Thursday, October 2, 2025

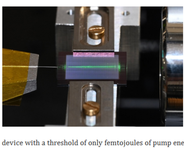
PHOTONICS spectra

Weekly News

SPIE Joins 50+ Scientific Groups Expressing Concern on an Executive Order for Scientific Grants

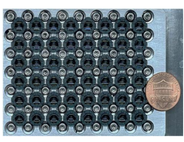
ECOC Exhibition 2025 is wrapping up in Copenhagen. We have all the highlights, including emerging tech and award-winning companies. SPIE joins a massive list of scientific organizations writing to Congress to express concern over an executive order on scientific grants. The groups say this latest order could lead to politicizing areas of research. Researchers from the California NanoSystems Institute at UCLA have developed a new light-emitting material that could transform photonics. IonQ is reporting the successful demonstration of visible-to-telecom wavelength frequency conversion. Germany announces plans to invest more than $40 billion in space-related defense systems. Photonics21 is asking European leaders to invest €2 billion in photonics. Quantum Computing Inc. raises $500 million in the private sale of common stock. And SPIE Photonics West is now open for registration! Sponsored by Edmund Optics and Thorlabs.

Watch Now



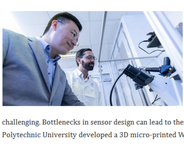
Caltech Research Enables Coherent Spectral Broadening On-Chip

Broadband, coherent light sources are highly valued in R&D. But until now, they have been difficult to achieve without bulky, inefficient tabletop devices. A Caltech team led by professor Alireza Marandi developed an efficient solution to integrating a broad spectrum of frequencies on a microchip. Using an optical parametric oscillator, the team demonstrated multi-octave frequency comb generation on a nanophotonic device with a threshold of only femtojoules of pump energy. Read Article



Multi-Camera Microscope Produces Sharp Images of Large, Curved Samples

Microscopy samples are seldom completely flat across a centimeter-scale field of view. Mechanical scanning can keep all the parts of a large sample in focus, but scanning reduces throughput, slowing the imaging process. To help large-area microscopy systems resolve trade-offs between field of view, resolution, and imaging speed, a team at Duke University developed a single-shot, re-imaging microscope that achieves seamless, gigapixel imaging over a 16.3 × 18.8 square millimeter field of view, at 0.84-µm half-pitch resolution, without mechanical scanning. Read Article



Scalable 3D Micro-Printed Sensors Promise Optofluidic Disease Detection

Early-stage disease diagnosis relies on the highly sensitive detection of biomarkers, such as optical whispering-gallery-mode (WGM) microcavity sensors; such devices provide precise, label-free biosensing. However, scaling and integrating large-scale arrayed WGM microcavity sensors is challenging. Bottlenecks in sensor design can lead to these bottlenecks. In response, researchers at Hong Kong Polytechnic University developed a 3D micro-printed WGM micro-laser sensor for sensitive on-chip biosensing. Read Article

Featured Products & Services

Photonics Spectra Reference Chart

Photonics Media

This full-color, 29.5 × 20.5-inch poster of the photonics spectrum displays the major commercial laser lines, detectors, and optical materials in the ultraviolet to the far-infrared and beyond. The convenient format makes it easy to quickly find the information you need.

Visit Website | Request Info

T165 Laser Diode Pulser

Highland Technology Inc.

The T165 is a picosecond to nanosecond laser diode pulser that incorporates an edge-triggered pulse generator with fast rise and fall times into a butterfly or TO-packaged laser. Its 2" x 2" design connects directly to standard 0.1" pin-pitch butterfly laser packages, making it ideal for OEM use in laser systems. Laser current, bias, and pulse widths are settable with onboard trimpots or via external analog inputs.

Visit Website | Request Info

Looking for something else? Check the Photonics Marketplace.

PHOTONICS marketplace

More News

GlobalFoundries Partners with Applied Materials, Eqis

Prior Scientific Acquires Kinetic Systems

Photon IP Rebrands as Photon Bridge, Names CEO

Credo Expands Systems Portfolio, Acquires Micro-LED Developer Hyperlume

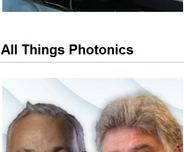
Latest Webinars

Metasurface Optics for Information Processing and Computing

Thu, Oct 9, 2025 1:00 PM - 2:00 PM EDT

Metasurface optics—ultrathin, nanostructured elements capable of precise light manipulation—are revolutionizing optical information processing. By co-designing optical hardware with computational algorithms, these systems enable complex operations like spatial convolutions directly in the optical domain. This hybrid analog-digital approach offers new possibilities for faster, more efficient imaging and vision systems, while posing exciting challenges at the intersection of photonics, machine learning, and device integration. Sponsored by Moxtek.

Register Now



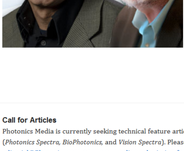
Advanced Motion Control for Semiconductor Metrology

Thu, Oct 16, 2025 1:00 PM - 2:00 PM EDT

Join our webinar on advanced motion control for semiconductor inspection and metrology. Discover how precision motion systems enable cutting-edge applications like wafer inspection, SWLI, SEM/FIB, and AFM. Learn about compensating for error motions, system-level optimization, and advanced control techniques to achieve nanometer-level precision and maximize throughput. Explore industry-leading solutions pushing the boundaries of semiconductor metrology. This webinar is ideal for anyone in the semiconductor industry seeking to enhance accuracy, speed, and reliability in their manufacturing operations. Presented by Aerotech.

Register Now

All Things Photonics



The Power of Inertial Confinement Fusion — With Omar Hurricane and Mike Campbell

There is an ever-growing demand for power, whether it is to supply electricity for our power-hungry AI servers or to keep the lights on in more homes. Inertial confinement fusion has been referred to as one of the most promising paths to thermonuclear fusion, and it could one day provide a path to more efficient power. **Omar Hurricane** and **Mike Campbell** formed a professional relationship and a lasting friendship through their time together at the Lawrence Livermore National Laboratory. In this episode of "All Things Photonics", they discuss the progress made in inertial confinement fusion and what this technology will need to reach its full potential.

Listen Now

Call for Articles

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazines (*Photonics Spectra*, *BioPhotonics*, and *Vision Spectra*). Please submit an informal 100-word abstract to editorial@Photonics.com, or use our online submission form.

PHOTONICS MEDIA photonics.com