Monday, December 7, 2020

PHOTONICS spectra

WEBINARS

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Good, Better, Best: Pushing the Limit in Optical Spectroscopy

Tuesday, December 8, 2020 11:00 AM - 12:00 PM EST

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.: About This Webinar

This webinar will present instruments and their respective uses for UV-VIS-NIR and Fourier transform infrared (FTIR) spectroscopy, some of the most commonly used analytical techniques prevalent in materials testing labs today. UV-VIS-NIR is widely used across a variety of high-tech industries, including optics, semiconductors, solar, aerospace, automotive, virtual reality, and defense.

The demand for innovation in high-performance UV-VIS-NIR instruments is driven by the need to measure a broader range of sample types, ranging from optical components, specialized surface coatings, nanomaterials, architectural glasses and construction materials, and many others that affect us every day. In the case of FTIR, the biggest markets have been pharmaceutical, specialty chemical, and polymer industries. As such, advances in FTIR spectrometers have primarily come in the form of improvements in spectral resolution and wavenumber accuracy (abscissa) instead of improvements in the photometric accuracy (ordinate), which is essential to the optics industry.

In this webinar, the presenters will focus on PerkinElmer's high-performance Lambda 1050+ UV-VIS-NIR, complete with its portfolio of diverse modular accessories as well the performance of the Spectrum 3 Optica FTIR spectrometer in measuring the transmittance of high refractive index samples. The presenters will discuss various modular sampling accessories and detector modules for both transmission and reflectance measurements and how performance considerations dictate which accessory to use and why. For the very best performance, the presenters will focus on the 150- and 270-mm integrating spheres, as well as the TAMS and ARTA goniometer systems and the IV accessory for high-precision reflectance measurements.

Design benefits allow the Lambda 1050+ to overcome errors that decrease ordinate accuracy. Verification of the performance also presents a challenge as there is no standard test for FTIR ordinate accuracy in the mid-IR. Methods to verify the ordinate accuracy of the FTIR will also be shown using transmittance values calculated from refractive index values and comparison to values obtained by NIST. The webinar will conclude with a Q&A.

Who should attend:
All those working in the many fields using UV-VIS-NIR and FTIR spectroscopy, whether your application be in research, test and measurement, QC and management, or implementation and use. This webinar will provide answers to specific spectroscopy instrumentation challenges, as well as an in-depth look into PerkinElmer's optimization techniques and technologies.

About the presenters:
Doug Townsend is a field application scientist for the FTIR and microscopy product line at PerkinElmer. As an academic, his research focused on developing an automated cytological screening platform to diagnose cancer using a combination of vibrational spectroscopic methods and machine learning; he published several articles on the topic. He has been with PerkinElmer for three years, and his work spans product development, FTIR and NIR microscopy, thermogravimetric infrared analysis, and the development of chemometric models for quantitative and qualitative applications. During his time at PerkinElmer, he has given countless lectures and training courses on these techniques.

John Birtles, Ph.D., has almost 30 years of experience in broad areas of spectroscopy and analytical chemistry. He received his Ph.D. from Tufts University in 2004, and since that time he has used his diverse background to address challenges in inorganic synthesis and characterization, drug delivery, electrochemistry, and, most notably, optical spectroscopy.

About PerkinElmer:
PerkinElmer enables scientists, researchers, and clinicians to address their most critical challenges across science and health care. With a mission focused on innovating for a healthier world, the company delivers solutions to serve the diagnostics, life sciences, food, and applied markets. PerkinElmer strategically partners with customers to enable earlier and more accurate insights supported by deep market knowledge and technical expertise. Its dedicated team of about 13,000 employees worldwide is passionate about helping customers work to create healthier families, improve the quality of life, and sustain the well-being and longevity of people globally.

.: Mark Your Calendar

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Windows$^{\circledR}$ 7 or later, Mac OS$^{\circledR}$ X 10.9 or later, Linux$^{\circledR}$, Google Chrome$^{\text{TM}}$ OS
Android$^{\text{TM}}$ OS 5 or later, iOS$^{\circledR}$ 10 or later

Web Browser
Google Chrome$^{\text{TM}}$ (most recent 2 versions)
Mozilla Firefox$^{\circledR}$ (most recent 2 versions)

Mobile Devices
Android$^{\text{TM}}$ 5 or later
iPhone$^{\circledR}$ 4S or later
iPad$^{\circledR}$ 2 or later
Windows Phone$^{\circledR}$ 8+, Windows$^{\circledR}$ 8RT+

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- Endoscopic Optical Coherence Tomography, 12/9/2020 1:00:00 PM EST
- Optical Tools for Analyzing and Repairing Complex Biological Systems, 12/15/2020 12:00:00 PM EST

Archived Webinars

- Applications for Video and High-Resolution Hyperspectral Imaging
- Line-Field Confocal Optical Coherence Tomography (LC-OCT): A New Tool for Noninvasive Cellular-Resolution Imaging of Human Skin
- Optical-Based Surface Metrology for CMP Optimization and Die Flatness Control

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