

This Week In PHOTONICS

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Solving the world's toughest optical problems... Materials, Systems and Design

Top Stories

Waveguide Device Transmits Laser Light Through Direct Contact With Skin

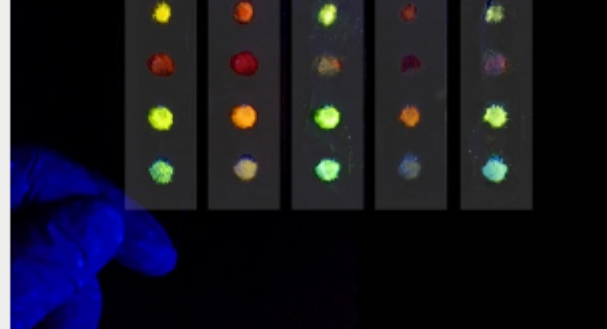
A device that transmits laser light into human tissue through direct contact, rather than open-air transmission, could help reduce safety concerns in laser-based dermatological procedures and improve targeted laser transmission through surface layers of the skin. The technique, which uses ultrasound to disrupt the layers of skin and allow dermatologists selective access to targeted areas, was developed by a research team at the University of Missouri.



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New Material Could Improve People's Health and Reduce Pollution

A material that holds the key to cheap, fast and portable new sensors for a wide range of chemicals has been developed by chemists at the University of Texas at Austin. The innovation could drastically reduce the costs associated with cleaning accidental chemical spills, remediating old industrial sites, detecting radioactive contamination in drinking water and operating medical and research imaging devices.



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Medically Monitoring Cameras Could Replace Skin Sensors

Premature babies kept warm in neonatal incubators could soon be medically monitored with cameras rather than with sensors attached to their skin. The camera system was developed by École Polytechnique Fédérale de Lausanne (EPFL), the Swiss Center for Electronics and Microtechnology (CSEM), and University Hospital Zurich (USZ) as part of the Swiss research program Nano-Tera to improve the way babies' heart rates and breathing are monitored.



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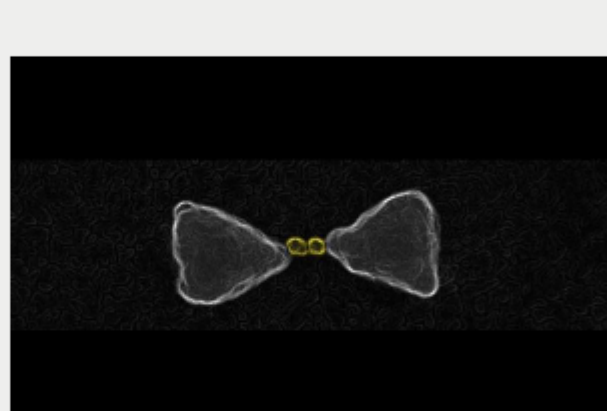
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Artificial Photocatalyst Used to Harness Light, Drive Chemical Reactions

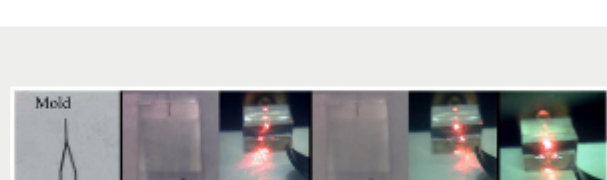
An artificial photocatalyst material made from metal nanoparticles could be used to harvest the sun's energy more efficiently for use in solar and other applications. Nanostructured materials that demonstrate plasmonic resonances enable intense light focusing. These optical nanoantennas are key to converting free-space light to evanescently confined modes in nanometer-scale volumes below the diffraction limit.



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Laser Makes Low-Cost Polymer Waveguides for Lab-on-a-Chip Devices

A novel method for fabricating poly-dimethylsiloxane (PDMS) waveguides using low-power laser etching could make it easier and less expensive to incorporate optical sensing onto lab-on-a-chip devices. The PDMS waveguides can be easily integrated into lab-on-a-chip devices made of the same material.



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More Headlines

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Featured Products

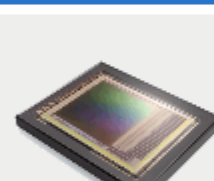


Advanced 3D Machine Vision System

Canon U.S.A. Inc., Industrial Products Div.

Canon RV300, RV500, and RV1100 is an advanced 3D vision system for factory robots. It is an industrial application that integrates high performance consumer camera core technologies in optics, sensors, image recognition, and image processing intellectual properties.

