Wednesday, June 12, 2024

PHOTONICS spectra

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.

Waveform Dynamics Sharpen Laser Scanners for Imaging Applications

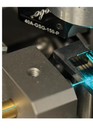
Many photonics systems and methods require projecting lasers over an area of interest so that the reflected light can be sensed and interpreted. Among the most prominent examples are in the realms of imaging and ranging. These include confocal microscopy, lidar, and optical coherence tomography. Techniques such as these support a range of industrial and biomedical applications. For each, the use of laser scanners is imperative to achieve system functionality.

Read Article

Photonics Charts Its Course in Helping Athletes Reach Peak Performance

Michael Matter's journey into sports technology began with a golf ball. More specifically, a photo of a golf ball that was captured at its precise moment of impact with a club head. The photo — shot by Harold "Doc" Edgerton, the legendary high-speed photography pioneer — showed in detail how the connection flattened the round, rigid surface of the ball.

Read Article



Chip-Scale Visible Sources Aim to Release Quantum Technology from the Lab

Increasingly stable and versatile visible lasers are populating the market, and the efficacy of these sources is intersecting with the emergence of chip-scale lasers — a burgeoning innovation area that is poised to benefit a range of disciplines. Chip-scale lasers promise to uniquely address the need for small, low-power, and potentially low-cost sources. In terms of both applied R&D and productization, quantum devices, in particular, are among the technologies for which chip-scale lasing could serve as the catalyst for a wave of scientific and commercial progress. Read Article

Featured Products & Services

The Best Waveplates Available

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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Cricket™ – Advanced Image Intensifier Adapter

Photonis Netherlands BV

The Cricket™2 is a plug-and-play image intensifier camera attachment device enabling low light level imaging or single photon imaging functionality and extremely high shutter speeds for every CCD or CMOS camera. Equipped with industrial-leading Photonis Image Intensifier technology, and recognized for best value, Cricket™2 sets an unmatched standard for connectivity with scientific microscopes and cameras. For researchers who dedicate time to science rather than instrument setup.

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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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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.

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PHOTONICS marketplace

In Case You Missed It

Guzel Musina Awarded 2024 Teddi C. Laurin Scholarship

Guzel Musina, a PhD student in the University of Houston's Department of Biomedical Engineering, has been awarded the 2024 Teddi C. Laurin Scholarship for her contributions to the field of optics and photonics. Musina is pursuing research in the use of optogenetics to explore and treat heart conditions. Read Article

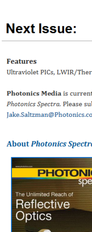
Compact Single-Photon Lidar Provides High Resolution for Air and Space

Despite advancements in airborne, single-photon lidar, existing systems have relatively large payloads and high energy consumption. Researchers at the University of Science and Technology of China addressed these challenges and achieved a compact, lightweight, single-photon lidar system with a low-power payload and high-resolution imaging. The new system could make lidar practical for air and space applications like environmental monitoring, 3D terrain mapping, and object identification. Read Article

On-Chip Microcomb Laser Provides Greater Control

A method developed by researchers at the University of Rochester could provide a path to applying microcomb lasers to fields including telecommunications and optical computing. The lasers developed by Rochester professor Qiang Lin and his team benefit from a simple design and resolve longstanding challenges that have prevented the commercial adoption of microcombs. Read Article

Latest Webinars



High-Performance PDH Locking with Reconfigurable Instrumentation

Tue, Jun 18, 2024 11:00 AM - 12:00 PM EDT

The Pound-Drever-Hall (PDH) method is ubiquitous in fields requiring laser frequency stabilization, including atomic physics, spectroscopy, and precision measurement. However, since PDH systems are traditionally assembled manually from various components, they often present challenges for researchers due to time constraints and adaptability issues, leading to maintenance difficulties and signal distortion. In this presentation, Liquid Instruments provides a pedagogical introduction to the PDH technique and creates a system using reconfigurable, FPGA-based instrumentation. They combine multiple instruments, including the Moku Laser Lock Box, into a bespoke environment that emulates a real optical system. Presented by Liquid Instruments.

Register Now

Next Issue:

Features

Ultraviolet PICs, LWIR/Thermal Imaging, Laser Materials Processing, and Optical Signal Processing

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.

About *Photonics Spectra*

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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