

# This Week In PHOTONICS

PHOTONICS MEDIA



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Excellence in Lasers and Optics



**Optimized for Brillouin**  
HyperFine Spectrometer with  
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## Top Stories

### Open-Source Solution Could Lower Cost of Optical Cardiology

An open-source solution for multiparametric optical mapping of the heart's electrical activity, developed by an international research team, could further researchers' understanding of the mechanisms underlying cardiac arrhythmias.



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### Laser-Induced Avalanche Breakdown Detects Radioactive Material Remotely

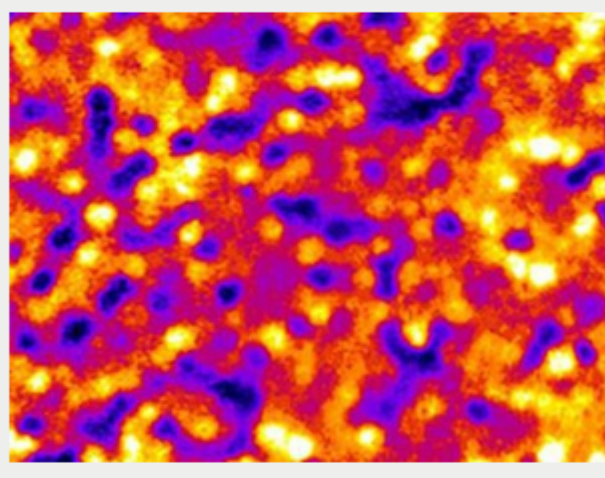
A new method to identify radioactive material employs an IR laser beam to detect shielded material from a distance. The method, developed by physicists at the University of Maryland, improves upon current detection technologies that require close proximity to the radioactive material.



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### New Imaging Technique Could Help Diagnose, Monitor Retinal Disease

Researchers at the U.S. National Eye Institute (NEI) believe their adaptive optics indocyanine green (AO-ICG) imaging technique could be used to help diagnose and monitor the progression of eye diseases, and to preclinically detect cellular-level damage to the retinal pigment epithelium (RPE) by nondestructively charting changes in the fluorescent RPE mosaic over varying periods of time.



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## Featured Products



### Cameras with Liquid Lens Control

#### IDS Imaging Development Systems GmbH

The low-cost uEye LE USB 3.1 Gen 1 board level cameras (6 MP or 18

MP sensor) from IDS are available as variants able to control liquid lenses. Users can easily and conveniently adjust the focus via the user interface or programming interface.

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### Ultima 2Pplus Multiphoton Imaging

#### Bruker Nano Surfaces

With new advances in field of view, sensitivity, wavelength, and sample accommodation, Bruker's Ultima 2Pplus delivers the best

commercially available combination of flexibility, resolution, imaging depth, and speed, allowing users to perform simultaneous imaging, stimulation, and electrophysiology protocols with...

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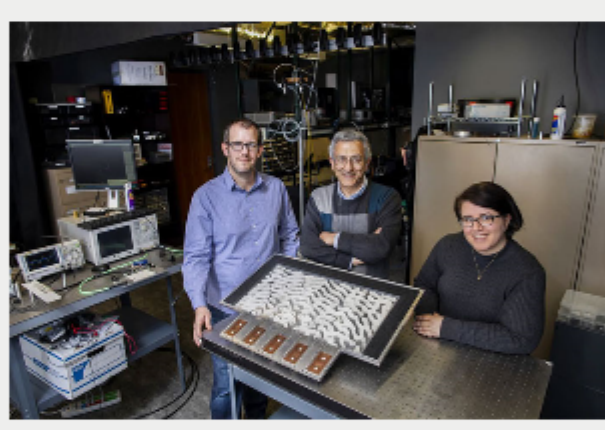
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## More News

### Inverse-Designed Metastructures Operate with Light to Perform 'Photonic Calculus'

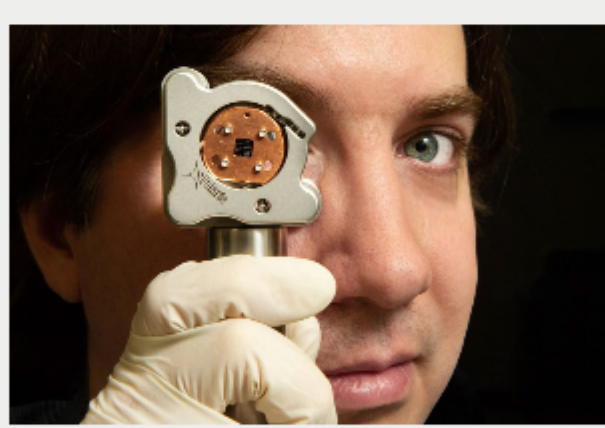
A research team at the University of Pennsylvania has demonstrated a metamaterial device that can function as an analog computer. The researchers demonstrated that specially designed nanophotonic structures can take input waveforms encoded as complex mathematical functions, manipulate them, and provide an output that is the integral of the functions.



[Read Article](#)

### Measuring Quantum Back Action Could Improve Sensitivity of Gravitational-Wave Detectors

Researchers at Louisiana State University have defined a broadband, off-resonance measurement of quantum radiation pressure noise (QRPN) in the audio band, at frequencies relevant to gravitational-wave detectors. Their work could lead to methods to improve the sensitivity of gravitational-wave detectors by developing techniques to mitigate imprecision in back action measurements.



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## More Headlines

[Arizona Optics Industry Continues Growth of Optics Valley](#) [Read Article](#)

[Liquid Crystal Metasurfaces Are the Heart of New Lidar Technology](#) [Read Article](#)

[II-VI and Finisar Move Closer to Merger](#) [Read Article](#)

[ZEISS, Microsoft Bring Real-Time Data to Production Line](#) [Read Article](#)

[Metalens Design Enables Reconfigurable Imaging](#) [Read Article](#)

## Industry Events

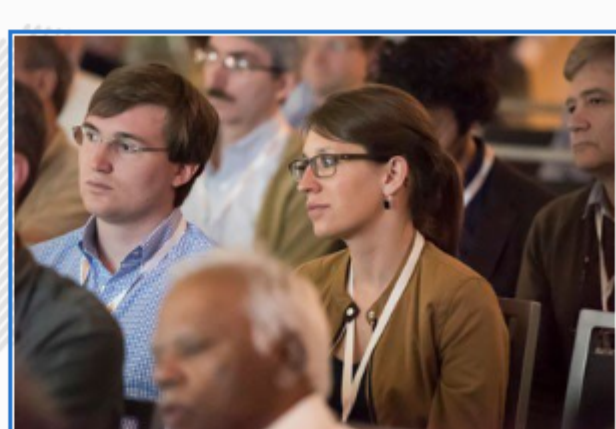
### CLEO 2019

May 5-10, 2019 - San Jose McEnery Convention Center - San Jose United States

Photonics Media Booth: 2312

With comprehensive, peer-reviewed technical sessions and market-focused programming, CLEO is the world's premier international forum to learn about innovative advances, research, and new technologies from the laser science industry. From quantum computing to advanced imaging technologies used to the search for new life and planets in the galaxy, CLEO brings together all aspects of electro-optic technologies. 200 companies exhibit at CLEO:EXPO, taking advantage of the annual industry-leading gathering to introduce new products and demonstrate cutting-edge innovations.

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