

This Week in PHOTONICS



LightMachinery
Excellence in Lasers and Optics



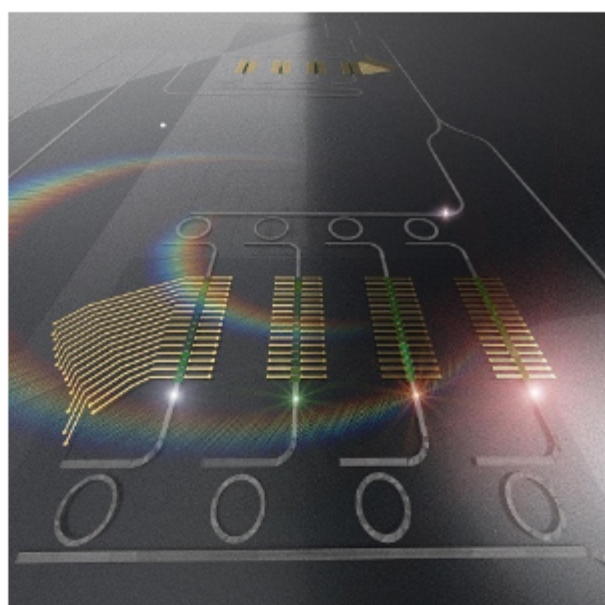
Hyperfine Spectrometer
A sub-picometer resolution spectrometer in a compact package.

Top Stories

Photonic Processing Unit Supports Light Speed Machine Learning

Substituting a photonic tensor core for existing digital processors such as GPUs, a pair of engineers from George Washington University (GWU) has introduced a new technique for performing high-level neural network computations. In the approach, light energy replaces electricity, processing optical data feeds at a performance rate two to three orders higher than with an electrical tensor processing unit (TPU).

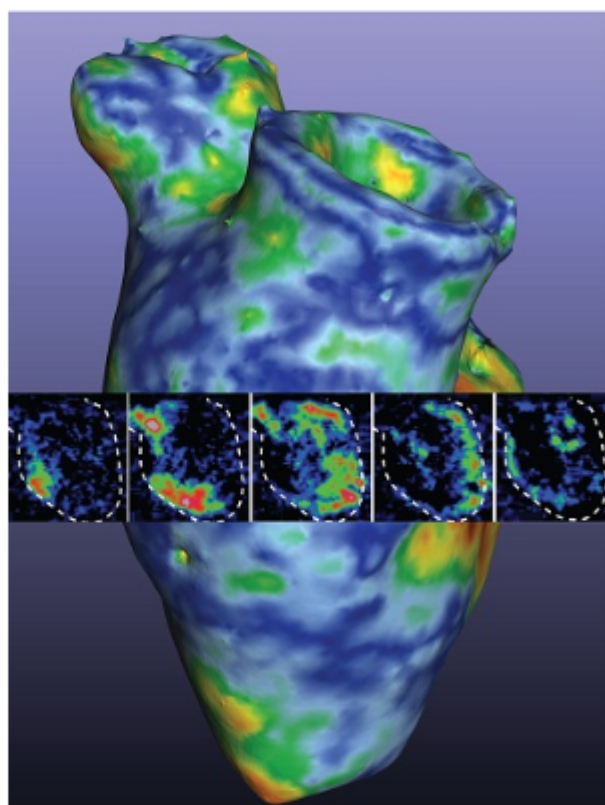
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Light Helps Pump Life into Heart Muscle

Although it can be difficult to get heart muscle cells to propagate in large numbers, a team of researchers at the University of Minnesota has found a way to use 3D printing and light-induced excitation to create a living heart pump that has broad implications in medicine.

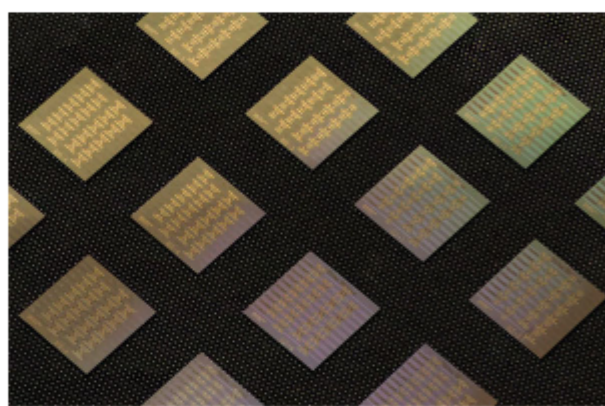
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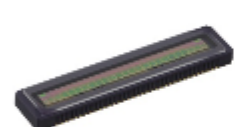
Ultralow-Loss Integrated Photonics for Lidar

Researchers at École Polytechnique Fédérale de Lausanne and Purdue University demonstrated a hybrid approach to on-chip acousto-optic modulation by combining piezoelectric aluminium nitride technology with ultralow-loss silicon nitride integrated photonics.

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Featured Products



Tetra CMOS Line Scan Image Sensors

Teledyne e2v (UK) Ltd.

Tetra is a low-cost, high-volume CMOS sensor family of 2k, 4k, 8k and 16k resolution for multispectral, color, and monochrome imaging. These sensors are ideal for food sorting, recycling, logistics, pick-and-place, and other machine vision applications that require cost-effective imaging.

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Aplanatic Objective

AdlOptica GmbH

The aplanoXX_NA0.8 objective for diffraction limited focusing from AdlOptica GmbH features a numerical aperture of 0.8 inside transparent materials with compensation for spherical aberration at depths ranging from 0 to 4 mm. Its high optical resistance to radiation of high power ultra-short pulse lasers with wavelengths of...

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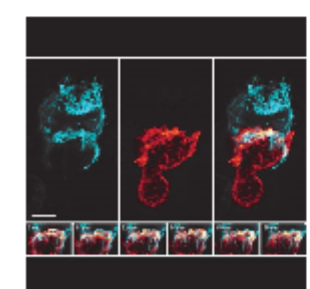
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Upcoming Webinars



An Oblique Plane Light-Sheet Microscope with 200-nm-Scale Resolution

In this webinar, UT Southwestern professor Kevin Dean will describe an oblique plane microscope that uses a newly developed glass-tipped objective and an optimized optical train to maximize the speed, field of view, and resolution of the overall imaging system. He will characterize the performance of this microscope, and then demonstrate biological imaging of clathrin-mediated endocytosis, cell migration, natural killer cell induced cytotoxicity, and more. This webinar is

sponsored by Applied Scientific Instrumentation; Andor Technology, part of the Oxford Instruments Group; TOPTICA Photonics; and Coherent Inc.

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