Thursday, August 09, 2018

This Week In PHOTONICS

PHOTONICS MEDIA

Top Stories

All-Optical Diffractive Deep Neural Network Is 3D-Printed
Using a 3D printer, a research team has created an artificial neural network that can analyze large volumes of data and identify objects at the speed of light. Called a diffractive deep neural network (D2NN), the technology uses the light scattering from an object to identify it. The technology is based on a deep learning-based design of passive diffractive layers that work collectively.

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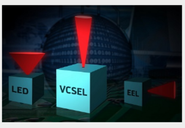
Faster High-Capacity Internet Networks via Photonics
EU scientists are using vertical-cavity surface-emitting laser (VCSEL) sources with photonic integrated circuits, optical switches, and semiconductor optical amplifiers to develop long-wavelength, high-capacity communications. This could pave the way for light-speed metropolitan connectivity and power new smart services like future gaming and on-demand TV.



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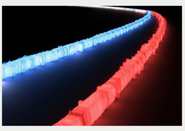
Silicon-Based Optical Filter Splits Light Across a Range of Wavelengths
Researchers have designed a filter on a chip that can process optical signals from across a wide spectrum of light at once. The broadband, low-loss, transmissive dichroic filter can simultaneously achieve single-cutoff operation, octave-wide optical bandwidths, and sharp filter roll-offs.



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Featured Products

Dark Mirror Coatings
Deposition Sciences Inc. (DSI)
Dark mirror coatings absorb incident light, rather than reflecting or transmitting it. Thus, they simultaneously exhibit both the low transmittance of a metal blocking filter and the low reflectance of an antireflection coating. Dark mirrors are typically used to define the aperture of an optical system where control of stray light...

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LIAD Lock-in Amplifier Detectors
Newport Corporation
Ideal for calibrated power measurement of very low level light sources, the LIAD detectors are used in conjunction with chopped (at 18 hz) CW or quasi CW radiation. Wavelengths range from 0.15 to 12 µm, power measurement down to 300 fW, and capable of a pulsed source with a 200 Hz or higher frequency.

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The New Collar Workforce
Photonics Media
U.S. manufacturing companies are expected to face a shortage of two million skilled workers by the year 2020, according to reports. As a result, manufacturers and educators are looking for real, actionable ideas to train workers, reduce the shortfall and realize the potential of the new age of manufacturing.

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Broadband Wire-Grid Polarizers
Moxtek Inc.
Moxtek offers a variety of wire-grid polarizers and polarizing beamsplitters designed for demanding applications. Our polarizers are made from heat tolerant inorganic materials that enable exposure to temperatures that degrade film based polarizers. Our polarizers are designed for narrow and broadband UV-VIS-IR wavelengths.

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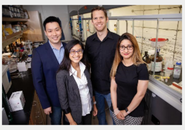
Fluorescent Probe Identifies Cancer Stem Cells in the Body
A fluorescent probe, called AIDeSense, has demonstrated the ability to find and track cancer stem cells (CSCs) in cultures of multiple human cancer cell lines as well as in live mice. The new probe is a small molecule that becomes activated and emits a fluorescent signal only when it reacts with a target enzyme which CSCs produce in high concentrations.



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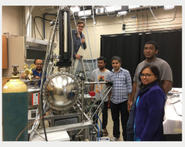
Novel Material Demonstrates Quantum Properties
Researchers have discovered a novel material with multiple quantum properties, that is chemically composed of hafnium, tellurium, and phosphorus. The team is using angle-resolved photoemission spectroscopy (ARPES) and first-principles electronic structure calculations to characterize the metallic material.



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Industry Events

SPIE Optics & Photonics 2018
August 21-23, 2018 - San Diego Convention Center - San Diego
United States
Photonics Media Booth: 315
This is the premier event for optical engineering and applications, nanotechnology, quantum science, and organic photonics. Multiple research and technology areas will be represented in three conferences: Nanoscience + Engineering, Organic Photonics, and Optical Engineering. The event will include instruction from leading experts, special events, optical sciences and technology exhibits, and much more.

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