

This Week In PHOTONICS

PHOTONICS MEDIA



sponsor



See the Future of Automation & Robotics

FEB 11-13, 2020 // ANAHEIM, CA
ANAHEIM CONVENTION CENTER

REGISTER NOW

Top Stories

The Relightables System Captures Character Lighting for Virtually Any Environment

Computer Scientists at Google Have Developed a System for High-Quality, Relightable Performance Capture. The Volumetric Capture System, Called The Relightables, Can Capture Full-Body Reflectance of 3D Human Performances and Seamlessly Blend Them into a New Environment through Augmented Reality (AR) or into Digital Scenes in Films and Games. Character Lighting Can be Customized in Real Time.

Computer scientists at Google have developed a system for high-quality, relightable performance capture. The volumetric capture system, called The Relightables, can capture full-body reflectance of 3D human performances and seamlessly blend them into a new environment through augmented reality (AR) or into digital scenes in films and games. Character lighting can be customized in real time.



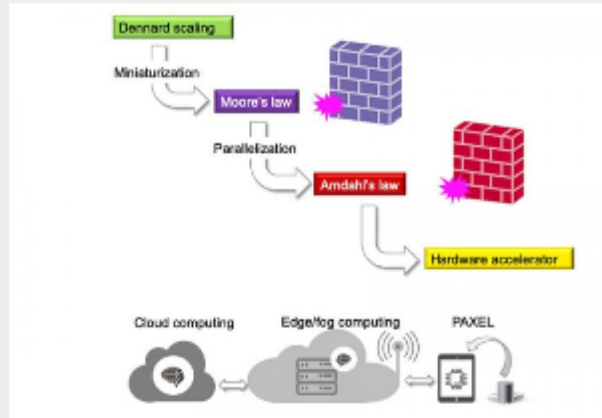
[Read Article](#)



Photonic Accelerator Could Increase Computation Speed and Efficiency

A New Photonic Integrated Circuit Device, Developed by Researchers in Japan, Can be Placed at the Front End of a Digital Computer and Optimized to Perform Specific Functions with Less Power Consumption than is Needed for Fully Electronic Devices. This Photonic Accelerator, Called PAXEL, is a Special Class of Processor that Can Process Images or Time-Serial Data either in an Analog or Digital Fashion on a Real-Time Basis.

A new photonic integrated circuit device, developed by researchers in Japan, can be placed at the front end of a digital computer and optimized to perform specific functions with less power consumption than is needed for fully electronic devices. This photonic accelerator, called PAXEL, is a special class of processor that can process images or time-serial data either in an analog or digital fashion on a real-time basis.



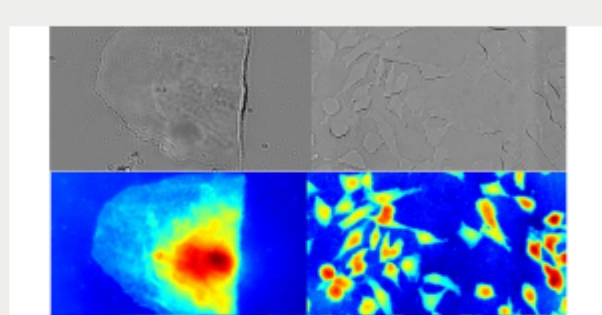
[Read Article](#)



Microscopy Innovation Allows for Simultaneous Quantitative and Bright-Field Imaging

Researchers from King Abdullah University of Science and Technology have Designed a Microscope Lens that is Able to Take Both Quantitative Phase Images and Bright-Field Images in a Single Measurement. Under the Supervision of Professor Wolfgang Heidrich, the Researchers Developed a Microscope Lens that Incorporates a Wavefront Sensor, a Custom-Designed Optical Sensor Able to Encode the Wavefront, or Phase, Information into Intensity Images.

Researchers from King Abdullah University of Science and Technology have designed a microscope lens that is able to take both quantitative phase images and bright-field images in a single measurement. Under the supervision of professor Wolfgang Heidrich, the researchers developed a microscope lens that incorporates a wavefront sensor, a custom-designed optical sensor able to encode the wavefront, or phase, information into intensity images.



