

# This Week In PHOTONICS

PHOTONICS MEDIA



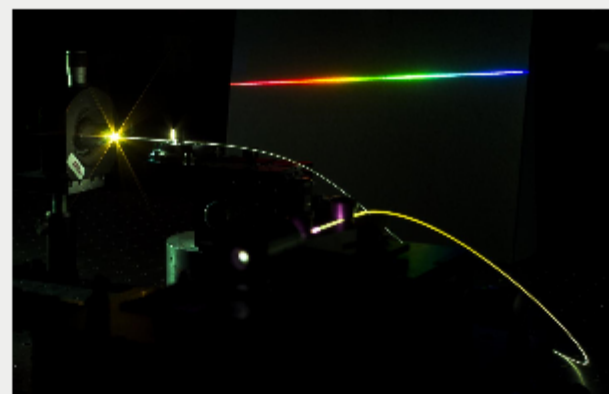
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## Top Stories

### Customizing Broadband Light Sources Using a Photonic Chip and AI

Researchers have created an optical device that uses AI to control the properties of light. Using an actively controlled photonic chip, they prepared and manipulated patterns of femtosecond (fs) optical pulses. They used machine learning techniques to tune their approach.



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### New Laser Architecture Taps Coherent Light to Probe and Control Matter

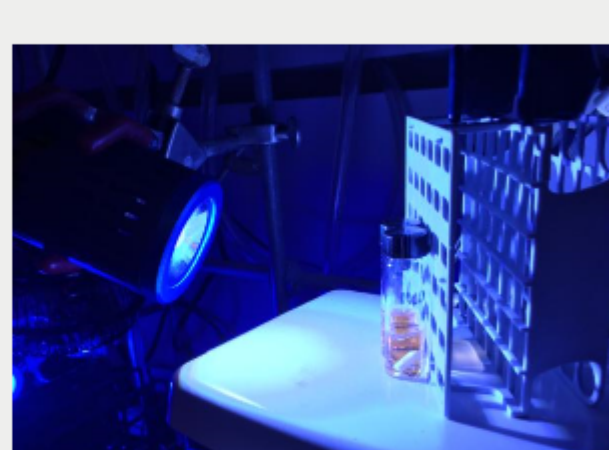
A new laser architecture called the Universal Light Modulator uses coherent light to engineer complex light structures for probing and controlling matter. Currently, generating such structures is primarily done using external devices such as spatial light modulators, which have average power and peak power limitations.



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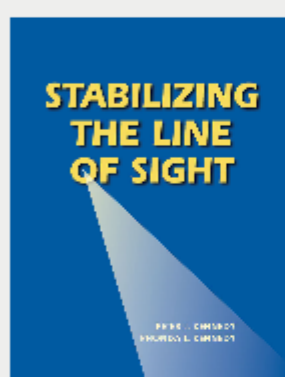
### Photocatalyst Used to Create a Safe, Sustainable Building Block for New Drugs

While searching for ways to use visible light to drive chemical reactions, a research team found that by using photocatalysis, they could create a safe, inexpensive alternative to anilines, which are used for the development of new medicines.



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## Featured Products



### Stabilizing the Line of Sight

**Photonics Media**  
 In *Stabilizing the Line of Sight*, authors Peter J. and Rhonda L. Kennedy provide a methodology and an example for executing a successful end-to-end line-of-sight (LOS) design. Comprehensive in scope, 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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### pco.edge 4.2 bi: Back Illuminated sCMOS

**PCO-TECH Inc.**  
 Innovations aren't always about having that one big new idea. Unique technology also comes from evolution, combining existing and new technology. When PCO's tried and trusted pco.edge series pools forces with modern back illuminated (bi) 16 bit sCMOS sensor technology, we call the result: pco.edge 4.2 bi.

