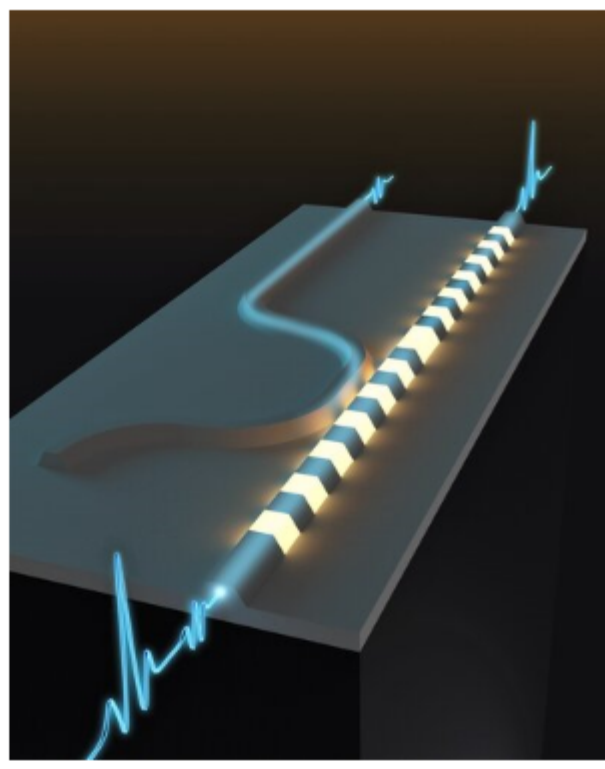


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Optical Switch Forms Inroad for All-Optical Signal Processing

An optical switch developed by Caltech researchers harnesses the property of optical nonlinearity and aims to enable ultrafast all-optical signal processing and computing. According to its developers, the technology could help to bypass one of the major limitations of optics-based computing — the need to use electronics-based transistors to process data.

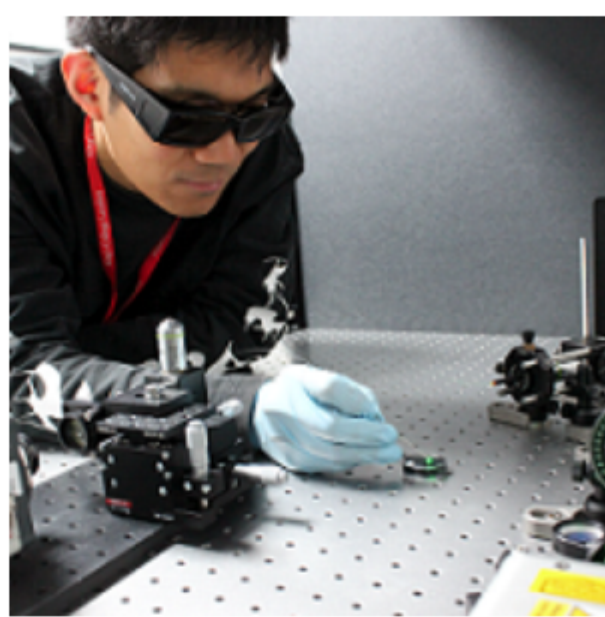
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Fiber-Based Photoacoustic Endoscope Fits Inside Needle

King's College London and University College London researchers developed a photoacoustic endoscope that is small enough to fit inside a 20-gauge medical needle. The needle probe provided functional, molecular, microstructural information about tissue, at subcellular spatial resolution and in real time. The technology could be used as a forward-viewing endoscopic probe and as tool for guiding minimally invasive surgeries.

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Innoviz Signs Deal to Provide Lidar for Volkswagen

Innoviz Technologies has been selected to supply lidar technology for automated vehicles within the Volkswagen brands. The deal marks the third design win with a major automaker for Innoviz and its first deal as a tier-1 supplier.

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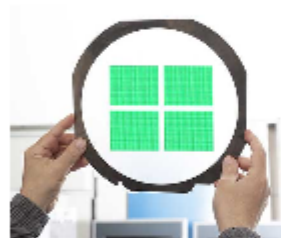
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Bristol Instruments Inc.
The 772B-MIR Laser

Spectrum Analyzer is for pulsed lasers operating from 1 to 12 μm . It measures wavelength to an accuracy of ± 10 parts per million, and bandwidth and longitudinal mode structure to a resolution of 4 GHz, providing the ideal solution for scientists and engineers who need to know the spectral properties of their pulsed mid-IR lasers.

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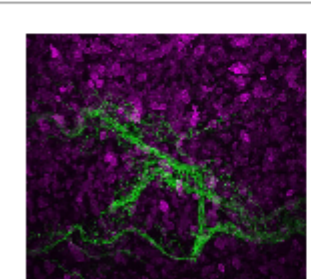
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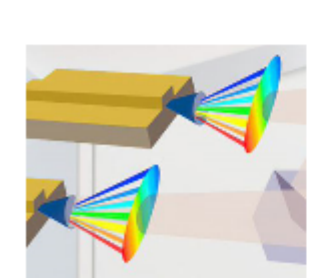


Sub-Cellular Biology at Tissue Scales with Cleared Tissue Axially Scanned Light-Sheet Microscopy

Wed, Aug 17, 2022 1:00 PM - 2:00 PM EDT

Large-scale interdisciplinary efforts have worked to comprehensively catalog cellular architectures in health and disease. Kevin Dean Ph.D. shares on the scalable imaging platform, Cleared-Tissue Axially Swept Light-Sheet Microscopy (CT-ASLM), that helps further this research. The CT-ASLM leverages high-speed, aberration-free, remote focusing to achieve an isotropic resolution of approximately 300 nm-scale subcellular imaging with an unparalleled optical sectioning capacity and large field of view. The platform provides global tissue architectures as well as quantitatively detailed morphological and biochemical descriptions of the individual cells that compose tissues in health and in disease. Sponsored by Power Technology, Intelligent Imaging Innovations Inc., and Applied Scientific Instrumentation, Inc.

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QCL Dual-Comb Spectroscopy Matures into the Mid-Infrared by Combining High-Time and High-Frequency Resolution

Tue, Aug 23, 2022 10:00 AM - 11:00 AM EDT

QCL dual-comb spectroscopy began with high time-resolved (250 μs -250ms) single shot measurements and has progressed to time-scales that can compete with rapid scan Fourier-transform infrared spectroscopy. Recent research has discovered a high-spectral resolution feature on instruments that allows measurements with less than one MHz resolution over a bandwidth of 50cm⁻¹. This breakthrough was achieved by combining the high-time resolved mode with the high-spectrally resolved mode in supersonic beam measurements. Andreas Hugi, Ph.D. explains the technical background of these acquisition modes and links them to real world applications. Sponsored by Hamamatsu Corp.

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