This Week In
PHOTONICS

PHOTONICS MEDIA

Top Stories

Two-Cavity System Generates High-Quality Single Photons Efficiently
A new dual-cavity design for a quantum emitter, from the Massachusetts Institute of Technology (MIT), emits more high-quality single photons for carrying quantum information at room temperature than existing methods. The two-cavity system could make the development of quantum computers more practical.
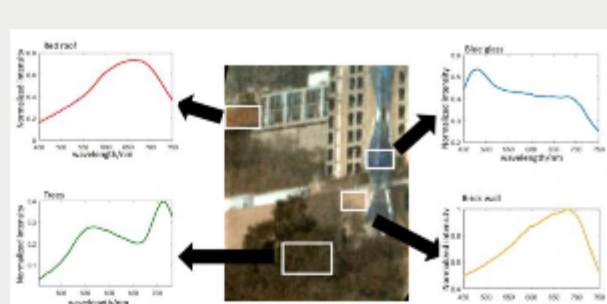
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Image Spectrometer Captures and Calibrates Record Amounts of Data Rapidly
Researchers at Rice University have developed a compact, fiber-based image spectrometer for remote sensing. Called the Tunable Light-Guide Image Processing Snapshot Spectrometer (TuLIPSS), the device combines high spatial resolution with large amounts of spectral information and can deliver data to a detector instantly.
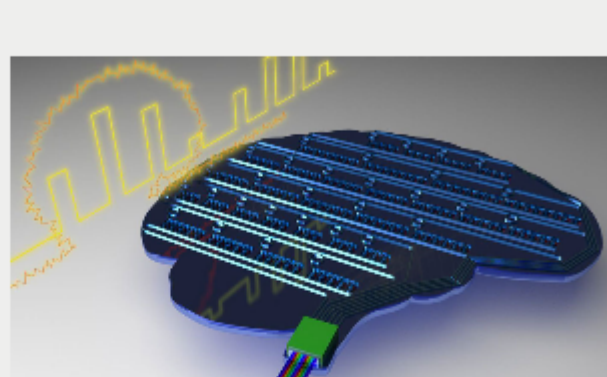
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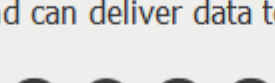
Photonic Neural Network Can Store, Process Information in Way Similar to Human Brain
A new microchip contains a network of artificial neurons that works with light and can imitate the behavior of the human brain's neurons and synapses. Researchers demonstrated that the optical neurosynaptic network was able to learn information and use it as a basis for computing and recognizing patterns, similar to the way a human brain works.

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Featured Products

Machine Vision
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Machine Vision is a new book for anyone designing or selecting machine visions systems, and implementing or considering the use of machine vision for a specific application. This engaging overview is a resource for designers, engineers, researchers, marketers and students looking for a broad survey of advancements in systems, components, and processes.

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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 recently 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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Sensing with Exceptional Surfaces Combines High Sensitivity with Robust Performance
The ability to optically detect nanoparticles and single molecules could be improved by introducing a sensor that is based on surfaces consisting of highly sensitive exceptional points (EPs), according to research performed by Michigan Technological University, Pennsylvania State University, and the University of Central Florida.
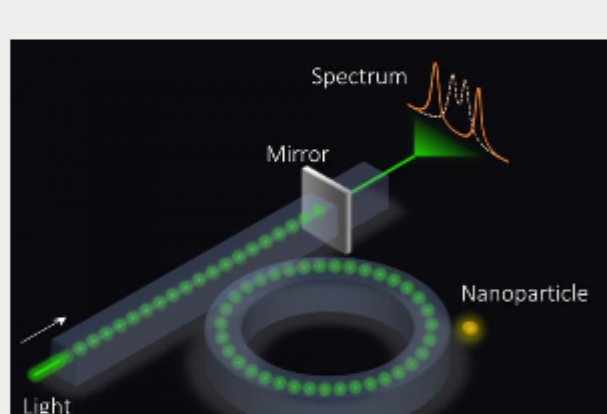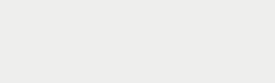
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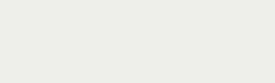
Microfluidic Device with Fluorescent Sensor Can Detect Ebola Virus in Minutes
A faculty-researcher at Rochester Institute of Technology (RIT) has developed a prototype microdevice with biosensors that can detect the Ebola virus. The microfluidic device is an automated chip with a highly sensitive fluorescence sensing unit embedded in it.

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Award Recipient Will Use Funding to Predict the Unexpected in Nano Fabrication Read Article

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Diverse Optics Subsidiary Acquires Plastic Injection Mold Manufacturing Firm Read Article

Researchers Add Luminescence to Graphene Read Article

Industry Events

OSA Optical Interference Coatings 2019
June 2-7, 2019 - Hyatt Regency Tamaya Resort & Spa - Santa Ana Pueblo United States
Held every three years, the OSA Optical Interference Coatings conference brings together scientists, researchers, engineers, and students from around the world to present, learn, and exchange ideas about the latest advancements in the field of optical interference coatings. OIC 2019 will cover all aspects of optical coatings, including fundamental research on coating design theory, materials, deposition methods, characterization technologies, and applications in electronic displays, optical communication, high-power and ultra-fast lasers, sensing, solar cells, low-emissivity coatings, optical instruments, and space.

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Webinars

From Lensless Cameras to Deep-Brain Microscopy: Exploring the Potential of Computational Imaging
Tue, Jun 11, 2019 1:00 PM - 2:00 PM EDT
This webinar will introduce you to the enormous potential of computational imaging for a range of industries, from manufacturing to machine vision to biophotonics. Professor Rajesh Menon will discuss several examples of computational imaging, including a "see-through" camera, comprised of a transparent window with an image sensor placed facing into the edge of the window; a snapshot hyperspectral imaging camera; and an approach to deep-brain imaging that utilizes only an ultrathin surgical needle to transport light in and out of a mouse brain. Menon will discuss the underlying technologies, their limitations, and additional potential applications for lensless cameras.
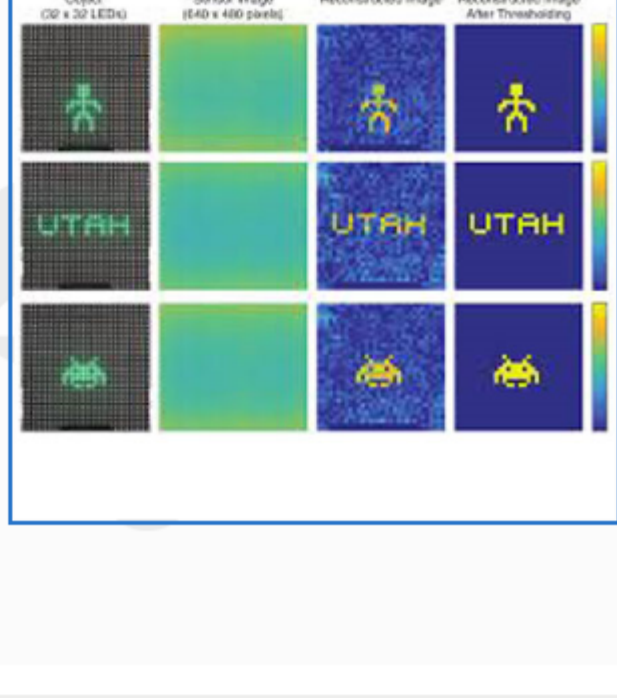
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