Thursday, August 10, 2017

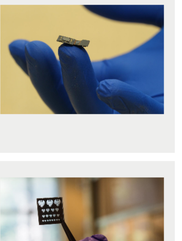
This Week In PHOTONICS

PHOTONICS MEDIA

Top Stories

Tunable Single-Photon Emitter Could Empower Quantum Info Processing

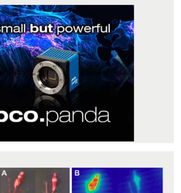
Carbon nanotube quantum light emitters have been produced that are capable of single-photon emission at room temperature and at telecommunications wavelengths. These emitters could be used for optically based quantum information processing and information security as well as for sensing, metrology and imaging. Critical to the success of the project was the ability to force the nanotube to emit light from a single point along the tube, specifically at a defect site.



Read Article

Flat Microscope Will Be Used in Implantable Neural Interface

A prototype of a flat microscope, called FlatScope, has been developed as part of the Defense Advanced Research Projects Agency's (DARPA's) Neural Engineering System Design (NESD) project. The microscope will be designed to sit on the surface of the brain, where it will detect optical signals from neurons in the cortex. The ultimate goal of the NESD project, which includes research teams from the U.S. and Europe, is to develop an alternate path for sight and sound to be delivered directly to the human brain.



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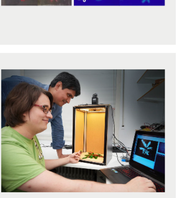
New Method Promises Easier Nanoscale Manufacturing

A new method to precisely pattern nanomaterials could open a new path to manufacturing next-generation electronic devices. Scientists at the University of Chicago (UChicago) and Argonne National Laboratory say their discovery could make building nanomaterials into complex structures for uses in LED displays, cellular phones, photodetectors and solar cells much more attainable.



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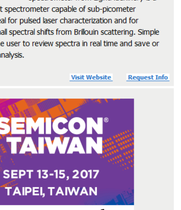
Imaging Tracer Could Allow Early Risk Assessment of Abdominal Aortic Aneurysm

With the development of a novel tracer, single-photon emission computed tomography/computed tomography (SPECT/CT) imaging could potentially be used to assess a patient's rupture risk for abdominal aortic aneurysm (AAA), allowing better management of this disease.



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Laser-Based Weeding Supports Sustainable Agriculture

A smart system for controlling invasive weed growth uses multispectral sensors and computer vision algorithms to detect and classify all plants in a field. After weeds are identified, a laser beam is used to eliminate or seriously damage the weeds. Sensing cameras are attached to an all-terrain robot or even a tractor add-on to find and target unwanted weeds.

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Featured Products

InGaAs Image Sensors for NIR

Hamamatsu Corporation

Hamamatsu offers a diverse lineup of image sensors, including InGaAs image sensors for NIR applications. Our new G13393-0808W InGaAs area image sensor is sensitive to 0.95-1.7 µm wavelengths, and is suitable for applications such as hyperspectral imaging, thermal image monitoring, NIR imaging, traffic monitoring, foreign object screening, and nondestructive inspection.

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The HyperFine Spectrometer

LightMachinery Inc.

Designed for measuring hyperfine spectra and subtle spectral shifts, the HyperFine spectrometer from LightMachinery is a compact, low cost spectrometer capable of sub-picometer resolution. It is ideal for pulsed laser characterization and for measuring the small spectral shifts from Brillouin scattering. Simple software allows the user to review spectra in real time and save or export for more analysis.

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Industry Events

IEEE 14th International Conference on Group IV Photonics 2017

August 23-25, 2017 - Grand Hyatt Berlin - Berlin Germany

The Group IV Photonics Conference (GFP 2017), now in its 14th year, delivers insights on current and future innovations in Group IV element-based photonic materials and devices, including silicon photonics, as well as other integration and fabrication technologies. Scheduled as a single-track conference, GFP 2017 facilitates personal interaction between colleagues, including oral and poster sessions of contributed and invited papers, as well as a plenary session with overviews of important Group IV element photonics topics.

More Info

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