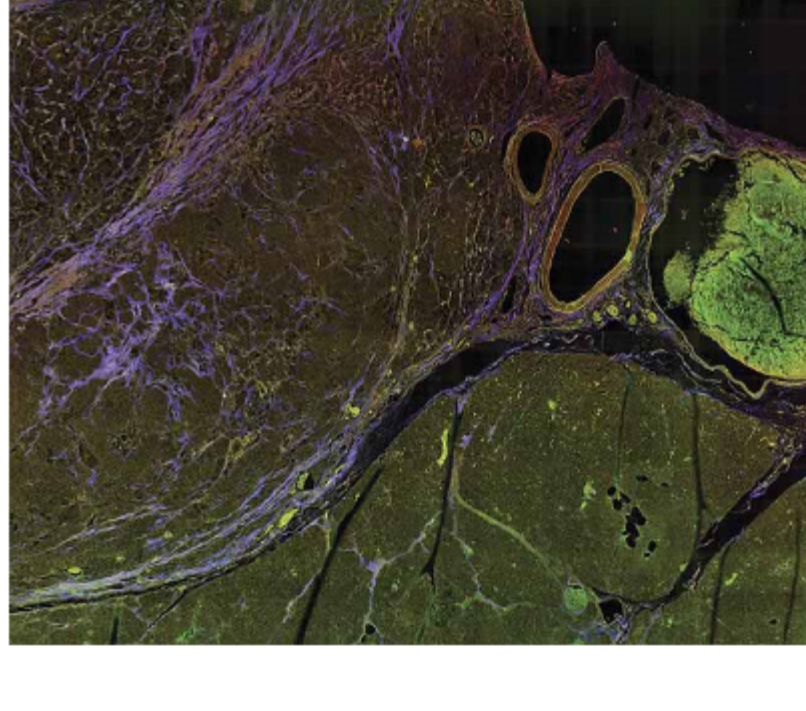


BioPhotonics

Bringing Light to the Life Sciences

Monthly newsletter focusing on how light-based technologies are being used in the life sciences. Includes news, features and product developments in lasers, imaging, optics, spectroscopy, microscopy, lighting and more. Manage your Photonics Media membership at BioPhotonics.com/subscribe.



Two-Photon Microscopy Provides Clear Guidance for Tumor Resection

Pancreatic cancer is one of the deadliest malignancies, with an average five-year survival rate of only 12%¹. Surgical resection of the tumor is often the only realistic approach to saving a pancreatic cancer patient, but only if the malignant tissue can be completely removed. The current standard of care for assessing the completeness of resection is pathological inspection of resected tissues for defining "margins." Multiphoton microscopy has the potential to enable this assessment at the point of care, facilitating more rapid and complete treatment of the disease. [Read Article](#)



Double-Clad Fiber Couplers Enhance Multimodal OCT Results

The design of optical coherence tomography systems has evolved significantly in the past three decades by enhancing imaging capabilities, reducing the size of devices, and expanding the scope of clinical applications in fields such as ophthalmology and cardiology. Central to this wave of innovation has been the development of fiber optics components, such as fiber optics couplers. [Read Article](#)



AI, Lasers Automate Rapid Sorting and Analysis of Live Cells

The Fraunhofer Institutes of Laser Technology and Production Technology developed an AI-assisted tool that automatically sorts and isolates living cells from samples using a high-throughput process. The technology, called LIFTOSCOPE, combines high-speed microscopy, AI-based analysis, and localization of living cells and cell clusters with laser-induced forward transfer. [Read Article](#)



Featured Products & Services



NAN™ Open-Design Upright Microscope

Sutter Instrument Company

The Sutter NAN™ — A focusing nosepiece microscope designed for electrophysiology. The microscope frame has been reimagined around our highly-stable adjustable MT-70 manipulator gantry stands; this design choice allows many possible configurations to match the ever-expanding applications in the field of electrophysiology.

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Ultrafast Fiber Lasers: <50 fs, 2 W

HUBNER Photonics GmbH

HÜBNER Photonics proudly announces the next generation of the VALO femtosecond lasers. The new Tidal delivers pulse durations of typically 40 fs at 2 W of output power. Due to the exceptional peak power and the integrated dispersion pre-compensation unit, it is an ideal tool for nonlinear applications like high harmonic imaging, broadband terahertz generation, and nonlinear wafer inspection.

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LIGHT: Introduction to Optics and Photonics, Second Edition

Photonics Media

Offering a comprehensive treatment of the subject as well as key applications, and employing minimal math, LIGHT: Introduction to Optics and Photonics was written with readers in mind.

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Rapid Automated Modular Microscope

Applied Scientific Instrumentation Inc.

Rapid Automated Modular Microscope is a fully functional compact automated imaging platform mounted on the frame with mounting holes and support points. The frame supports the assembly and the stage in a manner that ensures coupling between sample and objective.

