



Weekly News

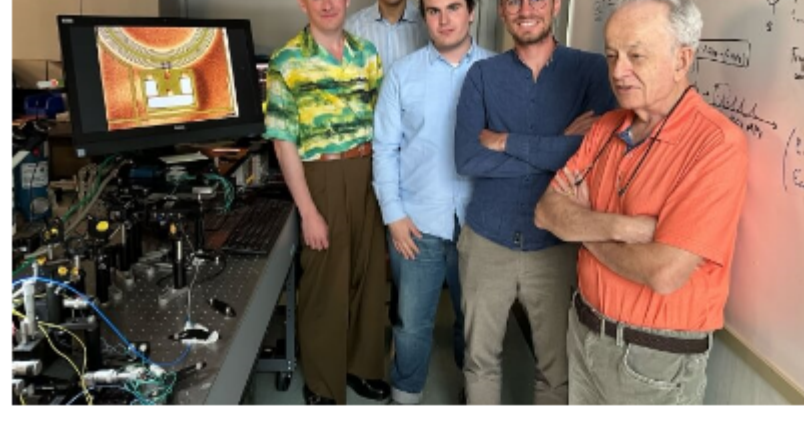


A Laser Plasma Acceleration Milestone from Desy, and Industry Standards for Silicon Photonics

A German team is bringing laser plasma acceleration a step closer to real world applications. Another breakthrough from Harvard and Federico Capasso, as researchers have created a compact laser that emits mid-infrared picosecond light pulses. IPG is partnering with coatings developer AkzoNobel, bringing together powder coating with laser curing technology. STMicroelectronics is reshaping its global manufacturing footprint. And the SEMI Silicon Photonics

Industry Alliance is launching three new special interest groups as it continues to work towards developing global industry standards. Sponsored by Chroma Technology and LightPath Technologies.

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Compact Laser Chip Generates Mid-IR Picosecond Light Pulses

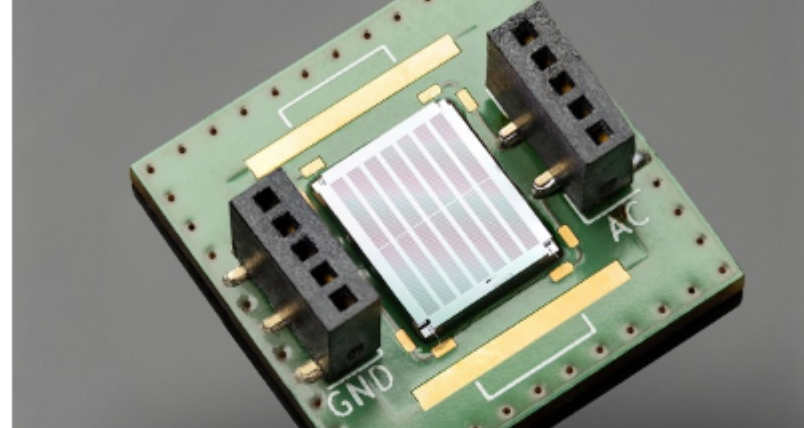
Physicists at the Harvard John A. Paulson School of Engineering and Applied Sciences have created a compact laser that emits extremely bright, short pulses of light in a useful but difficult-to-achieve wavelength range, packing the performance of larger photonic devices onto a single chip. According to the researchers, the work is the first demonstration of an on-chip, picosecond, mid-IR laser pulse generator that requires no external components to operate.

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High-Voltage CMOS Backplane Enables Bright OLED Microdisplays

Scientists at the Fraunhofer Institute for Photonic Microsystems IPMS have developed a high-voltage CMOS backplane that enables exceptionally bright OLED-based microdisplays. The approach allows for full color maximum brightness over 10,000 candela per square meter (cd/m²) without compromising lifespan or reliability. [Read Article](#)

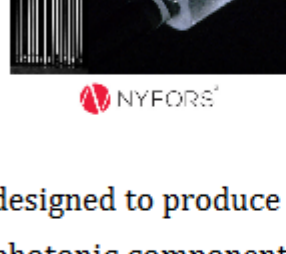


Research Project to Bolster Edge AI with Sensor Tech

An interdisciplinary research project is developing new technological approaches for better and more effective integration of artificial intelligence at the edges of IT networks. These developments could fuel future applications in industrial electronics, medical technology, and environmental monitoring. [Read Article](#)