[Read Article](#)



Featured Products



Ultima 2Pplus Multiphoton Imaging

Bruker Nano Surfaces

With new advances in field of view, sensitivity, wavelength, and sample accommodation, Bruker's Ultima 2Pplus delivers the best commercially available combination

of flexibility, resolution, imaging depth, and speed, allowing users to perform simultaneous imaging, stimulation, and electrophysiology protocols with greater efficiency and effectivity.

[Visit Website](#) [Request Info](#)



pco.edge 26 sCMOS Camera

PCO-TECH Inc.

Maximizing the amount of information per image is crucial for microscopy, quality control, high throughput screening, and other mesoscopic applications. This is where the new pco.edge 26 fits superb. The pco.edge 26 offers you a 5120 x 5120 pixel resolution with 2.5 x 2.5 μm^2 pixel size.

[Visit Website](#) [Request Info](#)

sponsors

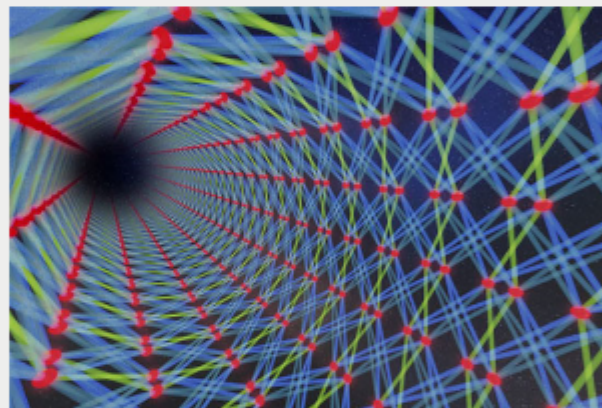


More News

Photonic Cluster States Generated at Room Temps for Optical Quantum Computation

To Observe Quantum Phenomena on a Macroscopic Scale, Researchers at the Center for Macroscopic Quantum States (bigQ) and the Technical University of Denmark (DTU) Created an Extremely Entangled Quantum State, Called a Cluster State. The Team's Scalable Scheme for the Generation of Photonic Cluster States Could be Suitable for Universal Measurement-Based Quantum Computation.

To observe quantum phenomena on a macroscopic scale, researchers at the Center for Macroscopic Quantum States (bigQ) and the Technical University of Denmark (DTU) created an extremely entangled quantum state, called a cluster state. The team's scalable scheme for the generation of photonic cluster states could be suitable for universal measurement-based quantum computation.



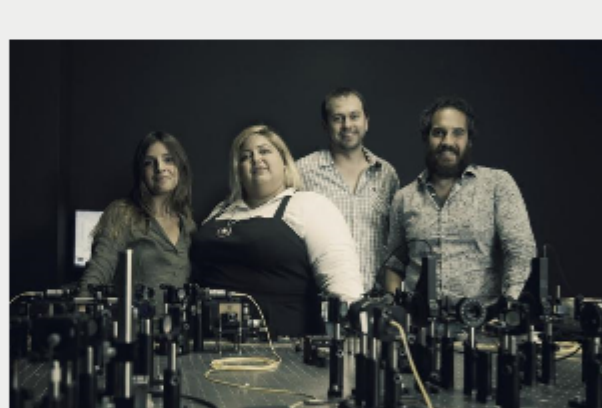
[Read Article](#)



Collaborative Work Advances Quantum Sensors for Bio Applications

A Research Team at Università degli Studi Roma Tre Has Shown that Quantum Light can be Used to Track Enzyme Reactions in Real Time. The Researchers Developed a Setup that Allowed them to Control the Light at the Level of a Single Photon. This Made it Possible to Use Low Illumination without Disrupting the Enzymes, with the Potential to Achieve Improved Sensitivity.

