

# 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.

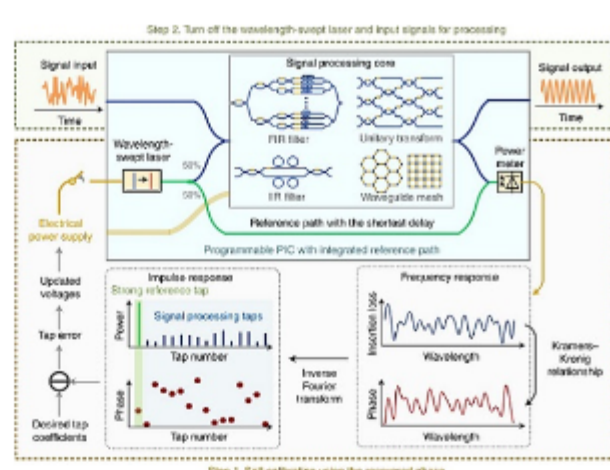


## Top Stories

### Self-Calibrated Optical Chip Supercharges Connectivity

A self-calibrating PIC developed by Monash University and RMIT scientists offers a replacement option for bulky 3D optics with a wafer-thin slice of silicon. The collaborators cited safer driverless cars capable of instantly interpreting their surroundings, the use of AI to more rapidly diagnose medical conditions, and increasing the speed of natural language processing as applications that the work supports.

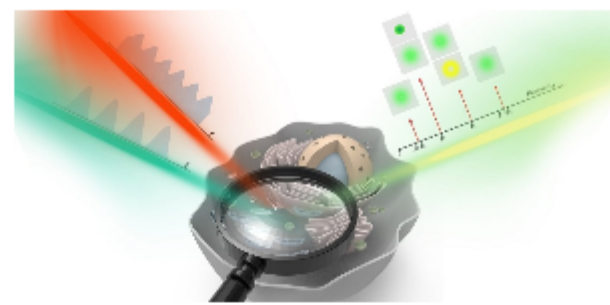
[Read Article](#)



### Method Avoids Drawbacks in STED Microscopy Noise Suppression

Researchers from Zhejiang University have proposed a novel microscopy method that selectively and effectively suppresses background noise in STED microscopy. The approach bypasses drawbacks that are caused by current methods used for noise suppression in STED imaging, which is considered a limitation of the technique.

[Read Article](#)



### Diamond Defects Boost Magnetic Field Sensing for Brain Activity Mapping

A team from Fraunhofer Institute for Applied Solid State Physics and RMIT University demonstrated that magnetic-field-dependent emission from nitrogen-vacancy centers in diamond deliver a measurement of magnetic fields with 10x more precision than current state-of-the-art techniques. This boost in sensitivity could improve existing techniques for magnetically sensing and mapping brain activity in disorders such as concussion, epilepsy, and dementia.

[Read Article](#)



## Featured Products & Services



### Ultrafast Fiber Lasers with <50 fs

**HUBNER Photonics GmbH**  
HÜBNER Photonics' VALO

Aalto femtosecond fiber lasers have pulse durations of <50 fs and peak powers of >2 MW from compact and stable turn-key systems. The lasers have very attractive features for applications in bioimaging, spectroscopy and micro-machining.

[Visit Website](#)

[Request Info](#)



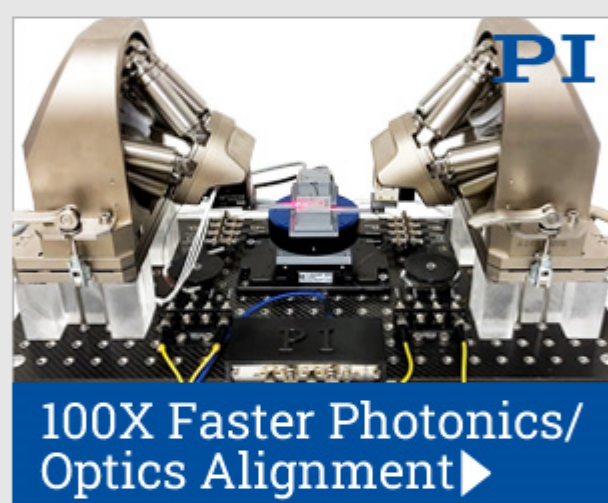
### Optical Products and Laser Components

**Optoaxis Photonics Inc.**  
Develops and markets optical products and laser components, both standard and fully customizable. Our

main products are: • Lenses: Spherical Lenses, Achromatic Lenses, F-Theta Scan Lenses, Cylindrical Lenses, Aspheric Lenses . • Windows: BK7 window, UVFS window, Sapphire window, CaF2 window, ZnSe window,...

[Visit Website](#)

[Request Info](#)



**100X Faster Photonics/Optics Alignment**



**ADVANCED LASER FUSION SPLICING AND GLASS PROCESSING**

[LEARN MORE](#)

## More News

**Fiber Photometry Manages, Records Brain Activity at Same Time** [Read Article](#)

**Headwall Makes Second Acquisition in a Week, Adds Holographix** [Read Article](#)

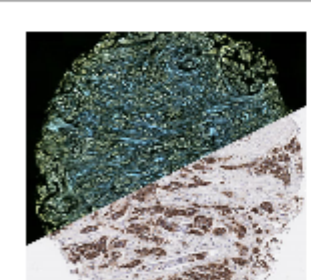
**Corning Ramps Up NY Operations to Address Semiconductor Demand** [Read Article](#)

**Polytec Exits Machine Vision Space** [Read Article](#)

**Quantum Companies See Cash Injection: Week in Brief: 07/08/22** [Read Article](#)



## Upcoming Webinars

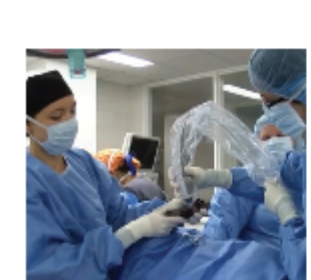


### Virtual Biomarkers: An Emerging High-Throughput Research Tool

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.

[Register 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](mailto:editorial@photonics.com), or use our [online submission form](#).



We respect your time and privacy. You are receiving this email because you are a Photonics Media subscriber, and/or a member of our website, Photonics.com. You may use the links below to manage your subscriptions or contact us.

Questions: [info@photonics.com](mailto:info@photonics.com)

[Unsubscribe](#) | [Subscribe](#) | [Subscriptions](#) | [Privacy Policy](#) | [Terms and Conditions of Use](#)

Photonics Media, 100 West St., PO Box 4949, Pittsfield, MA 01202-4949

© 1996 - 2022 Laurin Publishing. All rights reserved. Photonics.com is Registered with the U.S. Patent & Trademark Office. Reproduction in whole or in part without permission is prohibited.