

# This Week In PHOTONICS

PHOTONICS MEDIA



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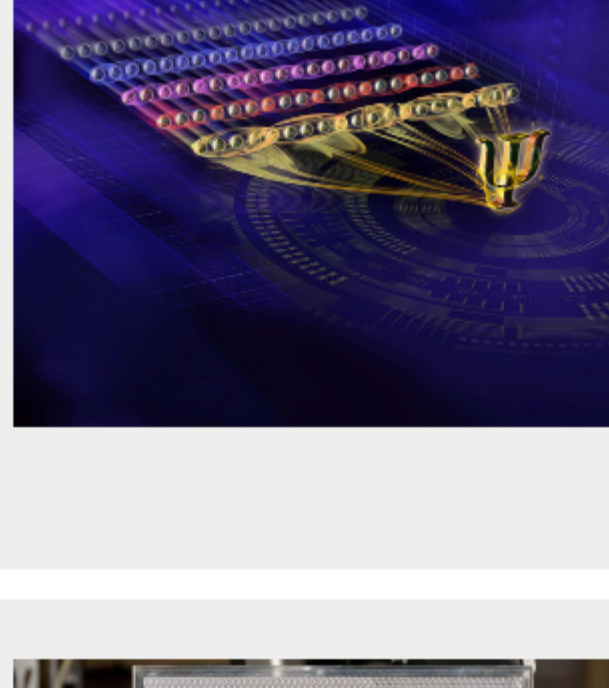
The HyperFine Spectrometer, Brillouin spectroscopy. Ready to go. Out of the box.

[www.lightmachinery.com](http://www.lightmachinery.com)

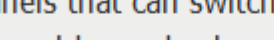
## Top Stories

### Researchers Reach Largest Entangled Quantum Register to Date

A controlled multipartite entanglement in a system of 20 quantum bits has been achieved by a research team at the Institute of Quantum Optics and Quantum Information (IQOQI) in Innsbruck, together with researchers from the University of Ulm and IQOQI Vienna. The researchers were able to detect genuine multipartite entanglement between all neighboring groups of three, four, and five quantum bits.

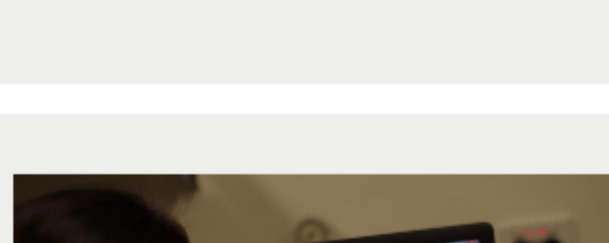


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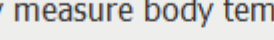


### Optofluidic Smart Glass System Is Cost-Efficient, High Performing

Smart glass panels that can switch between allowing light in and blocking it out could one day be used in eco-friendly windows, windshields, roof panes, and building envelopes to absorb light and heat in cold weather and reflect heat away from buildings and vehicles when the weather is hot.

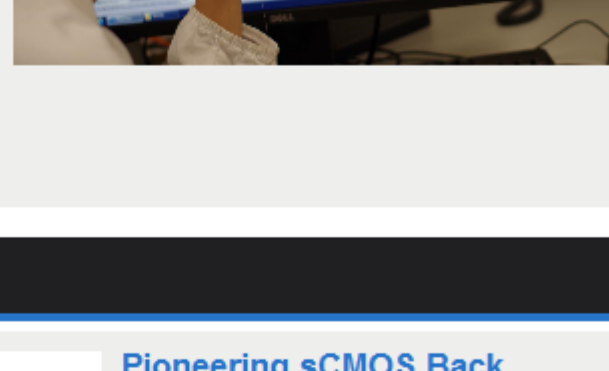


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### Tiny Fiber Optic Probe Senses Body Temps, Performs OCT Imaging

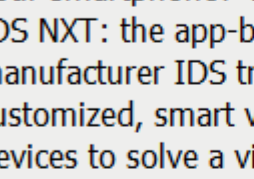
A miniaturized fiber optic probe has been invented that can simultaneously measure body temperature and take images deep inside the body. The single-fiber-based image and sensing probe uses an OCT lens fabricated at the distal end of a double-clad fiber. The fiber has a thin layer of rare-earth-doped tellurite glass to enable temperature measurements.