Featured Products & Services



CO₂ Laser Glass-Processing

NYFORS Teknologi AB
CO₂ laser glass-processing is

designed to produce high-power and sensitive photonic components and complex structures. It guarantees contamination-free processing for fiber linear, 2D and gapless array splicing, ball lensing, end-capping, and many other challenging processes. NYFORS also manufactures automated high-precision solutions for fiber preparation, such as stripping, cleaving, recoating, and end-face inspection. NYFORS offers custom workcell automation solutions.

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RADIA V60: Now With an All-New High-Temperature Calibration Mode

Telops Inc.

The Radia V60 by Telops is part of the first family of accessible entry-level cameras. We are proud to announce that it now features an all-new high-temperature calibration mode, supporting user-swappable lenses without compromising radiometric accuracy.

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Latest Webinars



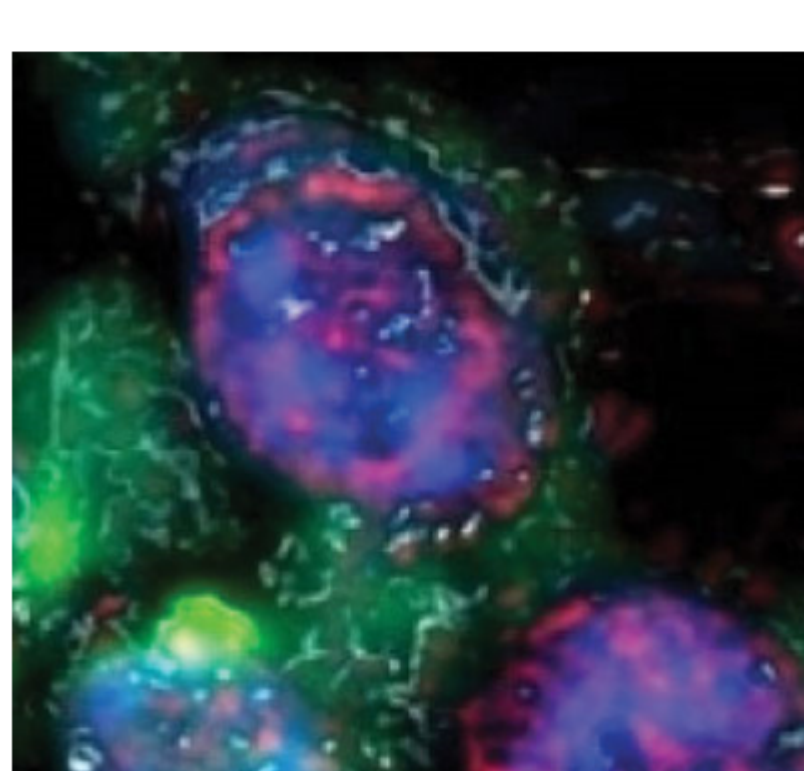
Laser-Based Particle Analysis: Enhancing Industrial and Biomedical Measurement Systems

Tue, Apr 29, 2025 1:00 PM - 2:00 PM EDT

In this in-depth webinar, Jeremy Lane, Managing Director of the ProPhotonix Laser Business Unit, will explore the critical role of semiconductor diode laser technology in the detection, characterization, and analysis of particulates and dispersion droplets across a wide range of industrial and biomedical applications. Laser light scattering is a widely adopted technique for particle analysis, often combined with complementary methods such as spectroscopy — many forms of which also utilize semiconductor diode lasers. Together, these technologies play a vital role in applications ranging from verifying the quality of the output in industrial manufacturing processes to detecting and quantifying airborne pollution and dust particles in

environmental monitoring. In the biomedical field, laser-based systems are key to flow cytometry, where they are used to detect and characterize proteins on the surface of blood cells, measure cell size and shape, and support disease diagnostics. The webinar will also delve into how laser-based particle analysis is utilized to monitor dust concentrations in industrial environments, optimize milling processes, and aid in the development of new pharmaceuticals and food products. Don't miss this opportunity to learn how ProPhotonix's laser solutions can enhance your particle analysis applications across environmental, industrial, and biomedical sectors.