A research team at Università degli Studi Roma Tre has shown that quantum light can be used to track enzyme reactions in real time. The researchers developed a setup that allowed them to control the light at the level of a single photon. This made it possible to use low illumination without disrupting the enzymes, with the potential to achieve improved sensitivity.



[Read Article](#)



More Headlines

New Innovation Hub Will Provide Open Access Support to European Researchers [Read Article](#)

NTT Research Collaborates on Quantum Neural Network-Based Computing [Read Article](#)

Keysight, FormFactor, and CompoundTek Join Forces to Accelerate Integrated Photonics Innovations [Read Article](#)

Purdue Teams Unravel Mysterious Mediterranean Island [Read Article](#)

Event Reconstruction System Uses Smartphone Video to Locate Shooters [Read Article](#)

Industry Events

ANZCOP 2019 (The Australian and New Zealand Conferences on Optics and Photonics)

December 8-12, 2019 - RMIT Univ. - Melbourne, Australia
The Australian and New Zealand Conferences on Optics and Photonics (ANZCOP 2019) bring together four co-located conferences with a central theme of optics and photonics. The ANZCOP conferences will connect people across all scientific disciplines associated with optics and photonics, incorporating general streams on optical science and technology and focused topical conferences on micromaterials and nanomaterials and devices, biomedical photonics, and astronomical instrumentation. The conferences are organized by the Australian Optical Society and SPIE, the international society for optics and photonics.



[More Info](#)

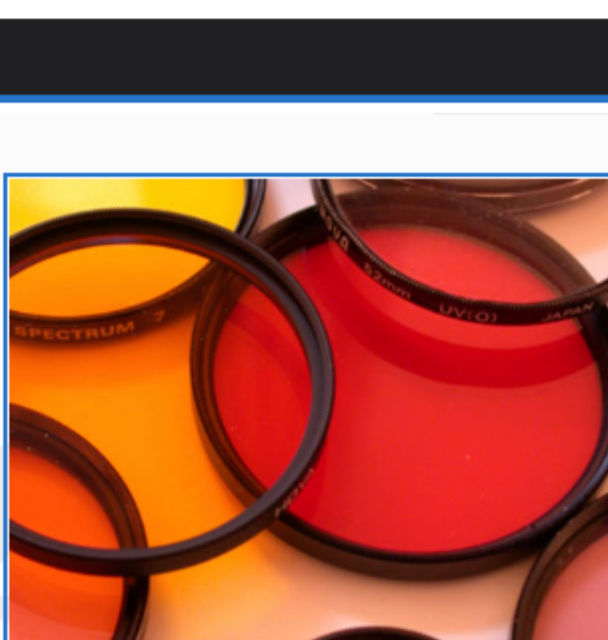
Webinars

Filters: The Key to Image Quality in Modern Vision Applications

Wed, Dec 4, 2019 1:00 PM - 2:00 PM EST

Optical filters are a simple, cost-effective way to enhance repeatability and to achieve the highest level of performance from your machine vision system. Join technical trainer Georgy Das from Midwest Optical to learn more about how optical filters can be used to solve even the toughest issues in machine vision applications and how filters can help you get ahead of the curve when it comes to next-generation applications.

[Register Now](#)



CALL FOR ARTICLES

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazines (*Photonics Spectra*, *BioPhotonics*, *Vision Spectra*, and *EuroPhotonics*). Please submit an informal 100-word abstract to editorial@Photonics.com, or use our [online submission form](#).

We respect your time and privacy. You are receiving this email because you are a Photonics Media subscriber, and/or a member of our website, Photonics.com. You may use the links below to manage your subscriptions or contact us.

Questions: info@photonics.com

[Unsubscribe](#) | [Subscribe](#) | [Subscriptions](#) | [Privacy Policy](#) | [Terms and Conditions of Use](#)

Photonics Media, 100 West St., PO Box 4949, Pittsfield, MA 01202-4949

© 1996 - 2019 Laurin Publishing. All rights reserved. Photonics.com is Registered with the U.S. Patent & Trademark Office.

Reproduction in whole or in part without permission is prohibited.