



sponsor



LightMachinery
Excellence in Lasers and Optics

A better excimer laser. The IPEX-700.

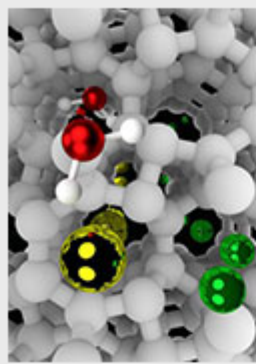
www.lightmachinery.com



PHOTONICS.com

Thursday, November 20, 2014

Silicon Variant Optimized for Solar Absorption



Natural silicon's indirect bandgap prevents its use, as is, in next-generation solar technologies. A team from the Carnegie Institution for Science has developed a new type of silicon using a quasi-direct bandgap that falls within the required range for solar absorption.

[Read Article >>](#)



Image Correlation Helps Optimize Laser-Based 3-D Printing

Researchers at Lawrence Livermore National Lab are using digital image correlation to find similarities between the power and speed of lasers used in powder-bed fusion additive manufacturing and the parts they produce.

[Read Article >>](#)



Elbit to Supply Missile Defense Systems for German Military Aircraft

Elbit Systems will provide multispectral directed infrared countermeasure systems for the German Air Force's Airbus A400 aircraft under a one-year contract with Diehl BGT Defense.

[Read Article >>](#)



Products on PhotonicsBuyersGuide.com



Brand New sCMOS Model with Deep Cooling

PCO Group
The PCO group, pioneer in sCMOS image sensor technology, expands their scientific CMOS family pco.edge by another model. The brand new member with deep cooling is called pco.edge gold 4.2.

[More info >>](#)



Extreme Imaging Products

Stanford Photonics
Stanford Photonics, Inc. designs and manufactures digital ICCD/ICMOS/CCD cameras for advanced imaging applications in the life sciences, commercial and military surveillance markets.

[More info >>](#)



Custom Glass Wafers

Sydor Optics
Sydor Optics has extensive experience in double-sided grinding and polishing of custom glass wafers (fused silica/quartz, Borofloat and more). Our precision manufacturing capabilities include diameters ranging from 25mm to 450mm.

[More info >>](#)



The Laser Welding Experts

LaserStar Technologies
LaserStar Technologies is an industry leader in standard and custom Nd:YAG and Fiber laser welding systems for a wide range of metal joining, complex assembly, automation and repair applications.

[More info >>](#)

More Articles on Photonics.com

New Class of Material Simulated in Laser Trap



Laser "honeycombs" have enabled the simulation of theoretical materials with curious properties. By aligning multiple laser beams in such a way that they create standing waves with a hexagonal pattern, researchers in Zurich have been able to trap a group of potassium atoms cooled to near absolute zero inside a vacuum chamber. The potassium atoms demonstrated behavior similar to that of electrons in graphene.

[Read Article >>](#)



Laser Detects Methane Leaks

A new laser system can detect biogas and natural gas that escape through leaks in gas lines or fermenters at biogas plants.

[Read Article >>](#)



Stimulating Light Receptors Relaxes Blood Vessels

A blood vessel receptor that responds to light could aid more effective treatment of vascular diseases and other medical conditions.

[Read Article >>](#)



In this edition of the industry's **premier weekly newscast**: Spatially modulated beams of light can transmit images through the air, MIR lasers create high-flux x-ray pulses, a new laser trap simulates a new class of materials, another edition of our EDU Spotlight, and Managing Editor Laura Marshall shares her report from Neuroscience 2014.

Providence Photonics Receives \$2.7M EPA Grant for Flare Monitor Commercialization

Providence Photonics in Baton Rouge, La., has been awarded a \$2.7 million Small Business Innovation Research (SBIR) grant from the U.S. Environmental Protection Agency to commercialize its flare efficiency monitoring system.

[Read Article >>](#)



MIR Laser Creates High-Flux X-Ray Pulses



Studying time-dependent incidents on short timescales requires femtosecond, high-flux x-ray pulses. A new high-intensity mid-infrared laser system accomplishes this challenging feat.

[Read Article >>](#)



ESI to Acquire Topwin Optoelectronics for Up to \$18M

Electro Scientific Industries Inc. (ESI) has entered into an agreement to acquire the Chinese laser design and manufacturing firm Wuhan Topwin Optoelectronics Technology Co. Ltd. for up to \$18 million.

[Read Article >>](#)



WHITE PAPER



Line Scan Cameras Enable High Speed Inspection of Color Filters Within Flat-Panel Display

Teledyne DALSA, Machine Vision OEM Components

The market of flat-panel displays (FPD) is a nearly \$100 billion business that needs efficient automated optical inspection (AOI) to meet rising demand and remain cost effective. The color filters within the display represent a major inspection task, demanding both precision and speed. Inspection systems using high-speed, high-resolution line scan cameras have proven themselves both equal to the present need and able to support panel technology's evolution.

[DOWNLOAD WHITE PAPER >>](#)

Industry Events

Light, Energy and the Environment Congress - Dec. 2-5, 2014 · Canberra, Australia



The Optical Society's Light, Energy and the Environment Congress brings together researchers, engineers and managers representing several disciplines to discuss and exchange information about energy production usage, cost, and environmental and efficiency management.

The event, to be held at the Energy Change Institute at the Australian National University, will examine developments in optical technologies for energy production, transport and use.

[More info >>](#)

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 Group Publisher Karen Newman at karen.newman@photonics.com

Questions: pr@photonics.com

Unsubscribe: <http://www.photonics.com/Newsletter/EmailUnsubscribe.aspx>

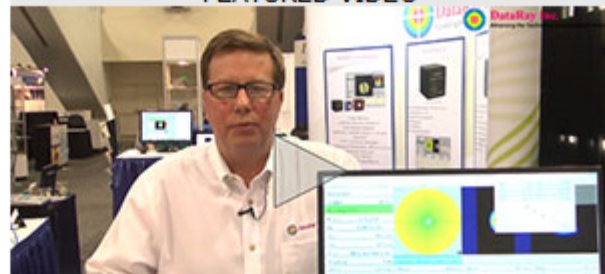
[Subscribe](#) | [Manage Subscriptions](#) | [Privacy Policy](#) | [Terms and Conditions of Use](#)

PHOTONICS MEDIA

THE PULSE OF THE INDUSTRY



FEATURED VIDEO



John Wilson



DataRay - BeamMap2

The patented BeamMap2 multi-plane scanning slit profiler uniquely speeds measurement and adjustment of focused and divergent laser beam assemblies, either as a standalone instrument, or interfaced to automated adjustment systems. This brief video describes the BeamMap2 operating principles and shows example measurements on actual focused and diverging beams.

SPONSOR

SPIE. SMART STRUCTURES NDE

SMART STRUCTURES NDE

Applied technologies of advanced materials, smart sensor networks, non-destructive evaluation, and structural health monitoring.

REGISTER TODAY

Conferences & Course: 25-29 March 2017
Portland Marriott Downtown Waterfront Hotel
Portland, Oregon, USA

SPONSOR

APRIL 3-6, 2017 | CHICAGO

AUTOMATE • 2017

Connect with leading suppliers and experts in vision!

REGISTER TODAY!

PHOTONICS buyers' guide

Looking for **Optics and Optical Components products?** Search the Photonics Buyers' Guide or Browse these product categories:

- [Beamsplitters](#)
- [Colored Glass Filters](#)
- [Dichroic Coatings](#)
- [Fresnel Lenses](#)
- [Infrared](#)
- [Interferometers](#)
- [Large Lenses](#)

SPONSOR

SPONSOR