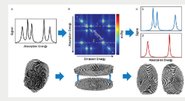
Tuesday, May 07, 2019

SPECTROSCOPY Tech Pulse

May 2019
Spectroscopy Tech Pulse is a special edition newsletter from Photonics Media covering key developments in spectroscopy technology. Manage your Photonics Media membership at Photonics.com/subscribe.

Single-Beam Multidimensional Coherent Spectroscopy



Multidimensional coherent spectroscopy (MDCS) is a set of laser techniques that nondestructively measures how evolving matter absorbs and emits light. The information present in a multidimensional spectrum is both extensive and straightforward to interpret, and MDCS provides valuable information on materials, chemicals, and biological systems.

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Growing Developments with NIR Spectroscopy

Advancements to NIR LED emitters are helping to grow the product portfolio for mobile spectroscopy and opening new application fields for well-being and health monitoring. Consumers will soon be able to use their smartphones to check the freshness of supermarket food, measure the calories in restaurant meals, and verify whether a medication is valid and contains its prescribed contents.

Read Article

Products

Mini4096CL: With Unique 4K-CMOS

Avantes BV

Right now we are developing the new generation AvaSpec-Mini spectrometers. This very small spectrometer including the new CMOS detector with 4096 pixels enables you to work with the optimal resolution.

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771 Series Laser Spectrum Analyzer

Bristol Instruments Inc.

The 771 Series Laser Spectrum operates as both a high-resolution spectrum analyzer and a high-accuracy wavelength meter. With spectral resolution up to 2 GHz, wavelength accuracy as high as ± 0.2 parts per million, and an optical rejection ratio of more than 40 dB, the model 771 provides the most detailed information about a laser's spectral properties.

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Superresolution Microscopy Poster

Photonics Media

With interest in the superresolution microscopy field growing rapidly, the editors of BioPhotonics magazine — in collaboration with acknowledged experts — created a poster with readers in mind that is suitable for lab, classroom and office.

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IR Filters for Thermal Imaging and Gas Detection

Spectrogon US

Spectrogon manufactures infrared filters and windows with high transmission, high rejection outside the passband, and introducing low cosmetic defects — while maintaining excellent coating uniformity — for thermal imaging applications such as cryogenically cooled IR detectors and for uncooled microbolometers.

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Raman Microscopy for Microparticle Analysis

WITec GmbH

The industry's leading 3D Raman imaging system now features ParticleScout, one of the most advanced tools for particle analysis ever developed. ParticleScout can survey, classify, analyze, quantify, and identify particles over even large sample areas. It enables measurements that proceed from a sample overview, to targeted investigations of particles in groups defined by the user...

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1P/2P Super-Res TIRF Dichroic

IDEX Health & Science - Semrock Optical Filters

As multiphoton microscopy has increasingly become the norm within the microscopy community, the need to combine multiphoton and single-photon excitation has risen as a necessity for many emerging protocols. Effortlessly switch between confocal and multiphoton microscopy with Semrock's newest 1P/2P super-resolution/TIRF dichroic beamsplitter.

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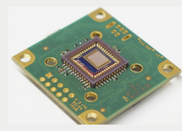
More News

Single-Shot Spectrometer Offers Portability, High Resolution



Engineers at the University of Wisconsin-Madison have developed a compact, single-shot, free-space-coupled spectrometer with hyperspectral imaging capabilities that can be integrated with a cellphone. The spectrometer is fabricated on top of and integrated with a CMOS chip.

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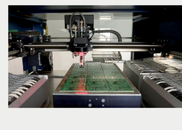
Imaging in the Blink of an Eye



CMOS cameras and sensors are getting faster. That's good news for researchers and for the autonomous vehicles market, among others. For researchers, faster imaging enhances spectroscopy, improves resolution, and makes it easier to capture rapidly decaying fluorescence.

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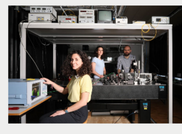
Compact Laser Detects Greenhouse Gases Using Mid-IR Source



A system developed at École Polytechnique Fédérale de Lausanne, composed of a standard laser and a photonic chip, uses a mid-infrared light source to detect greenhouse and other gases. The team took a commercially available fiber laser and combined it with a waveguide chip to reliably generate lightwaves in the MIR spectrum.

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New Approach Facilitates Spectroscopy on Individual Molecules

A new spectroscopic measurement method, developed by scientists at the Technical University of Munich (TUM), determines the spectral properties of individual molecules, providing precise information about the interaction of single molecules with their environment.

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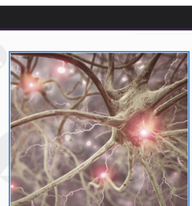
Webinars

Spectroscopic OCT: Seeing Under the Skin with Depth-Resolved Spectroscopy



Tue, May 14, 2019 1:00 PM - 2:00 PM EDT

This webinar, presented by Adam Wax, Ph.D., will introduce new methods for evaluating skin injury using spectroscopic measurements based on coherence imaging. These methods were developed by Wax and his group at the Biomedical Interferometry, Optics and Spectroscopy (BIOS) lab at Duke University. Wax will discuss spectroscopic OCT (SOCT), an extension of OCT technology for analyzing structural as well as spectroscopic information. He will present his lab's application of SOCT for burn injuries and also address SOCT's potential in the area of cancer detection.

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