

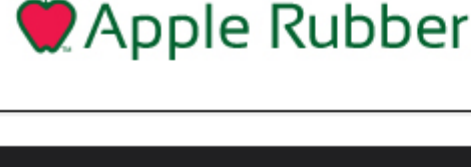
# This Week In PHOTONICS

PHOTONICS MEDIA



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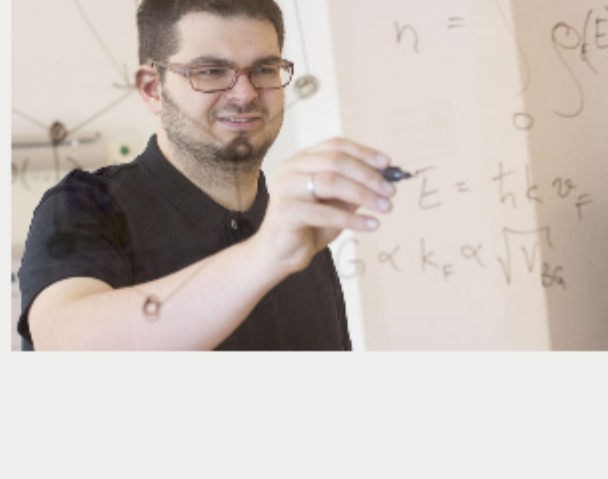


Learn how

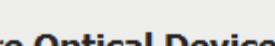
## Top Stories

### Combining Two Ultrathin Materials in a New QD Could Enable Widely Tunable Quantum Systems

A new type of quantum dot (QD) has been developed that allows for more accurate and more widely tunable energy levels of confined electrons. The advance in QD technology combines graphene (a conductive single atomic layer of carbon atoms) and hexagonal boron nitride (h-BN), a single layer of material similar to graphene except that it is insulating.



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### Point-of-Care Optical Device Could Improve Thyroid Cancer Screening

A team of international researchers developed a point-of-care device that could enable consistent and cost-effective screening for thyroid nodules. This novel device builds on the current ultrasound standard with a hybrid optics/ultrasound probe.



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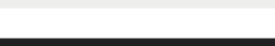


### Imaging System Navigates Fog Better Than Human Vision

In what could be a boon for autonomous vehicle technology, a system has been developed that can produce images of objects enveloped in fog too thick for human vision to penetrate. Under actual fog conditions, researchers estimate the system could provide visibility of between 30 and 50 m.



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## Featured Products



### Microstage + Controller Inside

**New Scale Technologies Inc.**  
Precision rotary microstage has the controller inside! Easily embed precision motion into your systems, no separate controller needed. Continuous 360° rotation with 0.025° (absolute) resolution. Works on 3.3VDC and high-level

commands over I2C or SPI.

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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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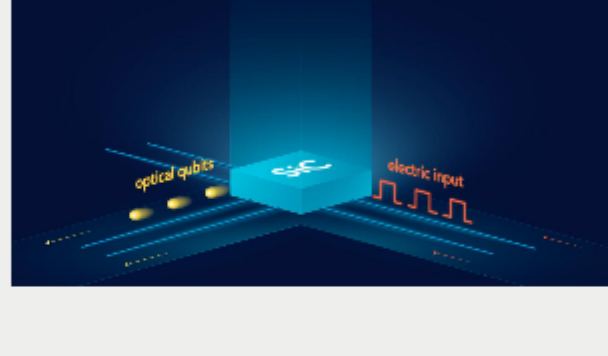
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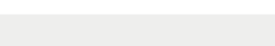
## More News

### Semi Material Used for Secure Quantum Communications

Use of single photons as carriers for quantum bits could enable reliable security during quantum data transmission. Researchers have found that an existing material could be used to build a system for the reliable generation of single photons under ambient conditions.



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### New Lens Provides Nanometer-Scale Resolution

A multilayer pair of materials, tungsten carbide and silicon carbide, was used to prepare high-efficiency, high-numerical aperture (NA) multilayer Laue lenses (MLLs). In a series of studies, researchers used a pair of MLLs to achieve a 2D focus of 8.4 × 6.8 nm at a photon energy of 16.3 keV. They demonstrated scanning-based imaging of samples with a resolution below 10 nm.



