

# PHOTONICS



PHOTONICS MEDIA

# spectra

Monthly newsletter from the editors of Photonics Spectra, with features, popular topics, new products, and what's coming in the next issue.

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## From the Editor's Desk



### Innovation at the Nanoscale

MIKE WHEELER, MANAGING EDITOR

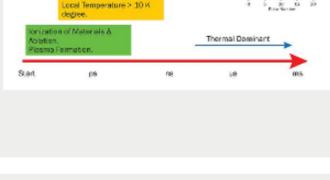
Last April, Mark Zuckerberg unveiled his 10-year roadmap for Facebook. According to the plan, users of the popular social media channel can expect to see an increase in the use of high-definition video and a more prominent role for apps like Messenger and Instagram. A few years farther out, expect artificial intelligence and virtual reality to take center stage.

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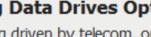


### Ultrafast Fiber Laser Opens Doors for Additive Manufacturing

Femtosecond lasers have long been a workhorse in subtractive manufacturing, prized for their unique ability to athermally ablate materials. They are commonly used in surface structuring, drilling and thin-film scribing. However, few thought that a femtosecond laser could be used in additive manufacturing. By taking advantage of instantaneous high-temperature plasma generation, a recently developed femtosecond fiber laser can melt high-temperature metals such as tungsten.



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### Big Data Drives Optical Networking Changes

Long driven by telecom, optical networks are now being pushed by large data centers operated by Facebook, Amazon, Google, Microsoft and others. Here, runs are shorter and the emphasis is not on utility-grade reliability, a change from the telecom world. Instead, lowering the cost per bit and boosting bandwidth are of paramount importance. Suppliers have come up with new solutions, with users not waiting for standards to be finalized.



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## In Case You Missed It

### Is There Life on Mars? Lidar Device May Be Able to Tell Us.

A biosensor currently used by the U.S. military to remotely monitor the atmosphere for potential toxins has inspired a novel device that could be used for detecting biosignatures in space. The Bio-Indicator Lidar Instrument, or BILL, is a prototype of a fluorescence-based lidar that may ultimately be used in space exploration to analyze particles for organic material.



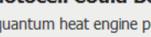
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### The Revolution Has Just Begun: Q&A with John Bowers

One of the foremost names in the world of integrated photonics is John Bowers, Ph.D., who is credited with leading a team that successfully demonstrated an electrically pumped hybrid silicon laser a decade ago. That advance has paved the way for the commercial production of high-bandwidth silicon photonic devices.

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### Quantum Photocell Could Boost Solar Cell Efficiency

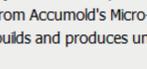
A novel type of quantum heat engine photocell, which can help control the flow of energy in solar cells, could increase solar cell efficiency. The photocell has demonstrated the ability to regulate solar power conversion without requiring active feedback or adaptive control mechanisms.

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## Featured Products

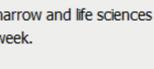


### Micro Injection Molding

#### Accumold

Accumold® is a high-tech manufacturer of precision micro, small and lead frame injection molded plastic components. Utilizing processes developed from Accumold's Micro-Mold® technology, the company designs, builds and produces unique molds and parts.

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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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### Sputtered Metal Deep-UV Interference Filters

#### Chroma Technology Corp.

Chroma Technology's sputtered metal UV interference filters offer the highest levels of Deep UV transmission of any UV metal coated filters available.

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### PICOEXPLORER™ PAS-110

#### USHIO America Inc.

PICOEXPLORER photo absorbance sensor (PAS) is a compact laboratory research device that dramatically improves the efficiency of experiments in seconds in just 3 EASY steps.

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### Cobolt Introduces 553 nm DPL Laser with Direct Modulation

#### Cobolt AB

Cobolt AB, Swedish manufacturer of high performance lasers, introduces a new wavelength of 553 nm on the Cobolt 06-01 Series of plug and play CW lasers.

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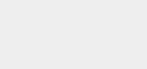


### Splicing, Glass Processing Systems

#### AFL

The LAZERMaster LZM-110M, LZM-110P, LZM-110M+ and LZM-110P+ splicing and glass processing systems from AFL use a CO2 laser heat source to perform splicing, tapering, lensing or other glass shaping operations with glass diameters up to 2.3 mm.