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## Featured Products

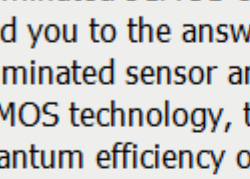


### Novel App-based Industrial Cameras

#### IDS Imaging Development Systems GmbH

Industrial cameras that are as versatile and easy to use as your smartphone? This has become reality. We introduce IDS NXT: the app-based approach of German camera manufacturer IDS transforms cameras and sensors into customized, smart vision sensors. You need your IDS NXT devices to solve a vision task that isn't covered by standard apps.

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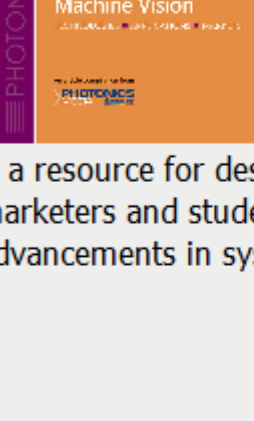


### Pioneering sCMOS Back Illuminated!

#### PCO-TECH Inc.

To see or not to see: If every single photon counts, PCO's back illuminated sCMOS camera system pco.panda 4.2 bi can lead you to the answer. Enabled by PCO's new back illuminated sensor and based on the latest innovations in sCMOS technology, the pco.panda 4.2 bi reaches a quantum efficiency of up to 95%.

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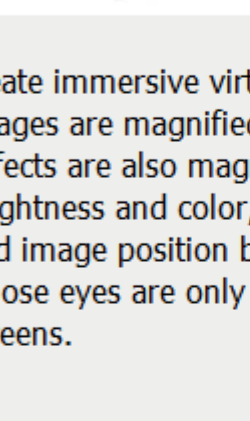


### Machine Vision

#### Photonics Media

Machine Vision is a new book for anyone designing or selecting machine vision systems, and implementing or considering the use of machine vision for a specific application. This engaging overview is a resource for designers, engineers, researchers, marketers and students looking for a broad survey of advancements in systems, components and processes.

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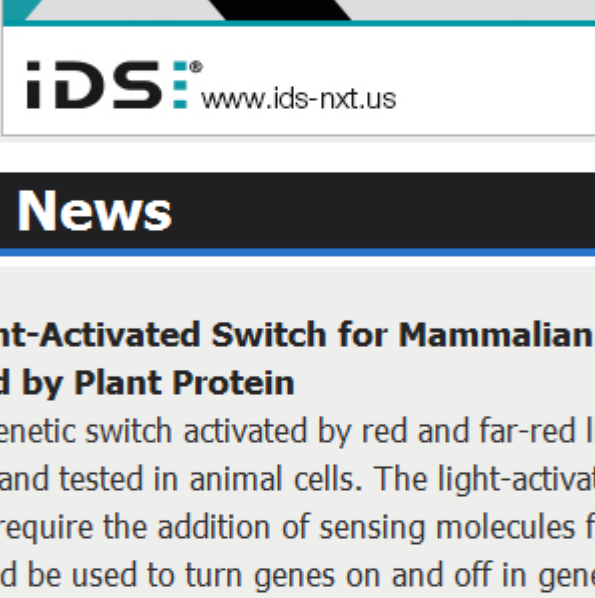


### AR/VR Lens: Measure Displays in Headset

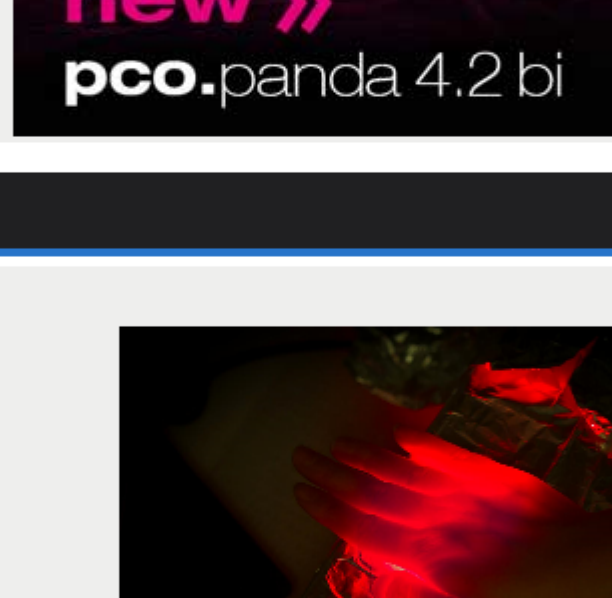
#### Radiant Vision Systems, Test & Measurement

