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Thursday, August 22, 2019

This Week In PHOTONICS

PHOTONICS MEDIA

sponsor

LightMachinery
Excellence in Lasers and Optics

Introducing the UltraBright Spectrometer
No slit, just a giant aperture and a huge field of view.
Boom. Spectrum. Done.

Top Stories

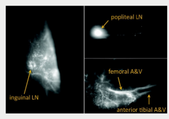
AI-Based Portable App Could Help Growers Prevent Production Losses
Deep convolutional neural networks (DCNNs) and transfer learning are being applied to just-in-time crop disease detection, through a smartphone tool that scans banana plants for signs of disease and pests. The tool is built into an app called Tumaini, which means "hope" in Swahili.

Read Article

Lensless Holographic Endoscope Is Self-Calibrated
Researchers at Dresden University of Technology (TU Dresden) have developed a tiny, self-calibrating endoscope that produces 3D images of objects smaller than a single cell. Without a lens or any optical, electrical, or mechanical components, the tip of the endoscope measures just 200 µm across.

Read Article

Shining Light Through Bleach Creates Fluorescent Quantum Defects
Using household bleach and light, MIT researchers have created fluorescent quantum defects in carbon nanotubes. The researchers treated carbon nanotubes at room temperature with NaClO (bleach) and irradiated the nanotubes with ultraviolet light for less than a minute to achieve optimized oxygen-doping.



Read Article

Featured Products

Flexible Sputtered Coatings

Deposition Sciences Inc. (DSI)
Roll-to-roll processes present a number of challenges when coating flexible surfaces, including unbalanced stress on each side of the substrate and limited line speed. These limitations affect the thickness and possibility of complex coatings. To address these challenges, DSI developed their batch coating technology, MicroDyn®. This unique process utilizes a proprietary magnetron sputtering chamber that was custom designed to address the challenges of high throughput coating.

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Canon Surface Reflectance Analyzer

Canon U.S.A. Inc., Industrial Products Div.
Canon RA-532H, Surface Reflectance Analyzer (goniophotometer), is a compact, portable device capable of measuring 4 surface appearance conditions in a single pass: Gloss, Haze, Image Clarity (IC), and BRDF (Bidirectional Reflectance Distribution Function). Additionally, Canon has released its own new parameter, "Scattering" parameter, overcoming the shortage of both IC and DOI (Distinctiveness of Image) when evaluating matte and textured surfaces as well as orange peel surface.

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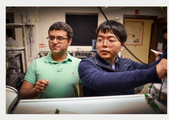
More News

Suppression of Backscattering Could Improve Optical Data Transmission
To control backscattering and reduce energy loss during optical data transmission, researchers from the University of Illinois at Urbana-Champaign exploited the interaction between light and sound waves. They were able to achieve robust light propagation in spite of scatterers and defects by dynamically suppressing backscattering using time-reversal symmetry breaking.



Read Article

Spectroscopy Probes the Energy-Level Landscape of Solar Cells
A new spectroscopic method could enable scientists to study the physical principles of organic photovoltaics with extreme precision to better understand how energetic losses occur. The new method combines ultraviolet photoemission spectroscopy and argon cluster etching to allow scientists to directly visualize the vertical energetic landscape in the donor-acceptor blend.

Read Article

More Headlines

At SPIE Optics + Photonics, Going Back to Get Ahead Read Article

Ozcan Group Improves Inference Accuracy for All-Optical Diffractive Neural Networks Read Article

Ultrathin Optical Waveguide Channels Light Within Three Layers of Atoms Read Article

Dynamic Vision Sensors Detect, Differentiate Movement in Real Time Read Article

European Machine Vision Forum Gears Up for Its 4th Year Read Article

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Industry Events

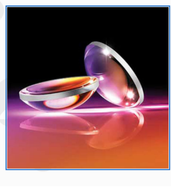
Semicon Taiwan 2019
September 18-20, 2019 - Taipei Nangang Exhibition Center - Taipei City Taiwan
SEMICON Taiwan connects Taiwan with the global microelectronics ecosystems and facilitates smooth collaboration between industry, government, academia, and research institutions. Witnessing enormous business collaboration, SEMICON Taiwan stays true to its mission to communicate leading technology trends; drive technology innovation; and facilitate collaboration. The 2019 program will include forums on smart manufacturing, sustainable manufacturing and the circular economy, quantum computing, and other timely topics.

More Info

Webinars

High-End Asphere Design for Manufacturability
Wed, Aug 28, 2019 1:00 PM - 2:00 PM EDT
In this webinar, Edmund Optics asphere experts will discuss the benefits of using aspheres in optical system design and the factors to take into account during the design process. You will learn how to improve manufacturability, performance, and cost through better asphere design. This webinar is sponsored by Zygo Corp., Edmund Optics, FISBA, and Lambda Research Corp.

Register Now



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