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PHOTONICS MEDIA

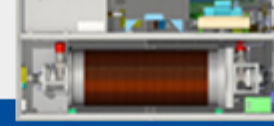


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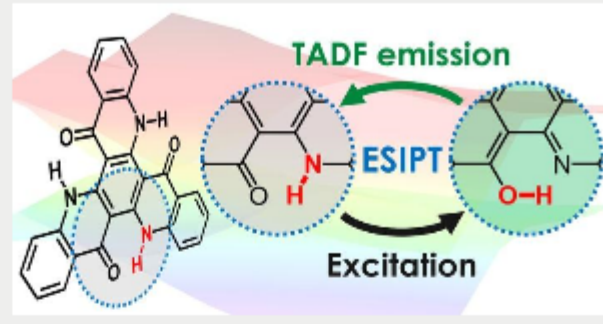
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Top Stories

Hydrogen Could Provide Path to High-Efficiency OLEDs

A molecule that changes its chemical structure slightly before and after emission could provide a novel, stable approach to achieving high efficiency in OLEDs. The mechanism explored by the researchers involves the reversible transfer of a hydrogen atom — i.e., the transfer of its positive nucleus — from one atom in the emitting molecule to another in the same molecule, to create an environment conducive to thermally activated delayed fluorescence (TADF).



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Photoswitch Chemistry Creates 3D Shapes From Light

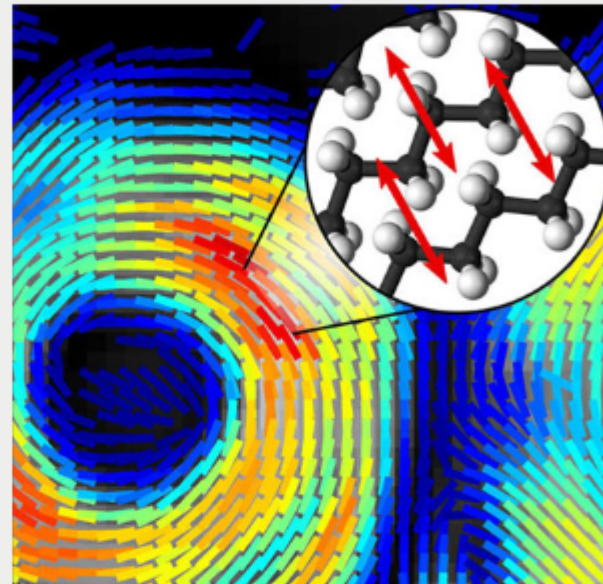
A novel technology uses a special class of photoactivatable molecules and digital light processing (DLP) to construct light shapes into animated structures that have volume and are viewable from 360 degrees. The technology is not a hologram, and differs from 3D movies or 3D computer design.



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Raman-Based Approach Images Biological Processes in Action

A fast, novel imaging technique could improve molecular-scale understanding of the biological processes involved in the early stages of disease. The technique uses polarization-resolved coherent Raman scattering (polar-CRS) to reveal a sample's chemical makeup as well as the orientation of molecules that comprise it. The technique takes only seconds, making it possible to view the progression of disease in a living animal model at the molecular level.



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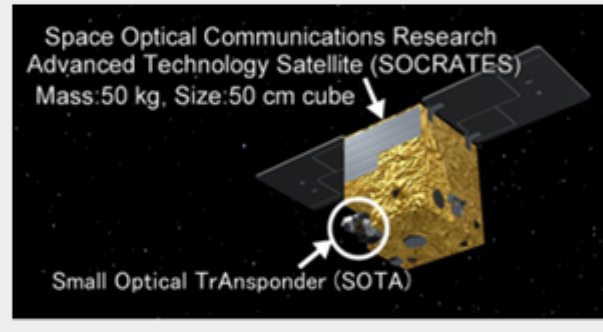
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Microsatellite for Space Quantum Communications is Demonstrated

In a quantum-limited communication experiment between a microsatellite in low Earth orbit and an optical ground station, researchers were able to detect a communication signal from a small, lightweight quantum-communication transmitter onboard the satellite. The transmitter, named SOTA, transmitted a laser signal to the ground at a rate of ten million bits per second from an altitude of 600 km (approximately 37 miles) at a speed of 7 km/s (approximately 2237 miles per hour).



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With Virtual Reality, Life's a Beach — Even at the Dentist

Virtual reality was used to transport patients from the dentist's chair to a day at the beach at one dental practice in Devon, England — with a demonstrable improvement in the comfort level of the patients, who were participating in a study to determine whether virtual reality (VR) experiences could improve a patient's experience during routine dental procedures, such as fillings and tooth extractions.

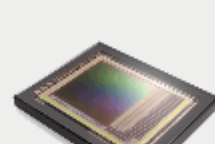


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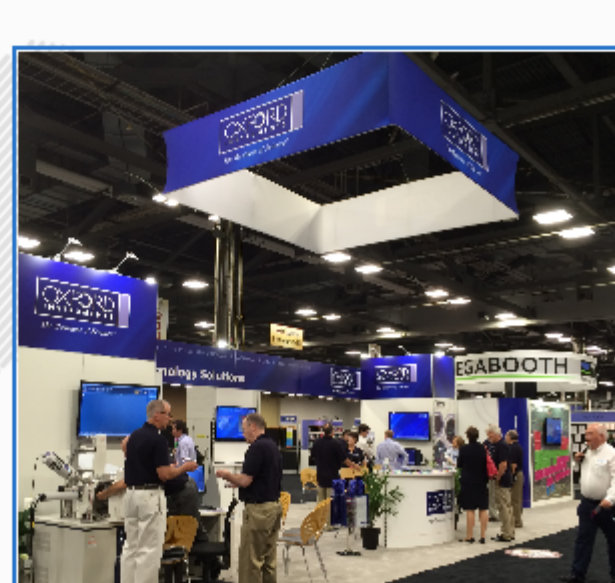
Industry Events

Microscopy & Microanalysis 2017

August 6-10, 2017 - America's Center Convention Complex - St. Louis United States

Anniversary lectures by pioneering figures in microscopy and microanalysis will be featured at this year's meeting, which marks the 75th anniversary of the Microscopy Society of America and the 50th anniversary of the Microanalysis Society. The technical program will feature plenary talks by Eric Betzig, winner of the 2014 Nobel Prize in Chemistry "for the development of super-resolved fluorescence microscopy," and Keith Riles, a member of the LIGO Scientific Collaboration that in 2015 detected gravitational waves. The meeting will also showcase the latest state-of-the-art instrumentation and accessories in microscopy and microanalysis.

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