Thursday, July 7, 2022

This Week in PHOTONICS

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.: Top Stories

Single-Mode Semiconductor Laser Exhibits High Power, Scalability

A semiconductor laser developed by University of California, Berkeley (UC Berkeley) researchers accomplishes an elusive goal in the field of optics: the ability to maintain a single mode of emitted light while maintaining the ability to scale up in size and power. The work shows that size does not have to come at the expense of coherence, enabling lasers to be more powerful and to cover longer distances for many applications.

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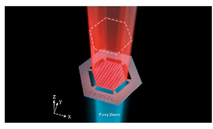

Wearable Sensor Uses Raman Spectroscopy for Chemical Analysis

An ultrathin sensor spun from gold can be attached directly to the skin without irritation or discomfort. Developed by researchers at the University of Tokyo, the sensor is enabled by Raman spectroscopy and can measure different biomarkers or substances to perform on-body chemical analysis.

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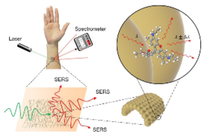

High-Throughput Imaging Links Microbial Metabolism to Identity

An imaging platform for investigating microbiomes in medical and environmental samples can perform high-throughput metabolism and identity analyses with single-cell resolution. Called SRS-FISH, or stimulated Raman scattering (SRS) two-photon fluorescence in situ hybridization (FISH), the technique combines the advantages of SRS for single-cell stable isotope probing with two-photon FISH for identifying cells quickly and with a high level of sensitivity.

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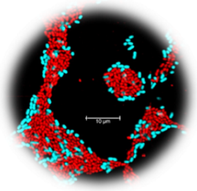

.: Featured Products & Services

HyperFine Brillouin Spectrometer

LightMachinery Inc.

The great challenge with Brillouin spectroscopy is that the scattered signal from the un-shifted wavelength of the laser can overwhelm the small Brillouin shifted return signal. LightMachinery has combined its leading-edge HyperFine spectrometer with a very narrow band tunable filter to suppress the bright un-shifted laser frequency.

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High-Power Laser Diode Drivers

MKS/Newport

The LDX-36000 Series High-Power Laser Diode Drivers are designed specifically for controlling and testing high-power laser diodes and VCSEL arrays. They are CW/QCW laser diode drivers with current ranges from 40A to 220A QCW and 18A to 125A CW with maximum compliance voltages from 12V to 35V. The QCW mode offers driving...

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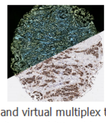
.: Upcoming Webinars



Virtual Biomarkers: An Emerging High-Throughput Research Tool

Thu, Aug 11, 2022 1:00 PM - 2:00 PM EDT

Pathology underlies every facet of healthcare, influencing more than 70% of all medical decisions. Yair Rivenson Ph.D., the CEO and Co-Founder of Pictor Labs, demonstrates how it is possible to alter the centuries old practice of histopathology with a digitized process in a non-destructive fashion. The process is enabled by a machine learning-based virtual staining technology which allows fully digital and virtual multiplex tissue platforms to substantively improve the quality and quantity of pathology samples. He will also discuss additional benefits of the technology.

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