Thursday, November 3, 2022

This Week in PHOTONICS
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.: Top Stories

Nobel Prize-Winning Technique Helps Resolve Imaging Challenge
Using a technique that was awarded the 2022 Nobel Prize in chemistry, researchers at Cornell University used expansion microscopy to study lipids, the water-repellent, dynamic components that comprise the walls of cells and organelles. The technique, called Lipid Expansion Microscopy, will enable closer study of biological membranes, which are the site of critical cell signaling and nutrient exchange. These processes can lead to disease if disrupted.

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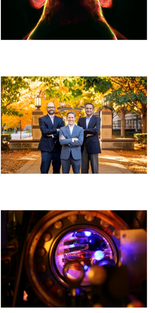

University of Illinois Center Convenes Leading Microscopists
Researchers from the University of Illinois Urbana-Champaign will use funding from the National Institute of Biomedical Imaging and Bioengineering to establish a national collaborative Biomedical Technology Research Resource to develop label-free optical imaging technologies for medical and biological applications.

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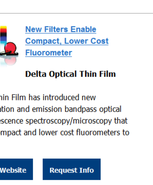

TOPTICA, ams OSRAM, Fraunhofer to Develop Quantum Light Sources
Under the umbrella of the DigiQuant project funded by the Bavarian Ministry of Economic Affairs, TOPTICA, ams OSRAM, and the Fraunhofer Institute for Integrated Circuits IIS (Fraunhofer IIS) will develop diode-based laser technology to advance the field of quantum optics.

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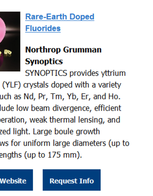
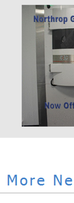


.: Featured Products & Services



Laser Micromachining Subsystem

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A femtosecond laser module designed for high-precision processing. With options in IR or green wavelengths, multiple optical component combinations, and up to 80 W power, SIGMA LS can address applications in the medical device, aerospace/defense, electronics, energy/battery, and automotive industries.

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Delta Optical Thin Film has introduced new advanced excitation and emission bandpass optical filters for fluorescence spectroscopy/microscopy that enable more compact and lower cost fluorometers to be built.

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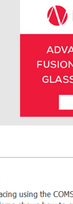

Rare-Earth Doped Fluorides

Northrop Grumman Synoptics
SYNOPTICS provides yttrium lithium fluoride (YLF) crystals doped with a variety of rare earths such as Nd, Pr, Tm, Yb, Er, and Ho. Advantages include low beam divergence, efficient single-mode operation, weak thermal lensing, and naturally polarized light. Large boule growth technology allows for uniform large diameters (up to 100 mm) and lengths (up to 175 mm).

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Frequency Comb Advancement Improves Speed, Measurement Precision Read Article

.: Upcoming Webinars

Ray Optics Simulations
Wed, Nov 16, 2022 2:00 PM - 3:00 PM EST
Ping Chu, Ph.D., shares about optical ray tracing using the COMSOL Multiphysics® software and presents a live demo of the software. This demo shows how to create a fully parameterized geometry of a typical lens system, trace rays through the system, and postprocess the results. She also discusses more specialized ray features, such as the analysis of ray intensity and polarization. Finally, she explains how the Ray Optics Module, an add-on product to COMSOL Multiphysics®, can be combined with structural and thermal simulation for highly accurate structural-thermal-optical performance (STOP) analysis. Presented by COMSOL.

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Introduction to Display Metrology: Evaluating the Quality of Displays Using Scientific Systems and Methods
Thu, Nov 17, 2022 1:00 PM - 2:00 PM EST
Using scientific methods and equipment, display metrology solutions capture and assess the quantitative values of a display's output to evaluate its visual quality and performance. Jessy Hosken of Radian Vision Systems shares the science behind display testing, including measurement equipment and techniques used by manufacturers throughout labs and production lines to ensure high-quality display products from microLED to AR/VR devices. Presented by Radiant Vision Systems.

Register Now

.: All Things Photonics

From on scene at Optica's Frontiers in Optics + Laser Science Show in Rochester, N.Y., All Things Photonics speaks with **S.J. Ben Yoo**, Distinguished Professor in the Department of Electrical and Computer Engineering at University of California, Davis and **Daniil Lukin**, of the Nanoscale and Quantum Photonics Lab at Stanford University. Plus, an exclusive conversation with the newly crowned winner of the Luminate NY Accelerator Competition.

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