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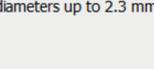


### 1 GHz mode-spacing from the taccor comb

#### Laser Quantum Ltd.

An extension to the successful range of taccor lasers, the taccor comb is Laser Quantum's first complete frequency comb system, comprising; a powerful 1 GHz turn-key Ti:Sapphire laser and a matched dispersion compensation module, supercontinuum generation and ultra-stable f-to-2f interferometer all in a single sealed...

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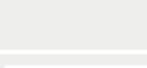
### Light Metrology Hands-On Workshops

#### Labsphere Inc., Photonics

If you are working with LEDs or SSL lighting products of any type, attending a Labsphere Hands-On Light Metrology workshop will help you to:

- Give you and your business a competitive advantage
- Understand the jargon and metrics used to express light...

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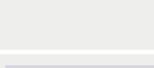


### Laurin Publishing Announces Poster Series

#### Photonics Media

Laurin Publishing Co., whose titles include Photonics Spectra and BioPhotonics magazines and the Photonics Buyers' Guide, announces the availability of two posters featuring art that takes a lighthearted look at the early days of the photonics industry.

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### High Specification CW Polarized Fiber Laser for Research Applications

#### Kimmon Koha USA Inc.

Introducing Kimmon Koha's model KKFL-20 fiber laser. With its single mode operation and a polarization ratio of >250:1 it is a perfect pumping source for SHG / THG.

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## Webinars

### An Introduction to Back Illuminated sCMOS Cameras

Tue, Feb 14, 2017 1:00 PM - 2:00 PM EST

Scientific CMOS (sCMOS) cameras are increasingly becoming detectors of choice for a range of quantitative imaging and spectroscopy applications, from astronomy to biological sciences. This webinar, presented by Princeton Instruments, will give you an overview of sCMOS camera technology and how it compares to CCD, EMCCD and ICCD low light imaging and spectroscopy detectors.

Speaker Ravi Guntupalli, vice president of sales and marketing at Princeton Instruments, will discuss: the key improvements of "back illuminated" sCMOS technology over previous generations; performance criteria of low light detectors; and how to select the optimum detector technology based on your application requirements. The webinar is aimed at both beginners and advanced users of various optical diagnostic techniques.

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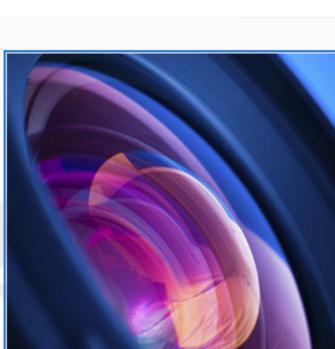


### Integrating Camera Technology Into a Successful Machine Vision Solution

Fri, Mar 10, 2017 1:00 PM - 2:00 PM EST

Rex Lee, Ph.D., CEO of Pyramid Imaging, Inc., will discuss the components of a comprehensive machine vision system, including cameras, lighting, lenses, sensors and detectors; and how to design a system that has the components you need for optimal performance. Areas he will address include requirements definition, system design, implementation, turnkey systems; and how to determine if a turnkey machine vision system is right for you.

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## Coming in March...

### Features

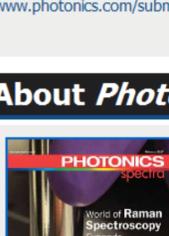
UVC Laser Sensors; Optical Metrology; Fiber Optics; Image Sensor Advances; 4G Optics

### Issue Bonus

Asia-Pacific Regional Report and bonus subscription

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *Photonics Spectra*. Please submit an informal 100-word abstract to Managing Editor Mike Wheeler at [mike.wheeler@photonics.com](mailto:mike.wheeler@photonics.com) or use our online submission form [www.photonics.com/submitfeature.aspx](http://www.photonics.com/submitfeature.aspx).

## About Photonics Spectra



Since 1967, *Photonics Spectra* magazine has defined the science and industry of photonics, providing both technical and practical information for every aspect of the global industry and promoting an international dialogue among the engineers, scientists and end users who develop, commercialize and buy photonics products.

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