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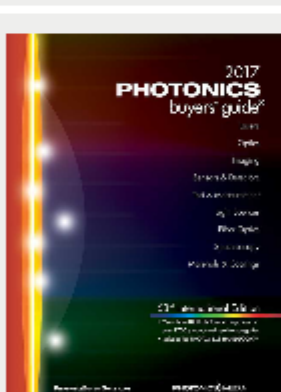


World's Smallest True Global Shutter

Teledyne e2v

Teledyne e2v has launched its groundbreaking new Emerald family of CMOS image sensors. This new product family features the world's smallest true global shutter pixel available on the market today (2.8µm).

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New Revolutionary LIV Test Instrument

Yelo Limited

The LIV Test Instrument a revolutionary design by Yelo and is used to verify the operating characteristics of laser devices. The system performs accurate LIV, Spectrum and Farfield measurements via a touchscreen user interface, by simply plugging in the laser device to be tested.

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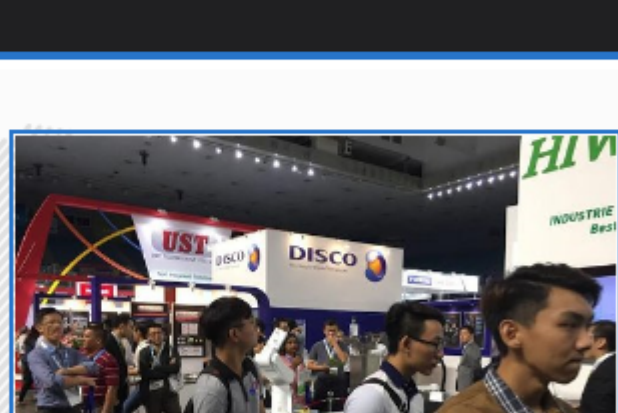
Industry Events

SEMICON Southeast Asia 2017

April 25-27, 2017 - SPICE Arena - Penang Malaysia

SEMICON Southeast Asia is the region's largest annual event for semiconductor and integrated electronics ecosystem attendees. Attendees will learn about the latest technologies and innovations in IoT, electronics manufacturing, advanced packaging, IC failure analysis, product and system test, yield management solutions and more. Technologies that will be demonstrated include: SIP enabled smart biking in cities; a self-assembled autonomous car kit; IoT healthcare; and much more.

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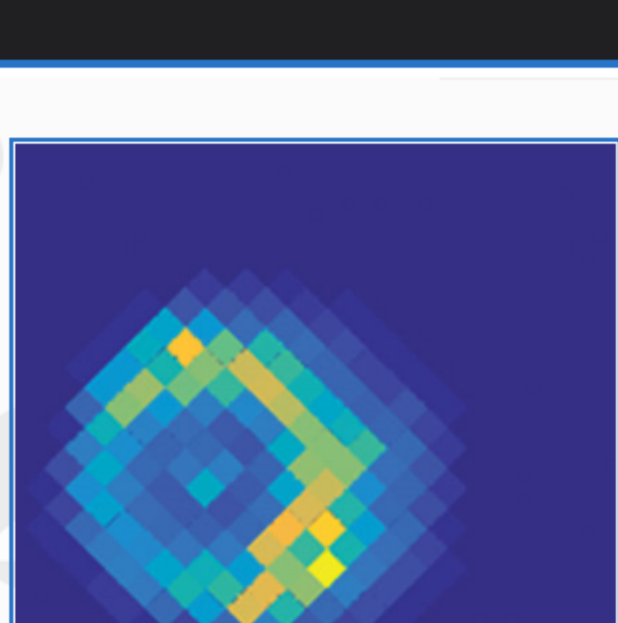
Webinars

Introducing the CAOS Smart Camera - Empowering Extreme Imaging

Wed, Apr 26, 2017 1:00 PM - 2:00 PM EDT

For security and surveillance applications, achieving true image scene pixel information is vital. This webinar will discuss the development of the Coded Access Optical Sensor (CAOS) and how, working with CMOS sensors, it can smartly extract scene contrast pixel light intensity information using time-frequency coding of selected pixels. A demonstration of the CAOS-CMOS camera will be included. This webinar is for engineers, scientists, researchers and technical professionals who may require or are interested in extreme contrast imaging.

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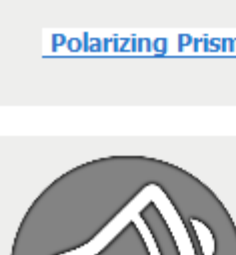
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