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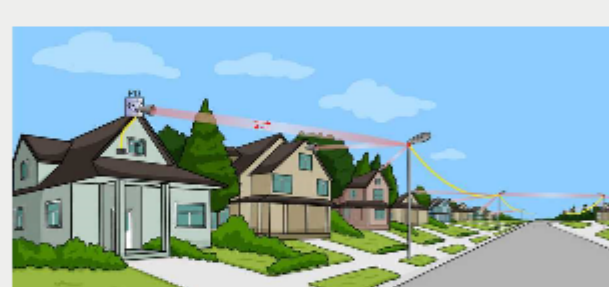
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**pco.edge 4.2 bi**

## More News

### Wireless-to-Optical Receiver Could Speed Data Transmission Over 'Last Mile'

While light waves sent through optical fibers support fast data transmission, the "last mile," from the fiber optic cable to the internet socket in your home, can be the most challenging and expensive leg of the journey. In the future a new light modulator could cover the "last mile" where data must travel efficiently and at a low cost.



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### Researchers Demonstrate Efficiency of Radical-Based OLEDs

Radicals — semiconducting molecules with unpaired electrons — can be used to fabricate highly efficient OLEDs. Using a luminescent radical emitter, researchers demonstrated an OLED with maximum external quantum efficiency of 27 percent, at a wavelength of 710 nm.

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## More Headlines

**US University Consortium Receives \$10M NSF Grant for Machine Learning Security** [Read Article](#)

**imec, ASML to Establish a Joint Lab, Accelerate Adoption of EUV Lithography** [Read Article](#)

**Laser Components, Fraunhofer Partner for Lidar Technology** [Read Article](#)

**REDFINCH Consortium Detects Gas with Light, Sound** [Read Article](#)

**Exagan Opens Taiwan Facility** [Read Article](#)

## Industry Events

### 2019 IS&T International Symposium on Electronic Imaging

January 13-17, 2019 - Hyatt Regency San Francisco Airport - Burlingame United States

For 30 years, EI has showcased the leading research of each era, from the early days of digital cameras, to the imaging science driving autonomous vehicles, to the 3D imaging essential to bioinformatics, to the virtual realities presented via stereoscopic imaging. EI 2019 will cover vital new topics that put electronic imaging at the forefront of 21st century technology development. You will learn about these new imaging applications, hear about what's next in imaging science, and interact with renowned imaging pioneers from around the world. Symposium plenaries, short courses, conference keynotes, and informal gatherings will allow you to tap into a smart, forward-thinking global community that will inspire and empower you.

[More Info](#)

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**Electronic Imaging 2019**  
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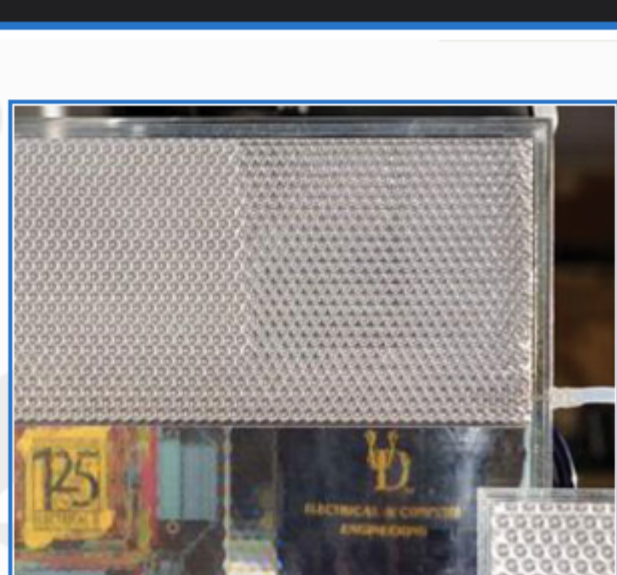
## Webinars

### Materials and Methods for Smart Glass, Smart Windows, and Building Shells

Wed, Dec 5, 2018 1:00 PM - 2:00 PM EST

This webinar will introduce a cost-efficient, high-performing smart glass system for windows, windshields, roof panes, and building envelopes. The system is based on a reflective structure that switches to transmissive when an index-matching fluid is introduced. You will learn about the technology used to develop and fabricate the smart glass system, including the use of optofluidics and 3D printing. The presenter, professor Keith Goossen, will also discuss future goals and potential applications for his smart heating, cooling and lighting system.

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### CALL FOR ARTICLES

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