

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

University of Rochester Plans 50% Increase in Optics Faculty

A \$12M challenge fund has granted the Institute of Optics at the University of Rochester the opportunity to increase its faculty by 50%. The fund, endowed by University of Rochester life trustee James C. Wyant and his wife, Tammy, will provide 60% of the \$1.5M required for a professorship and the \$2 million required for a distinguished professorship.



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NASA Deploys Diagnostic Equipment to Manage Astronaut Health

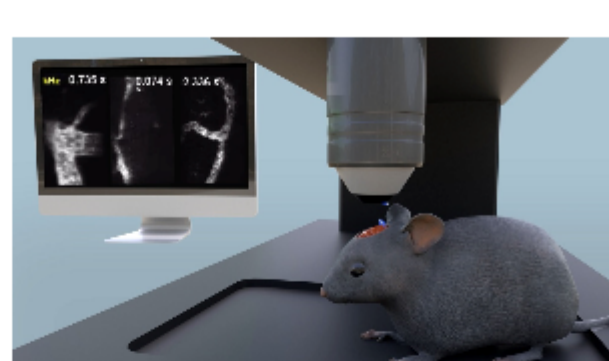
NASA's Human Research Program's Exploration Medical Capability team tested the Reusable Handheld Electrolyte and Laboratory Technology for Humans (rHEALTH) ONE biomedical analyzer, a portable device that uses laser technology to diagnose illness or injury. The miniature flow cytometer detects cells and other biomarkers to assess biological changes.



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Microscopy Technique Enables In Vivo Vascular Imaging at Single-Cell Resolution

A two-photon fluorescence imaging method was able to image the flow of individual blood cells at 1000 2D frames and 1,000,000 line-scans per second in the brains of awake mice. The technique could help scientists better understand how energy is distributed and regulated in both healthy and diseased brains.



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

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:: Upcoming Webinars

SPEX: Combining Spectroscopy and Polarimetry for Remote Sensing
Wed, Sep 28, 2022 10:00 AM - 11:00 AM EDT
Spectropolarimetry is a powerful technique for remote sensing of the environment. Combining spectroscopy and polarimetry makes it possible to probe particle shape and size distributions that traditional spectroscopy cannot. However, measuring all these dimensions at once is challenging. SPEX solves this problem by encoding polarization into the spectrum through spectral modulation, meaning the instrument measures spectral radiance and polarization at once. This enables snapshot hyperspectral measurements with high precision and accuracy. Olivier Burggraaff discusses the physics and instrumentation behind the SPEX technique and existing instruments, as well as their current and future scientific applications.

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A Technical Exploration of Spatial Light Modulators and Their Latest 3D Applications
Thu, Sep 29, 2022 1:00 PM - 2:00 PM EDT
LASER COMPONENTS brings together some of the brightest minds in the industry for a one-hour workshop. Doctoral students Liang Shi of MIT, Praneeth Chakravarthula of Princeton University, and Manu Gopakumar of Stanford University share how they are applying spatial light modulators (SLMs) within holography, beamsplitting, and photonics projects. And Stefan Osten of HOLOEYE discusses the technical specifications of SLMs and leads an interactive Q&A session. HOLOEYE has been pioneering photonics technology for over 20 years and is an expert in SLMs. Presented by LASER COMPONENTS.

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