Displays viewed near to the eye, such as those in AR/VR devices, create immersive virtual experiences. However, as display images are magnified to fill a user's field of view, display defects are also magnified. Issues with uniformity of brightness and color, dead pixels, line defects, cloudiness, and image position become more evident to the user whose eyes are only centimeters away from display screens.

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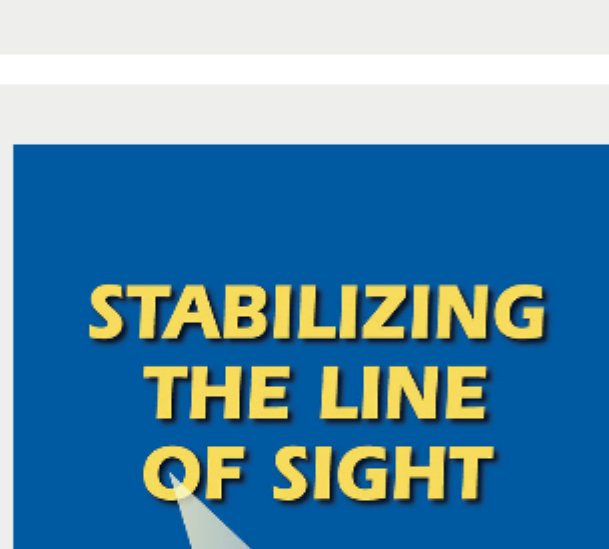
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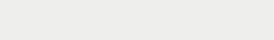
## More News

### Red Light-Activated Switch for Mammalian Cells Is Powered by Plant Protein

An optogenetic switch activated by red and far-red light has been designed and tested in animal cells. The light-activated switch, which does not require the addition of sensing molecules from outside the cells, could be used to turn genes on and off in gene therapies.

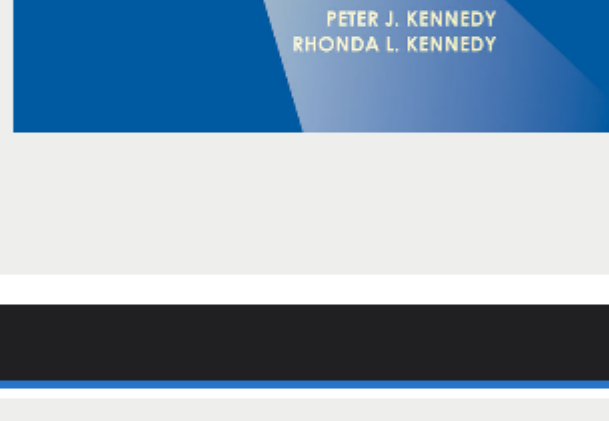


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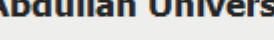


### New Book Addresses Issues, Offers Solutions for LOS Control

In *Stabilizing the Line of Sight*, authors Peter J. Kennedy and Rhonda L. Kennedy provide a methodology and an example for executing a successful end-to-end LOS design. This book will give readers a better understanding of the relationships between the various engineering disciplines that are required for successful LOS control.



