

This Week In PHOTONICS

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Top Stories

Underwater Optical System Images Seafloor at Microscale

An underwater computer with an interface to a microscopic imaging unit is enabling scientists to non-invasively image seafloor environments and organisms in situ at nearly μm resolution. The system, called the Benthic Underwater Microscope (BUM), will help scientists better understand the dynamic ecological processes taking place underwater on a microscopic scale.

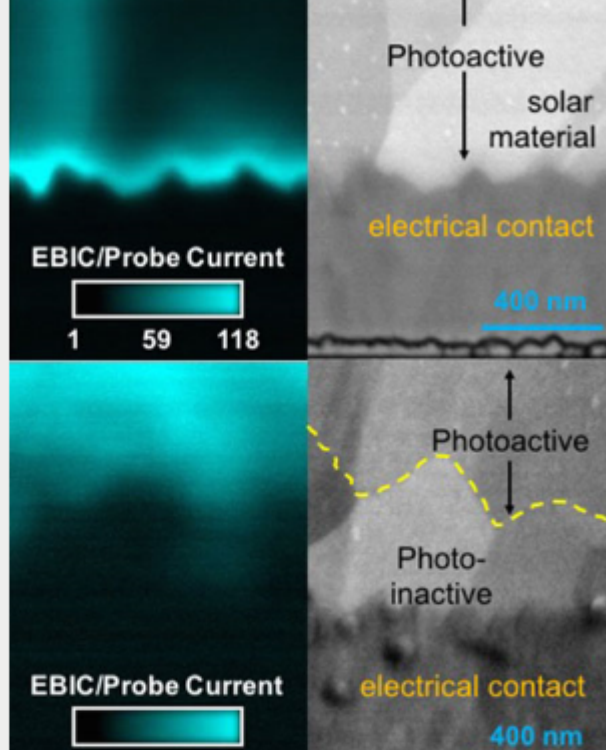


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Microscopy Uncovers Potential Way to Improve Solar Cell Efficiency

Advanced microscopy techniques have been used to show that adding the optimum amount of selenium (Se) may help increase efficiency in cadmium (Cd)- and tellurium (Te)-based solar cells from the current approximate 22 percent to levels approaching the theoretical limit of 30 to 33 percent. To study the effect of Se content on the photoactive properties of bandgap-graded CdTe cells, researchers at Oak Ridge National Laboratory (ORNL) used a combination of techniques including atom probe tomography, transmission electron microscopy and electron beam-induced current.



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Metamaterial Switches States in Response to Light

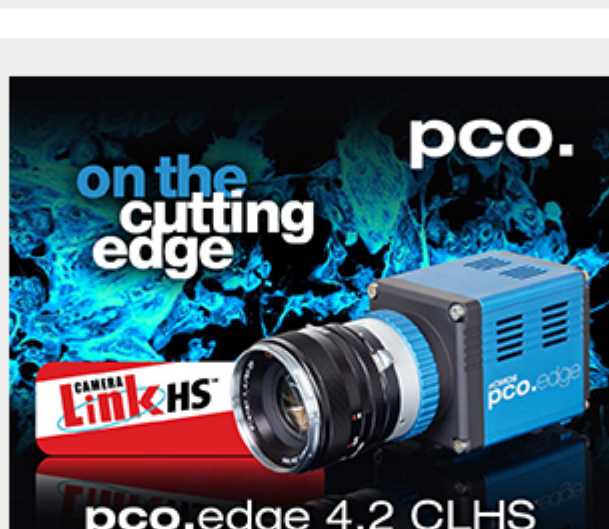
A metamaterial has been designed with a switchable metasurface that allows it to either block or transmit light waves in response to light pulses. Developed by researchers at the University of Southampton, the optically switchable metamaterial uses the phase-change medium germanium antimony telluride (GST) to change properties, a capability that may be useful for a range of optical devices.



