Thursday, August 17, 2023

This Week in PHOTONICS

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.: Top Stories

Light-Triggered Particles Deliver Photoimmunotherapy for Cancer

A research group from Japan Advanced Institute of Science and Technology (JAIST) developed light-activatable, liquid metal (LM) nanoparticles for cancer diagnosis and treatment via photoimmunotherapy. The LM nanoparticles can target and destroy cancer cells and can be fluorescently tagged to function as reporters to to identify and eliminate tumors in vivo. Gallium (Ga)-based LM nanoparticles are promising nanoscale materials for biomedical applications due to their physicochemical properties, including flexibility, easy surface modification, efficient photothermal conversion, and high biocompatibility.

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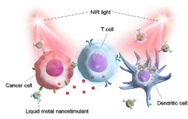

Evident Corporation Appoints Leadership Team

Evident Corporation appointed William Wesley "Wes" Pringle CEO and Hiroyuki Yoshimoto president and COO as the life science and industrial microscopes manufacturer reworks its leadership group.

Read Article

Optical Measurement Methods Combine to Detect Early Signs of Metastasis

Diffuse in vivo flow cytometry, an optical technique that enables fluorescence detection of tumor cells circulating in the bloodstream, holds promise for detecting cancer that has metastasized. However, due to signal-to-noise ratio constraints, the method's measurement depth is limited. A team from Tufts University and Northeastern University is addressing this issue, investigating whether a new method developed by the Tufts group, called the dual-ratio approach, can minimize noise and autofluorescence in the cytometry approach.

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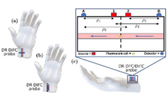

.: Featured Products & Services

Multi-Bandpass Filters

Delta Optical Thin Film A/S

Delta Optical Thin Film has introduced a range of Multi-Bandpass Filters that transmit two or more distinct wavelength bands while blocking others. These filters are well suited for multi-purpose point-of-care instruments using multiple excitation and/or multiple emission wavelengths.

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871 Series Laser Wavelength Meter

Bristol Instruments Inc.

Bristol's popular 871 system measures laser wavelength at a sustained rate of 1 kHz, the fastest available. It also measures wavelength to an accuracy as high as ±0.0001 nm. By combining proven Fizeau etalon technology with automatic calibration, the most reliable accuracy is ensured for the most meaningful experimental results.

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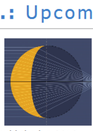
.: Upcoming Webinars



Stigmatic Optical Imaging: The Past, Present, and Future

Tue, Aug 22, 2023 1:00 PM - 2:00 PM EDT

The exact equation to design a stigmatic lens has recently been found and extensively studied. This equation allows researchers to explore several stigmatic optical systems showing the systems share several properties. In this presentation, Rafael González-Acuña of Huawei Technologies reviews those properties, starting from the history of the problem in ancient Greece to its solution that was published in 2018. He addresses that solution step by step and explores the mathematical details. He also shares the benefits, applications, and future possibilities of this equation.

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Advanced Packaging for Integrated Photonics: From Research to Manufacturing

Tue, Aug 29, 2023 10:00 AM - 11:00 AM EDT

Advanced packaging enables researchers to combine different technology platforms such as photonics, electronics, micro-electromechanical, and fluidics to address a vast array of exciting applications. Professor Peter O'Brien presents the packaging capabilities established by his research team at the Tyndall Institute, including details about the group's diverse range of research projects in areas such as telecommunications, quantum, and medical devices. The webinar outlines how these advanced packaging processes can be transferred to early-stage manufacturing through the group's leadership of the European Pilot Line, and discusses recent developments by the group to establish the European Photonics Academy to train industry and students in a wide range of advanced photonic technologies. Sponsored by Aerotech Inc.

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