

# This Week in PHOTONICS



## Picometer Resolution

Powered by Virtually Imaged Phase Arrays (VIPAs), LightMachinery's HyperFine spectrometers offer single shot, picometer resolution laser spectrum analysis.

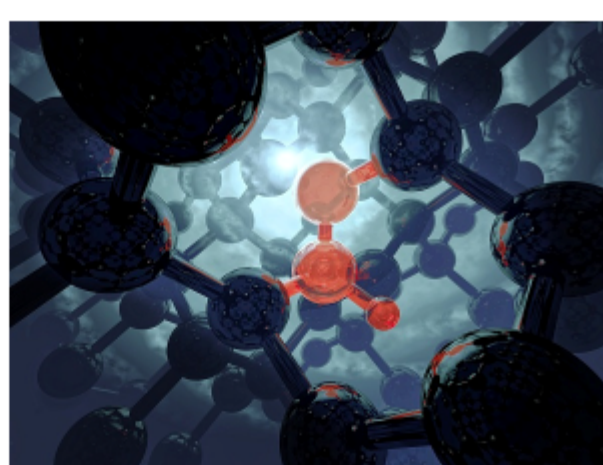


## Top Stories

### Silicon Defect Proves a Photonic Keystone to Quantum Internet

A research team at Simon Fraser University has exploited a defect in silicon that it believes will enable the realization of massively scalable quantum computers — and the quantum internet that will connect them. The research provides proof of principle that T centers, a specific luminescent defect in silicon, can provide a photonic link between qubits.

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### Space Development Agency Awards Missile Tracking Contracts

The Space Development Agency (SDA) awarded two prototype agreements with a potential value of more than \$1.3 billion for the establishment of the Tranche 1 Tracking Layer, which aims to provide global indications, warning, tracking, and targeting of advanced missile threats, including hypersonic missile systems.

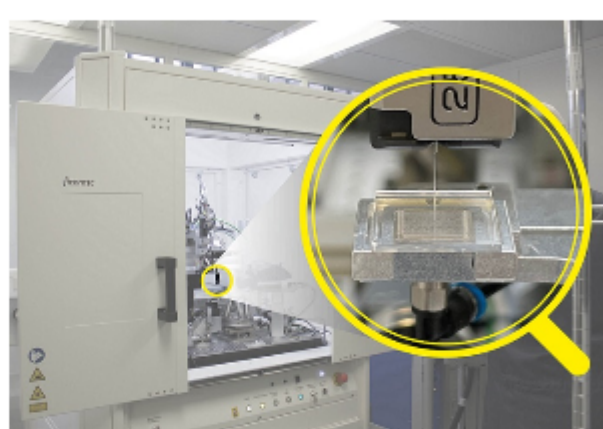
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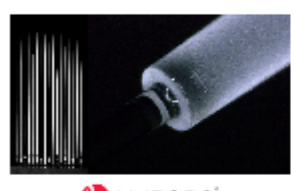
### Direct Laser Welding Enables Adhesive-Free Fiber-to-Chip Connection

Fraunhofer IZM researchers and partners have developed a laser welding technique to fix optical fibers to PICs, removing the need for adhesive bonding. The technology was developed in response to proposed biophotonic sensing techniques involving miniaturized PIC-based systems utilizing highly stable fiber connections.

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## Featured Products & Services



### CO<sub>2</sub> Laser Glass-Processing

**NYFORS Teknologi AB**  
CO<sub>2</sub> 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.

[Visit Website](#)

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### 671 Series Laser Wavelength Meter

**Bristol Instruments Inc.**  
The 671 Series Laser

Wavelength Meter uses a proven Michelson interferometer-based design to measure the wavelengths of CW lasers to an accuracy as high as ±0.2 parts per million. Operation is available from 375 nm to 12 μm. Continuous calibration with a built-in wavelength standard guarantees the reliable accuracy that is required for the most meaningful experimental results.

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**PI**  
**XYZ Nano-Positioner with Air Bearings**

**NYFORS**  
**ADVANCED LASER FUSION SPLICING AND GLASS PROCESSING**  
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## More News

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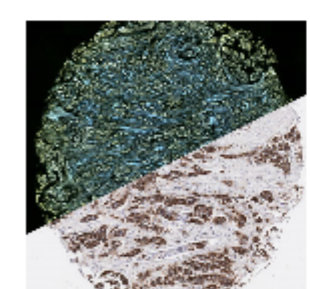
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[II-VI and Artilux Demonstrate 3D Camera Aimed at Metaverse](#) [Read Article](#)

[Atomically Smooth Gold Crystals Enable Nanophotonic Applications](#) [Read Article](#)

[TroGroup Acquires Innolas Photonics](#) [Read Article](#)

## Upcoming Webinars



### Virtual Biomarkers: An Emerging High-Throughput Research Tool

Thu, Aug 11, 2022 1:00 PM - 2:00 PM EDT

Pathology underlies every facet of healthcare, influencing more than 70% of all medical decisions. Yair Rivenson Ph.D., the CEO and Co-Founder of Pictor Labs, demonstrates how it is possible to alter the centuries old practice of histopathology with a digitized process in a non-destructive fashion. The process is enabled by a machine learning-based virtual staining technology which allows fully digital and virtual multiplex tissue platforms to substantively improve the quality and quantity of pathology samples. He will also discuss additional benefits of the technology.

[Register Now](#)



### Intraoperative OCT in Veterinary Surgery for Cancer

Tue, Aug 16, 2022 1:00 PM - 2:00 PM EDT

Surgery is a common cancer treatment performed in dogs and cats but the process of assessing the tumor takes several days and is only able to evaluate a small portion. Optical coherence tomography (OCT) is a non-invasive optical imaging technique that helps solve issues that accompany this process. OCT enables real-time intraoperative surgical margin assessment, allowing rapid visualization of the tissue microstructure at the surgical margins. To date, Dr. Laura Selmic, and her team have found high sensitivity and specificity for detection of incomplete margins after surgical excision of skin tumors, including STS and mast cell tumors, in dog and feline injection site sarcoma. The results reveal that OCT has potential for showing the demarcation between tumor and other normal tissues including muscle, fat, and skin.

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