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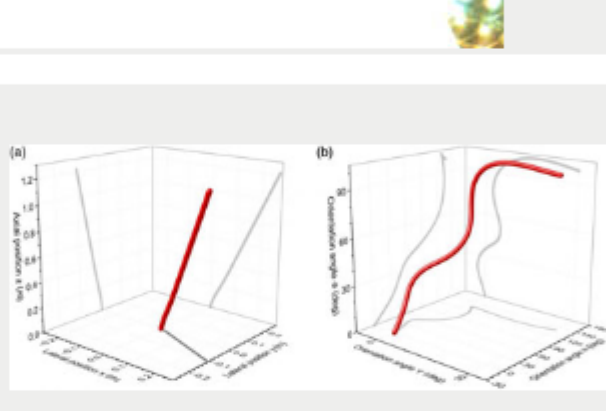


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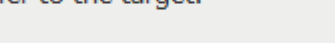


Lasers May Remove Space Debris Using Novel Approach

Laser ablation can be used to remove interference in satellite communications by pushing pieces of space debris into the Earth's atmosphere, where the debris is destroyed. A novel approach to laser ablation of space objects focuses on a secondary effect of laser-induced damage, which is not immediately apparent in experiments on Earth but becomes relevant in the weightlessness of space: when laser-induced material ablation occurs, the recoil of the ablation plume yields momentum transfer to the target.



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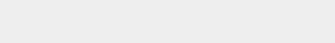


Magnetic Materials Drive Up Power of Compact Q-Switched Laser

A submillimeter-thick film with magnetic microdomains has been used to control a Q-switched laser, increasing its pulse power by 1,000 times. The laser, developed using a 190- μm -thick garnet film with labyrinth-shaped magnetic domains, may be the first magneto-optic (MO) Q-switched laser developed using thin magnetic garnets.



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[Laser Shock Technique Replicates Pressures That Formed Planets](#)

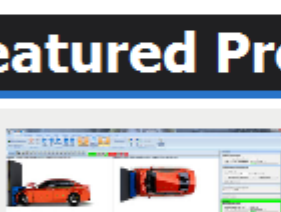
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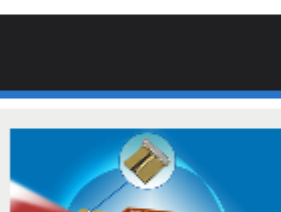


StreamPix 7 - Multiple Camera DVR Software

NorPix Inc.

StreamPix 7 supports a wide selection of GigE Vision, 10 GigE, USB3, CoaXpress and Camera Link cameras. StreamPix can capture from multiple synchronized cameras simultaneously along with computer time stamp, GPS coordinates, and TrigB or GPS timing.

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DBR Laser with Beam Correction

Photodigm Inc.

Photodigm DBR lasers are now available with integrated beam correction. A Virtual Point Source (VPS) microlens inside the package corrects astigmatism and reduces fast axis divergence resulting in a user friendly near circular beam. This increases coupling efficiency/transmitted power and improves performance for...

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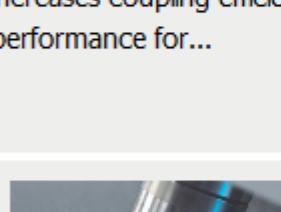


FOCtek 3MP 4/6mm Starlight Lenses

FOCtek Photonics Inc.

FOCtek provides customers with optical lens assemblies and custom-made lenses. We have developed a series of new products - ITS/Starlight Lenses which are available for 1/2.5", 1/2.7", 1/2.8", 1/3" CMOS sensor, especially IMX290 / IMX291. They are all metal and glass with high stability.

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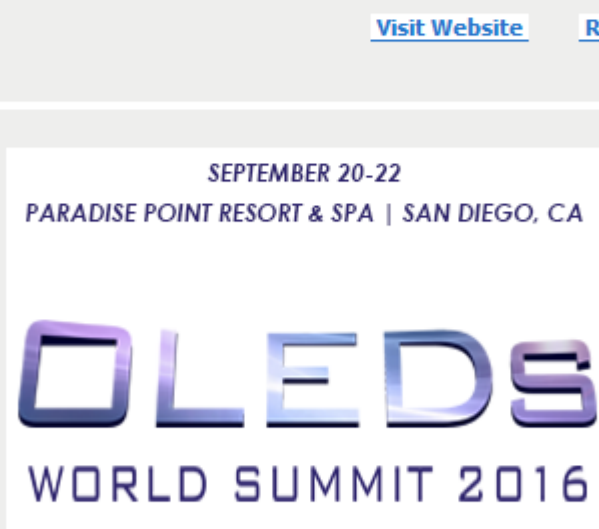
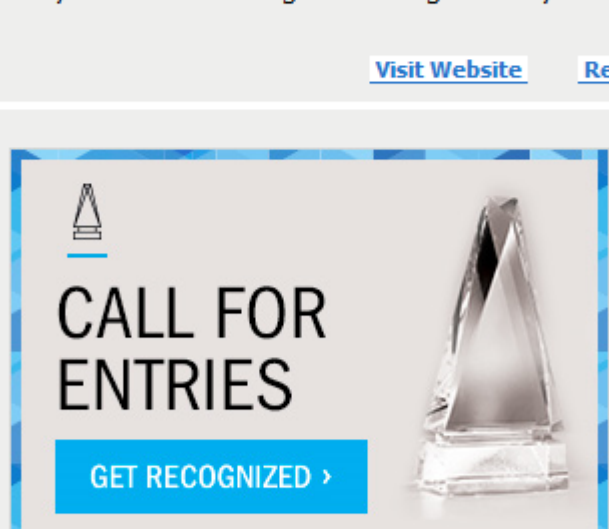
APS 3D: Advanced Polishing System 3D

