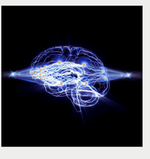
Thursday, September 05, 2019

This Week In PHOTONICS

PHOTONICS MEDIA

Top Stories

All-Optical Neural Network Uses Parallel Computation to Speed Problem-Solving



Researchers at The Hong Kong University of Science and Technology have demonstrated a multilayer all-optical artificial neural network. The researchers built and tested an all-optical neural network in which linear operations were programmed by spatial light modulators and Fourier lenses, while nonlinear optical activation functions were realized using laser-cooled atoms with electromagnetically induced transparency.

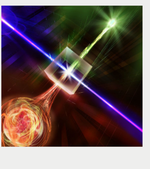
Read Article

Welding with Pulsed Lasers Protects Temperature-Sensitive Materials

A new ceramic welding technology developed by engineers at the University of California, San Diego and the University of California, Riverside uses a series of short, ultrafast laser pulses to melt ceramic materials along the interface between two ceramic parts and fuse them together. Heat builds up only at the interface, so the melting is localized.

Read Article

Quantum Entanglement Sent Over 50 Km of Optical Fiber



A team from the University of Innsbruck and the Institute of Quantum Optics and Quantum Information of the Austrian Academy of Sciences has achieved what could be a record for the transfer of quantum entanglement between matter (a trapped ion) and light (a photon).

Read Article

Featured Products

IDS: More Than 100 New U3V Cameras

IDS Imaging Development Systems GmbH

IDS Imaging Development Systems is expanding its USB3 Vision camera range by more than 100 models in the coming weeks. The company integrates the entire range of Sony sensors which are already available with GigE Vision interface. The USB3 Vision cameras will be available both as CP and SE family variants. For the latter, customers can choose between housing or board level versions with different lens holder options,..

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Vutara Super-Resolution Microscopy

Bruker Nano Surfaces

Based on single-molecule localization techniques (PALM, STORM, etc.), Vutara 352 enables quantitative imaging at the nanoscale. With SRX software and its Quantitative Localization Microscopy (QLM) analysis suite, Vutara 352 can provide visual and quantitative information from biological samples. Frame rates up to 3000 fps allow data to be collected from live samples and perform time based measurements.

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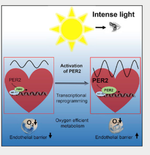
More News

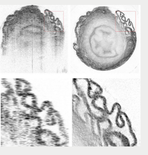
Intense Light Therapy Before Surgery Could Help Protect Heart



Researchers at the University of Colorado Anschutz Medical Campus have found that intense light amplifies a specific gene — Period 2 (PER2) — that makes the metabolism of mice and humans more oxygen-efficient. This amplification could offer protection against injury to the heart muscle if the light therapy were given before surgery.

Read Article

Computational Imaging Tools Improve OCT Resolution in Lateral Direction



A new technique called optical coherence refraction tomography (OCRT) is able to increase the resolution of OCT down to a single micrometer in all directions, even in a living patient. The researchers combined OCT images acquired from multiple angles to extend the depth resolution to the lateral dimension.

Read Article

More Headlines

MEMS Drive and SmartSens to Collaborate on CMOS Image Sensing for Nonmobile Applications Read Article

Brookhaven Completes LSST's Digital Sensor Array Read Article

Experiment Closes Loopholes to Provide New Evidence of Quantum Interactions Read Article

EV Group Partners with SCHOTT on 300-mm Nanoimprint Lithography Read Article

HÜBNER Photonics Cuts Ribbon on New Facility Read Article

Industry Events

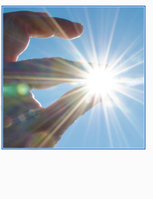
ECOC 2019 Optical Communication

September 22-26, 2019 · Royal Dublin Showground and Intercontinental Hotel - Dublin Ireland
ECOC 2019, the 45th European Conference on Optical Communications, will cover the latest developments in optical communication. As the largest optical communications event in Europe, ECOC is a key meeting place for more than 1500 scientists and researchers from institutions and companies across the world. This year's conference will feature more than 400 presentations from some of the biggest names in the telecom industry to keep you up-to-date with the latest industry developments. In addition to being one of the largest scientific conferences globally, ECOC also features Europe's largest optical communications exhibition, providing you with the chance to connect with new prospective customers and build relationships with existing customers.

More Info

Webinars

Hands-On Digital Light: Spectral Design Tools for Human-Centric Lighting and Related Applications



Thu, Sep 12, 2019 10:00 AM – 11:00 AM EDT
This webinar will begin with a short review of the most promising spectral technologies and the current state-of-the-art. It will delve into the details of spectral design through a series of practical implementations, using one of the most versatile programming languages, Python (no previous knowledge is required, although it may be helpful). A link will be provided to a Python Jupyter Notebook so that you can follow and execute every line of code. You will learn how to calculate the spectral parameters of thousands of metamers through parallelization and vectorization, and build an optimized 24-hour circadian light sequence as a case study. The webinar will conclude with a recap that will put what you have learned into perspective and provide detailed guidelines on real-world implementations for a broad range of applications.

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