Thursday, September 14, 2017

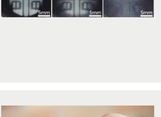
This Week In PHOTONICS

PHOTONICS MEDIA

Top Stories

Novel STEM for 3D Imaging Improves 3D Visualization of Curvilinear Nanostructures

Scientists have developed a scanning transmission electron microscopy (STEM) method that generates fast and reliable 3D images of curvilinear structures from a single sample orientation. This STEM method can acquire images in a single shot, making it possible to study samples dynamically as they change over time. Further, it can rapidly provide a "sense" of three dimensions, similar to a movie viewed in 3D.



Read Article

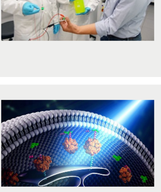
3D Printing Technique Makes Degradable Biomaterials

A stereolithographic technique has been developed for making 3D-printed biomaterials that can undergo controlled degradation. This technique uses noncovalent (ionic) crosslinking and could potentially enable the fabrication of adaptive and stimuli-responsive biomaterials for use in biosensing, drug delivery and tissue engineering applications. Stereolithographic printing typically uses photoactive polymers that link together with covalent bonds, which are strong, but irreversible.

Read Article

Smartphone App Assesses TBI at Site of Trauma

A smartphone app that detects concussion and other traumatic brain injuries (TBIs) could be used to determine whether someone — whether a football player, a soldier in battle, or an elderly person who has fallen — should be further assessed for concussion or other brain injury. The app, called PupilScreen, uses a smartphone's video camera and deep learning tools to identify changes in the pupil's response to light.



Read Article

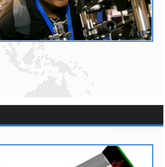
Ultrapure Green Light from Perovskite Could Enrich Next-Gen Displays

An ultrathin LED, as bendable as a sheet of paper and able to emit pure green light, has been developed using nanomaterials and simple room-temperature processes. Until now high-temperature processes have been required to produce pure light using LED technology. Researchers used colloidal 2D perovskites to convert the electrical current passing through the LED into light.

Read Article

Optogenetics Controls Interorganellar Communication at Nanoscale

Researchers are using optogenetics to tune communication between organelles within living cells. The optogenetics tools are being used to control the proteins that form the bridge between organelles, and to govern the length of the bridge at the nanoscale. Bridge length influences the critical functions of the cell; when it is disrupted, metabolic dysfunction and cell death can occur.



Read Article

More Headlines

NASA Mars 2020 to Use Spectroscopy, Fluorescence Imaging in Biosignature Analysis Read Article

STCC Develops Proposal for Cutting-Edge Photonics Factory Read Article

High-Speed Quantum Memory Retrieves Photons on Demand Read Article

BGU to Analyze Israel's VENUS Satellite Images Read Article

Metasurface-Coated Waveguides Reduce Crosstalk Read Article

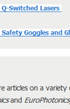
Featured Products

Non-Magnetic Picomotor™ Actuator

Newport Corporation

The 8301-UHV-NM Non-Magnetic, Ultra-High Vacuum Picomotor™ Actuator with Kapton Wires offers 0.5 inch (12.7 mm) travel and can be used in non-magnetic applications, UHV environments (10-9 Torr), as well as VUV/EUV applications.

Visit Website | Request Info



Si APD Array with Built-in Preamplifier

Hamamatsu Corporation

The S13645-01CR photo IC combines a 16-element silicon avalanche photodiode (Si APD) array and a preamplifier into a single, compact package. With its peak sensitivity around 840 nm and high-speed response (200 MHz), this device is suitable for distance measurement.

Visit Website | Request Info

Industry Events

Frontiers in Optics/Laser Science Conference and Exhibition

September 17-21, 2017 · Washington Hilton · Washington United States
Photonics Media Booth: 118

Frontiers in Optics, the OSA Annual Meeting, encompasses the breadth of optical science and engineering. This year's technical conference is organized around four themes that leverage the intersection between science and applications: Automotive, Nanophotonics and Plasmonics, Optics in Computing, and Virtual Reality and Augmented Vision. American Physical Society's Division of Laser Science provides a forum for presenting the latest work on laser applications and development. Image courtesy of OSA, the Optical Society.

More Info

Webinars

Learn Efficient Light Pipe Design Using Virtual Prototyping

Tue, Sep 19, 2017 1:00 PM - 2:00 PM EDT

Attendees will learn how to design better, more efficient light pipes using Lambda Research's TracePro software - a 3D CAD virtual prototyping program with the power and tools to simulate and design light pipes. The presenter will demonstrate effective methods and detailed procedures for simulating light propagation in a light pipe model, analyzing cross-talk effects, producing desired output objectives, and optimizing models for efficiency and output. This webinar is for anyone designing light pipes, especially for automotive and avionic displays, industrial manufacturing, consumer electronics applications and medical devices. It's presented by Lambda Research Corporation.

Register Now

PHOTONICS buyers' guide®

Looking for Lasers & Laser Systems products? Search PhotonicsBuyersGuide.com, or browse these product categories:

Laser Diode Test Equipment | Blue Diode Lasers
Laser Optics | Q-Switched Lasers
Vibration-Isolated Tables | Safety Goggles and Glasses

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 Managing Editor Michael Wheeler at Michael.Wheeler@Photonics.com, or use our online submission form.