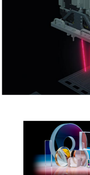
Wednesday, October 9, 2024

Monthly Newsletter

Monthly newsletter from the editors of Photonics Spectra, with features, popular topics, new products, and what's coming in the next issue. Photonics.com/subscribe.

LEDs and Multi-Bandpass Filters Work in Tandem to Transform Fluorescence Instrumentation

Fluorescence is one of the most sensitive spectroscopic quantification techniques, and fluorescence microscopy methods, including wide-field and confocal microscopy, enable users to identify the locations and movements of certain molecules. These technologies, as well as flow cytometry, enable scientists, medical professionals, and biotechnology companies to obtain accurate results, often in rapid time frames. **Read Article**



Motion Control Upholds Micromachining's Dynamic Role in Complex Manufacturing

Laser micromachining has proved to be revolutionary in modern manufacturing, enabling the creation of intricate features at the micro- and nanoscale. Laser micromachining and microprocessing envelop various similar, yet distinct, processes. These include laser patterning and texturing, engraving, scribing, and cutting. Engineers in a range of industries have relied on these and other similar processes for decades. **Read Article**

Electric Vehicles Drive the Need for Advancement in Laser Welding

Propelled by legislation that aims to accelerate the adoption of electric vehicles (EVs), automakers around the world are facing growing pressures to ramp up production. Japan, Canada, and the U.K. are among the world powers that have already enacted policies that will require all new cars on the market to be electric by 2035. In the U.S., individual states are at various stages of implementing EV mandates, further signaling a forthcoming wave of e-mobility technologies. **Read Article**

Featured Products & Services

Precision Optics + Assemblies

LaCroix Precision Optics

Since 1947, three generations of family leadership have positioned LaCroix Precision Optics as the premier manufacturer of precision optics in America. Whether you need prototypes or production volumes, we're fully equipped to meet your project requirements.

Visit Website | Request Info

Waveplate Quality in Catalog and Custom

Meadowlark Optics Inc.

Meadowlark Optics makes the best waveplates, having over 40 years of retarder manufacturing expertise and the ability to manufacture from a wide variety of materials to facilitate high- or low-power applications. Some materials allow retarders to be used over different wavelengths from the ultraviolet through the visible and into the near infrared.

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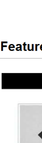

2024 Photonics Buyers' Guide

Photonics Media

The 2024 edition lists over 4000 companies under 1600 product categories and includes 30 articles from the Photonics Handbook. Use coupon code **SP24** for a special offer!

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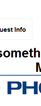

Miniature Power Components

Pico Electronics Inc.

Pico Electronics, the leader in high reliability, mission critical miniature power components, offers a full line of Converters: 2V — 10,000VDC Output; 1 — 300Watts Transformers and Inductors. Surface mount and thru-hole models. Custom models available. Proudly made in the USA.

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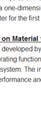

Tech-X Corporation XSim

Tech-X Corp.

XSim is a powerful GPU-enabled FDTD tool for precise time-dependent EM simulations. With multi-GPU scalability, start on your laptop and seamlessly transition to AWS for faster, cost-effective results. Ideal for photonic integrated circuit designers, convert GDS files to detailed 3D simulations, optimizing performance and ensuring robustness against manufacturing variations. Achieve unmatched accuracy and efficiency.

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IR Filters for Thermal Imaging

Spectrogon US Inc.

Spectrogon manufacturers infrared filters and windows with high transmission, high rejection outside the passband, while maintaining excellent coating uniformity for thermal imaging and gas detection applications such as cryogenically cooled IR detectors and uncooled microbolometers.

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Looking for something else? Check the Photonics Marketplace.

PHOTONICS marketplace

In Case You Missed It

Nanodisk Device Could Advance Nonlinear, High-Index Nanophotonics
A photonics nanostructure that combines a high refractive index with extreme optical nonlinearity could offer a compact, efficient option for compressing light and changing light frequency. The nanodisk structure could be integrated into optical circuits or used in the miniaturization of photonic devices, in addition to being used as a research tool. **Read Article**

One-Dimensional Gas Created with Light
Physicists from the Institute of Applied Physics at the University of Bonn, in cooperation with colleagues at the University of Kaiserslautern-Landau, have created a one-dimensional gas out of light particles. The work enables the testing of theories about the transition to this state of matter for the first time. **Read Article**

Laser Writing Integrates Sensors on Material to Manage Equipment Safety
A hybrid laser direct writing technique, developed by researchers at Zhejiang University, integrates sensor systems directly into engineering thermoplastics by incorporating functional copper interconnects, carbon-based temperature sensors, and signal processing components all within one system. The integrated sensor system allows for real-time temperature monitoring over extended periods to ensure optimal performance and reliability of critical equipment. **Read Article**

Latest Webinars

Multiplex Imaging: Camera, Lights, Optics, Action!

Tue, Oct 29, 2024 10:00 AM - 11:00 AM EDT

Multiplex imaging, either multicolor fluorescence or multispectral absorption and reflection imaging, is rapidly gaining popularity in the life sciences and medical arenas. Being able to image samples at a variety of wavelengths in live or fixed samples provides a depth of information that was never possible to attain with conventional microscopy. From deeper tissue penetration to enhanced surgical guidance and improved disease detection, multiplex imaging enhances medical diagnostics with noninvasive, detailed, live insights into pathological and physiological states of tissue for better patient outcomes. This webinar discusses the options and requirements for performing multiplex imaging from the illumination to the detection and the optics in between to navigate the light to and from the sample. Presented by Excelitas Technology Corp.

Register Now

Featured Video

New Precession Elephant III Multi-Axis Laser Scan Head

Novanta's Precession Elephant III (PE III) laser scan head — a laser beam delivery revolution for micro-drilling, tapering, and cutting applications. PE III is designed for micro-processing OEMs that need maximum flexibility for the drilling of innovative borehole and edge geometries of differing conicity, taper angles, and shapes, allowing the production of perfectly round, elliptical, and custom-shaped micro holes.

Watch Now

Next Issue:

Features
Planar Optics, Terahertz Sources and Applications, Camera Design, and Laser Diodes

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *Photonics Spectra*. Please submit an informal 100-word abstract to Jake Saltzman, Senior Editor, at Jake.Saltzman@Photonics.com, or use our online submission form www.photonics.com/submitfeature.aspx.

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Since 1967, *Photonics Spectra* magazine has defined the science and industry of photonics, providing both technical and practical information for every aspect of the global industry and promoting an international dialogue among the engineers, scientists and end users who develop, commercialize and buy photonics products.

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