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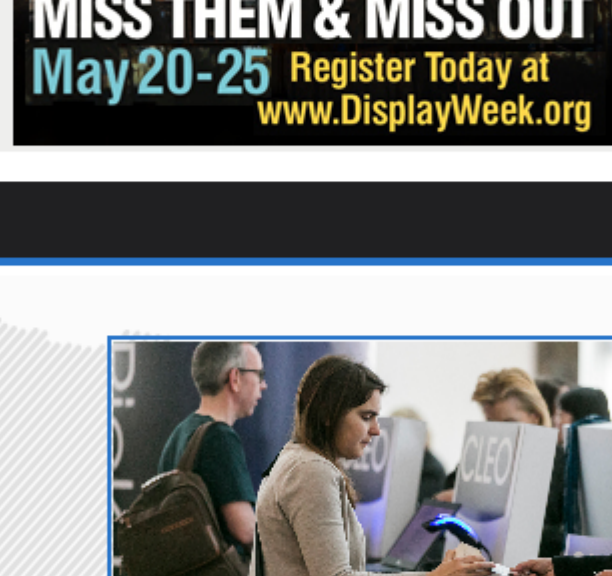
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## Industry Events

### CLEO 2018

May 15-17, 2018 - San Jose Convention Center - San Jose United States

Photonics Media Booth: 2326

CLEO brings together all aspects of laser technology, from basic research to industry applications. It provides a forum where attendees can explore new scientific ideas, engineering concepts, and emerging applications in fields such as biophotonics, optical communications and novel light sources. The CLEO Technical Program Committee maintains a rigorous peer review system that emphasizes high technical quality in all presentations. CLEO offers high quality content in four core event elements: Fundamental Science, Science & Innovations, Applications & Technology, and CLEO:EXPO.



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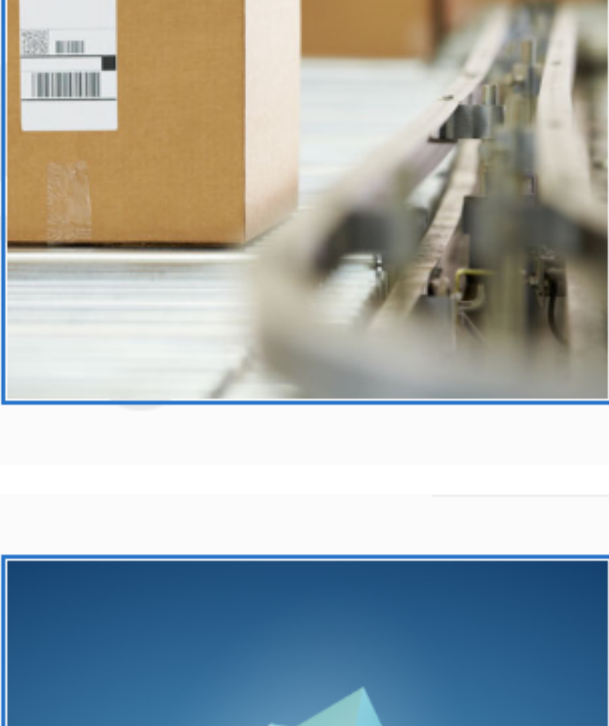
## Webinars

### Selecting the Best Sensor for Your Machine System

Tue, Apr 24, 2018 1:00 PM - 2:00 PM EDT

You will learn how to "do the math" in order to make sure your sensor has the resolution you need to find defects of a certain size; what to look for in sensor quality; what a sensor can do for you (and, just as importantly, what it cannot do). This webinar will also discuss the importance of other components in machine vision, including the lens, camera and lighting.

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### Synthetic Sapphire: Properties, Use and Selection

Thu, Apr 26, 2018 1:00 PM - 2:00 PM EDT

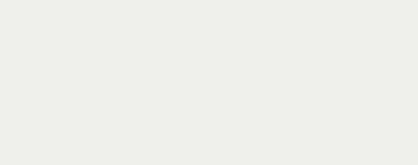
You will learn all about synthetically grown sapphire and the range of applications for which it is an appropriate, and in some cases a superior, choice. The webinar will discuss the differences between sapphire and glass and how to select the type of synthetic sapphire that is right for your application. This webinar is presented by IRD Glass.

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### CALL FOR ARTICLES!

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazines (*Photonics Spectra*, *Industrial Photonics*, *BioPhotonics* and *EuroPhotonics*). Please submit an informal 100-word abstract to Managing Editor Michael Wheeler at [Michael.Wheeler@Photonics.com](mailto:Michael.Wheeler@Photonics.com), or use our [online submission form](#).