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## More Headlines

[U. Rochester Uses Augmented Reality Table to Experiment with Chemical Engineering](#) [Read Article](#)

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[Rice Team Earns \\$10M NSF Award for Live Biology Microscopy](#) [Read Article](#)

[CMS, LIGO Collaborate for MARS Conference Presentation](#) [Read Article](#)

[Photonic Hook Could Enable Optical Manipulation of Nanoparticles](#) [Read Article](#)

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## Industry Events

### The Vision Show 2018

April 10-12, 2018 - John B. Hynes Veterans Memorial Convention Center - Boston United States

Photonics Media Booth: 1202

The Vision Show is North America's leading show for machine vision and imaging. You will have the opportunity to meet with key suppliers, all in one place, compare solutions and get answers to your vision and imaging challenges. The accompanying conference will feature practical, real-world training that you can put into practice right away.

[More Info](#)

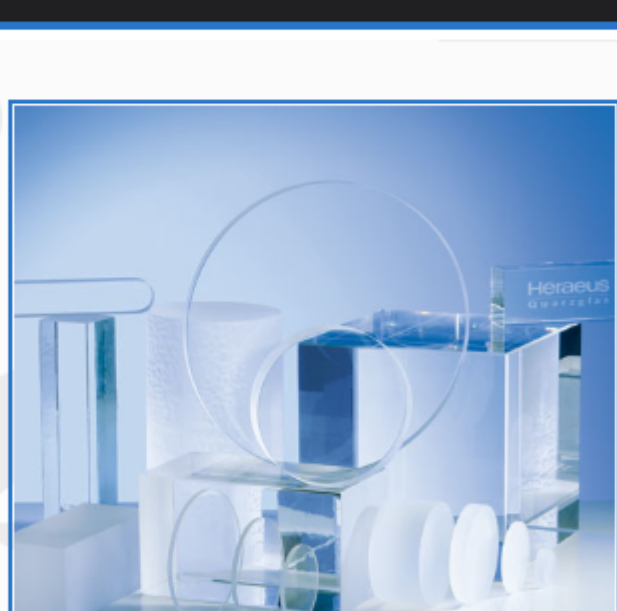
## Webinars

### Fused Silica Selection: Solutions for Price vs. Performance

Wed, Apr 4, 2018 1:00 PM - 2:00 PM EDT

Fused silica is a key material in a multitude of optical applications, including high-power laser systems, spectroscopic instrumentation, astronomy and telecommunications. In this webinar, presented by Heraeus, you will learn how to choose which variety of fused silica best matches the price and performance points of a given application.

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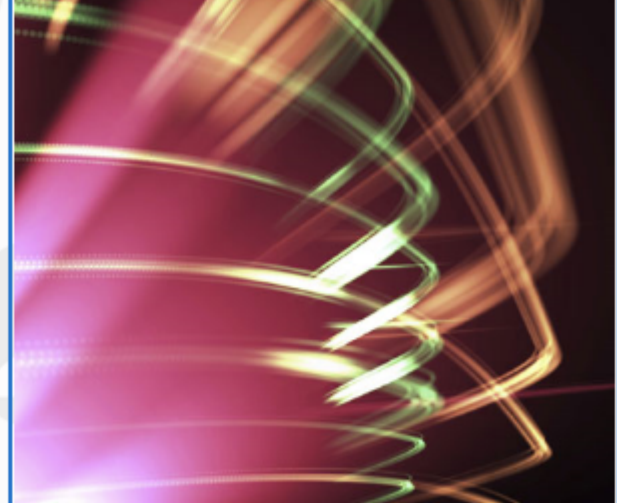


### Fundamentals of Helium Leak Detection

Tue, Apr 17, 2018 1:00 PM - 2:00 PM EDT

From LEDs to medical devices to microelectronics to fiber optics — everything leaks! This 40-minute webinar, presented by Agilent Technologies, will describe the challenges of locating and measuring of leak detection. You will learn the different methods of locating leaks and determining leak rate, and which method to employ for your product or system.

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Questions: [info@photonics.com](mailto:info@photonics.com)

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