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More News

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](#)

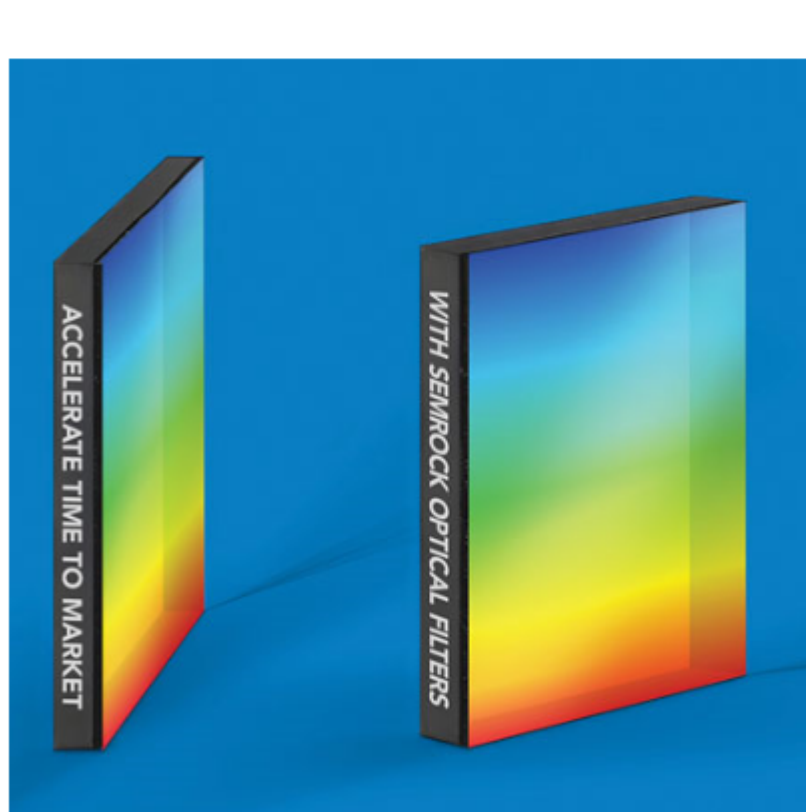
Quantum Sensor Could Increase Quality and Speed of MRI Scans

Researchers at the Danish Research Center for Magnetic Resonance (DRCMR) and the Niels Bohr Institute at the University of Copenhagen have developed a quantum optical magnetometer. This sensor measures high magnetic fields and is expected to increase the longevity of MRI scanners while improving their quality and lowering costs. A prototype of the sensor is currently operational at Hvidovre Hospital at DRCMR. [Read Article](#)

Adaptive Optics Offers Clues to How the Eye Perceives Color

In this webinar, Elizabeth Bernhardt from IDEX Health & Science identified some of the rare, non-cardinal retinal ganglion cells in the fovea of the eye. The UR team's discovery could improve scientific understanding of how humans perceive color and eventually lead to new solutions for treating vision loss. [Read Article](#)

Latest Webinars



Accelerating Time-to-Market with Semrock Optical Filters

Thu, Jun 20, 2024 1:00 PM - 2:00 PM EDT

In this webinar, Elizabeth Bernhardt from IDEX Health & Science illustrates how the Semrock suite of tools accelerates prototyping timelines. First, she demonstrates the free SearchLight spectral modeling analysis tool, which saves prototyping hours and quickly calculates different filter options. After spectral modeling, she shows how to move straight to the lab using the ready-to-ship Semrock optical filter catalog. With filters than 850 optical filters, testing and optimizing optical filters has never been easier. Finally, she presents why engaging with IDEX Health & Science's team of filter experts sets instruments apart. Leveraging extensive industry experience and granting access to thousands of coating recipes, IDEX Health & Science provides key assistance in optimizing filter selection, including advising on custom coating run considerations and cost optimization. With their commitment to shorter lead times and a dedicated team, they customize optical filters to meet specific applications. Attendees are empowered to use Semrock tools and optical filters to accelerate time-to-market. Presented by IDEX Health & Science.

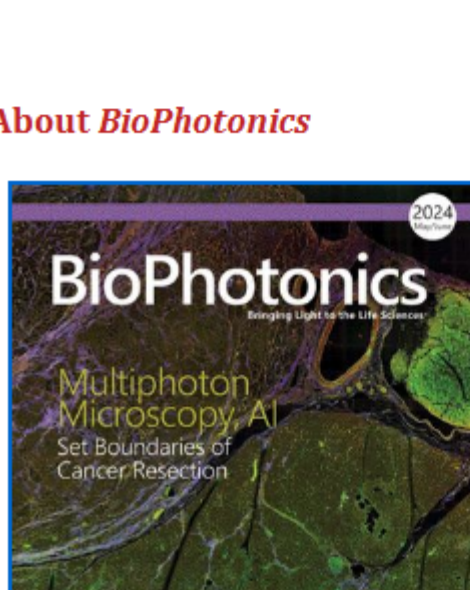
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