

SPECTROSCOPY

Tech Pulse

PHOTONICS MEDIA

May 2020
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.

Spectroscopic Technique Targets Drug Porosity
In the pharmaceutical field, porosity is an important trait in helping to measure the effectiveness of tablet quality. Thanks to modern spectroscopic techniques, manufacturers are getting the characteristics they're looking for.



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The New Technologies Shaping Near-Infrared Spectroscopy
Near-infrared spectroscopy is the branch of vibrational spectroscopy related to the molecular absorption of light between ~750 to 2500 nm, which has a variety of industrial and medical applications. It has evolved from collecting data after the fact to gathering real-time sensor information in the field.



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A podcast from Photonics Media

Products

New: The AvaSpec-Mini-NIR Spectrometer

Avantes BV
The latest addition to our compact line: the AvaSpec-Mini-NIR! This compact, versatile near-infrared spectrometer is suitable for many different applications, including but not limited to food analysis and recycling. Though not as sensitive as our bigger NIR spectrometers, the loss in sensitivity is greatly compensated...

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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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Optical filters • Coatings • Gratings

Optical Filters

Holographic Gratings

Call for Papers
SUBMISSION DEADLINE: 20 May 2020

FIO
LS+

OSA FRONTIERS IN OPTICS
LASER SCIENCE APS/DLS

13 - 17 September 2020 | Washington, DC, USA
This meeting will be held as scheduled.
Visit the website for updates.

More News

A Laser Points Toward Disease Diagnosis
A critical starting point in reducing the incidence of chronic disease involves detecting, locating, and accurately evaluating disease in its initial stages. One important step in tackling these challenges will be developing light-based technologies such as near-infrared (NIR) and mid-infrared (MIR) spectroscopy.



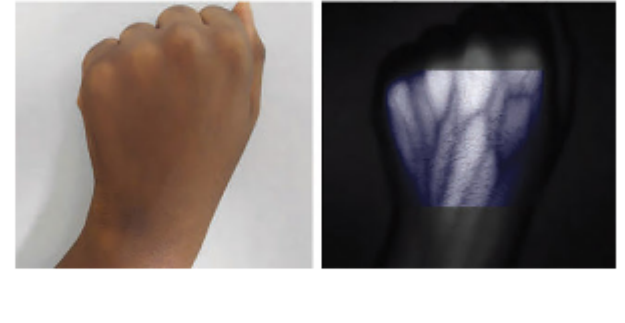
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SwRI Delivers Ultraviolet Spectrograph for Jupiter Mission
An ultraviolet spectrograph (UVS) designed and built by Southwest Research Institute (SwRI) is the first scientific instrument to be delivered for integration onto the European Space Agency's (ESA) Jupiter Icy Moon Explorer (JUICE) spacecraft. Scheduled to launch in 2022 and arrive at Jupiter in 2030, JUICE will spend at least three years making detailed observations in the Jovian system.



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Filtering Visible Light According to Wavelength and Bandwidth
Some supercontinuum lasers have an output power in the range of tens of watts with a wavelength range that covers the entire UV-VIS range and a portion of the NIR region. With these performance specifications, the combination of a tunable filter and a broadband light source is more efficient than multiple discrete light sources.



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Portable Concussion Detector Uses Infrared Light to Measure Brain Metabolism
The Super-Continuum Infrared Spectroscopy of Cytochrome-C-Oxidase (SCISCO) system is a device that uses an all-fiber integrated, supercontinuum light source to simultaneously measure both the cytochrome-C-oxidase and the traditional blood oxygenation markers of neural metabolism.



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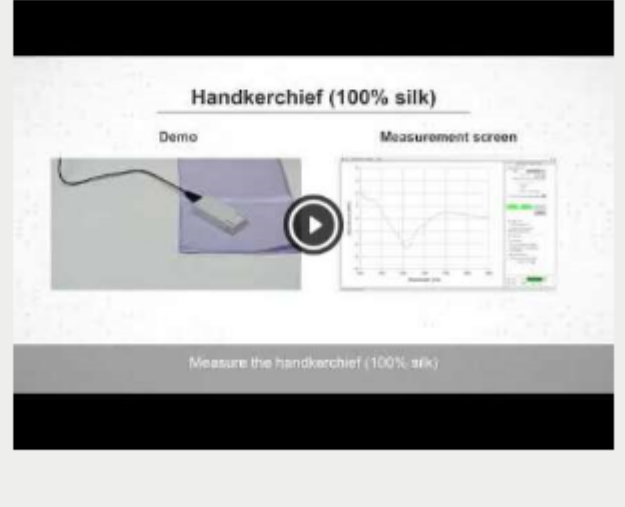
Spectroscopic Toolkit for Structural Biology Could Aid in Drug Design
A fluorescence-based imaging technique for monitoring single molecules could lead to a better understanding of how molecules are assembled, function, and interact, aiding in structure-guided drug design.



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Featured Video

Compact MEMS-FPI Sensor for Portable NIR Spectrometers
Hamamatsu's MEMS-FPI spectrum sensors utilize a built-in MEMS Fabry-Perot interferometer and InGaAs PIN photodiode to measure NIR spectra. With their high sensitivity to NIR wavelengths and their compact size, they are suitable for portable devices used to identify materials. For example, as shown in this video, a MEMS-FPI sensor and an NIR light source were integrated into a handheld device to identify textile materials based on their NIR reflection spectra.



[Watch Now](#)

Webinars

Ellipsometry: What Is It and What Can It Do for You?
Wed, May 13, 2020 1:00 PM - 2:00 PM EDT
Spectroscopic ellipsometry is a nondestructive technique that uses polarized light to probe a sample. In this webinar, presented by the J.A. Woollam Co., you will learn about the fundamental principles of ellipsometry, how these principles lead to highly accurate measurements of coating thickness and optical properties, and how ellipsometry measurements compare to other characterization techniques.

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