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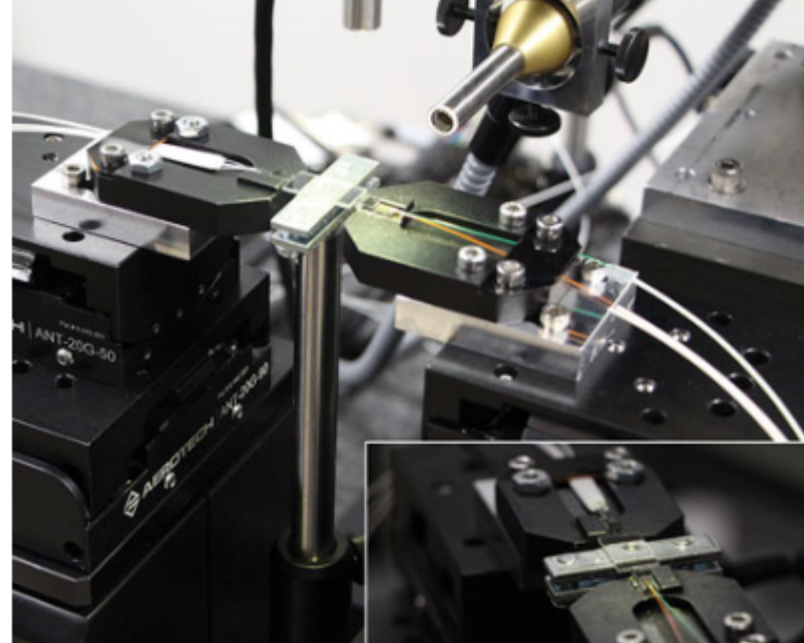
Advancing Raman Spectroscopy by Using Bioresponsive Optical Nanomaterials

Wed, May 7, 2025 1:00 PM - 2:00 PM EDT

Raman spectroscopy provides label-free molecular characterization by detecting chemical bond vibrations, enabling direct visualization of molecular responses in living cells and tissues. Despite significant advancements, the clinical translation of Raman spectroscopy has been hindered by two key challenges: limited detection sensitivity and insufficient specificity. For instance, it has not found use in imaging enzyme activity, a significant aspect of biomedical research. Leveraging nature-inspired self-assembly strategies, intracellular bioorthogonal enzyme-responsive nanoprobes (nanoSABER) have been developed. Engineered from enzyme-responsive peptides, these nanoprobes assemble into supramolecular

structures with distinct Raman-active vibrational signatures upon interaction with targeted enzymes. Incorporating vibrational tags such as alkyne (C≡C) and nitrile (C≡N) groups within the cell-silent Raman window (1800 to 2600 cm⁻¹), nanoSABER specifically images enzyme activity with minimal interference from endogenous cellular signals.

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How to Select a Precision Automation System for High-Volume Optical Alignment

Thu, May 8, 2025 1:00 PM - 2:00 PM EDT

Achieving submicron positioning in optical alignment applications is critical in the production of optical components and systems used in the consumer electronics, automotive, and defense industries. Precision motion control solutions, including direct-drive stages and hexapods, play a key role in optimizing active alignment processes and ensuring quality through repeatable results. However, selecting the right positioning system is not always easy. This webinar will provide a technical overview of six-degrees-of-freedom (6-DOF) positioning architectures and their effect on alignment quality. It will examine the role of active alignment algorithms and control systems on alignment quality and repeatability. Additionally, it

will examine real-world case studies that highlight trade-offs between different motion control technologies and demonstrate strategies for maximizing throughput while maintaining alignment integrity. Designed for optical engineers, automation engineers, and manufacturing engineers, this webinar will equip attendees with the knowledge required to make informed decisions when specifying motion control solutions for optical alignment applications. Presented by Aerotech Inc.

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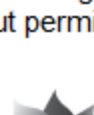


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