Schneider Optical Machines Inc.

The Advanced Polishing System 3D (APS 3D) unites a new groundbreaking high-precision polishing technology for aspheres with an intelligent process flow and minimal user interaction.

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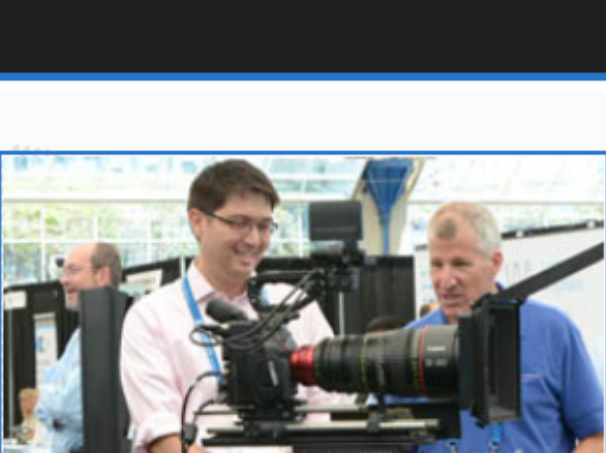


Industry Events

Optics & Photonics 2016

August 28 - September 1, 2016 - San Diego Convention Center - San Diego, CA
Photonics Media Booth: 143

SPIE Optics & Photonics 2016 is the largest international, multidisciplinary optical sciences and technology meeting in North America. Presentations will cover the latest research in optical engineering and applications. This year's conference will include 38 courses and workshops, more than 3,000 technical presentations, and almost 200 exhibitors. Sub-symposia include: NanoScience & Engineering; Optics & Photonics Energy; Organic Photonics & Electronics; and Optical Engineering & Applications.



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Webinars

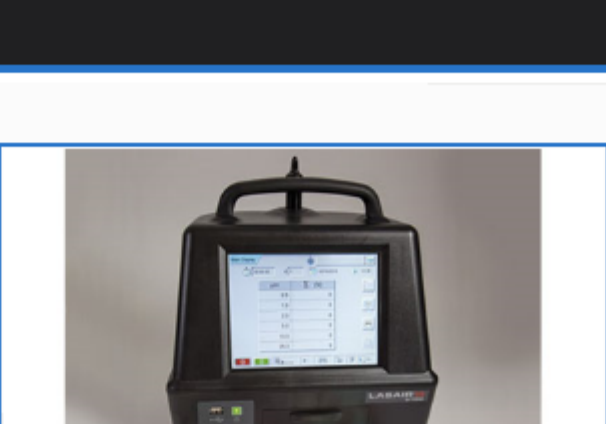
Controlling Quality in Advanced Optics Manufacturing

Tue, Aug 23, 2016 12:00 PM - 1:00 PM EDT

Please join us for a FREE webinar sponsored by Particle Measuring Systems.

Advanced optics manufacturing now requires much cleaner environments than were necessary in the past. In this timely webinar, John Davis of Particle Measuring Systems provides an overview of particle generation sources, control methods and ISO standards, to help you achieve a clean environment that maximizes productivity.

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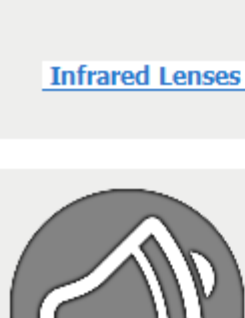
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