Thursday, June 08, 2017

This Week In PHOTONICS

PHOTONICS MEDIA

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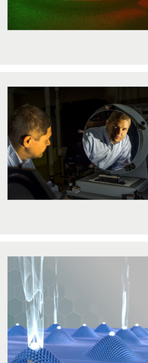
Top Stories

Jellyfish Proteins Used to Create Unconventional Laser

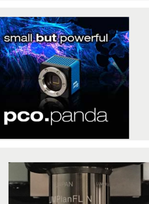
A polariton laser based on lab-grown, fluorescent jellyfish proteins could impact the fabrication of artificial optical devices, advance the field of optical computing — as it requires less energy than conventional lasers — and aid in new biomedical applications serving as a bio-compatible, bio-implantable light source of sorts. The green fluorescent protein (GFP) found in the pacific jellyfish Aequorea Victoria is the energy acceptor in the natural bioluminescence of the animal.



Read Article

NASA Investigates Optical Coatings for Far-UV Spectral Range

To meet the projected goals for its next generation of space telescopes, NASA is taking on a new optical challenge — the fabrication of protective coatings for mirrors to be used for astrophysics studies in the Lyman Alpha range. So far, no one has developed a coating that effectively protects and maintains an aluminum mirror's high reflectivity in the 90- to 130-nm range. At this spectral regime, scientists can observe an assortment of spectral lines and astronomical targets.



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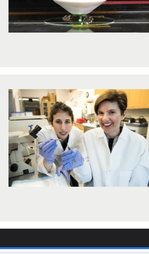
Large-Scale Quantum Emitter Arrays Could Generate Single Photons on Demand

Quantum light emitters have been observed previously in atomically thin layers of transition metal dichalcogenides (TMDs). However, they have been found at random locations within the host material and usually in low densities, hindering experiments aiming to investigate this class of emitters. To facilitate investigation, deterministic arrays of hundreds of quantum emitters were created using different TMD materials, emitting across a range of wavelengths in the visible spectrum.



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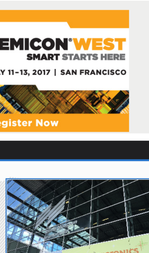
Metalens for Immersion Microscope Overcomes Challenges of Hand-Polishing Techniques

A flat lens for immersion microscopy has been developed. The lens, which can be designed for use with any form of liquid, could provide a cost-effective and easy-to-manufacture alternative to hand polishing lenses for immersion objectives.



Read Article

3D-Printed Patch Mends Hearts

A new 3D laser-printed patch has been developed that can help heal scarred heart tissue after a heart attack. Researchers from the University of Minnesota-Twin Cities, University of Wisconsin-Madison, and University of Alabama-Birmingham used laser-based 3D bioprinting techniques to incorporate stem cells derived from adult human heart cells on a matrix that began to grow and beat synchronously in a dish in the lab.

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Featured Products

sCMOS Newcomer pco.panda: Compact Design, Extended Performance

PCO-TECH Inc.

Experiencing loss of image quality due to small form factor? Not with pco.panda! Despite ultra-compact measurements of roughly 65 x 65 x 65 mm with only 450 g weight, the new 16-bit sCMOS camera "pco.panda" provides high quantum efficiency up to 80 % and more than 40 fps at a full resolution of 2048 x 2048 pixels.

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Optical Biomedical Imaging

Photonics Media

At last, a reference work has been compiled that offers in one place a broad survey of technologies, applications and markets for optical biomedical imaging, as only Photonics Media could produce it. This collection is a practical resource for those engaged in the research and development of relevant technologies.

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Industry Events

LASER World of PHOTONICS 2017

June 26-29, 2017 - The Munich Trade Fair Center - Munich Germany
Photonics Media Booth: 255, Hall B2

LASER World of PHOTONICS is the world's leading trade fair for components, systems and applications of photonics, with five exhibition halls, over 1,200 exhibitors and more than 30,000 attendees from over 70 countries. Together with the World of Photonics Congress, it unites research and industry and promotes the use and development of photonics, with exhibits, programs, events and talks that cover technology and applications for a range of industries.

More Info

Webinars

Optics-Based Tools for Cancer Care

Tue, Jun 27, 2017 2:00 PM - 3:00 PM EDT

Nirmala (Nimmi) Ramanujam, Ph.D., will speak on optical tools and techniques she is developing for cancer screening in resource-limited settings. Professor Ramanujam is leading a multi-disciplinary effort to translate these technologies to clinical applications in the breast and cervix. In addition to her academic efforts, professor Ramanujam has spun out a company, Zenalux, to commercialize several of the technologies developed in her lab and is developing and creating the processes to move technologies further down the commercialization pipeline within Duke. Ramanujam is Robert W. Carr Jr. professor of Biomedical Engineering, professor in Pharmacology & Cancer Biology and Global Health, and founding director of the Global Women's Health Technologies at Duke University.

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