flamingo and how the Flamingo model for advanced light-sheet microscopy could be used to advance the work of labs worldwide. This webinar is sponsored by ASI.



[Register Now](#)

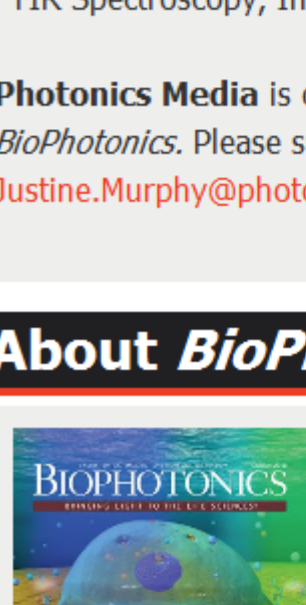
## Coming in November...

### Features

FTIR Spectroscopy, Imaging and Chronic Disease, Medical Uses of Ultrafast Lasers, Positioning for Biomedical Research

**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 Justine Murphy at [Justine.Murphy@photonics.com](mailto:Justine.Murphy@photonics.com) or use our online submission form [www.photonics.com/submitfeature.aspx](http://www.photonics.com/submitfeature.aspx).

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