Thursday, March 12, 2020

# This Week In PHOTONICS

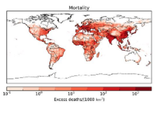
PHOTONICS MEDIA



## Top Stories

**World Faces Air Pollution Threat, and Light Technology Could Help**

Researchers in Germany believe air pollution is responsible for 8.8 million deaths per year, according to a study published March 3 in Cardiovascular Research. However, research by SPECTARIS, the Fraunhofer Institute, TEMATYS, and Messe München suggests that by 2030, photonic technology applications could lessen worldwide carbon dioxide output by 3 billion tons.




Read Article

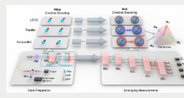
**Researchers Fool Autonomous Vehicle Systems with Phantom Images**

Researchers from Ben-Gurion University of the Negev's Cyber Security Research Center found that they can trick the autopilot on an autonomous vehicle to erroneously apply its brakes in response to "phantom" images projected on a road or billboard.

Read Article

**Researchers Use Photonic Systems to Improve Quantum Orienteering Protocols**

Scientists at the University of Science and Technology of China have enhanced the performance of quantum orienteering with entangling measurements applied by way of photonic quantum walks. The researchers said that while there has been extensive research on entangling states, few studies of entangling measurements have been done, because entangling measurements are difficult to realize.



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## Featured Products

**Superior 36 Megapixel Resolution**

**Teledyne e2v (UK) Ltd.**

Teledyne e2v announces its new Emerald 36M, a 37.7 Megapixel image sensor specifically designed for demanding industrial and outdoor applications requiring both high resolution and high speed. It uniquely combines 6k square resolution and superior frame rate, providing low noise, high quantum efficiency, and wide angular response.

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**SYNOPTICS Now Offers IBS Coatings**

**Northrop Grumman Synoptics**

Quasi-Rugate thin film designs are optimized for high-power laser applications for ultra-fast through CW applications across the wavelength range of 355 nm to 2200 nm. Each design has a unique refractive index profile specifically tuned to give optimal performance for our customer's applications.

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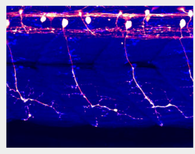
## More News

**Optogenetic Control of Protein Accelerates ALS Symptoms in Zebrafish**

A joint research group in Japan reproduced amyotrophic lateral sclerosis (ALS) symptoms in zebrafish by remotely controlling a disease-associated protein molecule with light. The researchers focused on the motor neurons of zebrafish because they share several characteristics with human motor neurons. Whole cells can be visualized because of the transparent zebrafish body.



Read Article

**Robot Uses AI and Imaging to Draw Blood**

Rutgers University engineers have created a tabletop device that combines a robot, artificial intelligence, and near-infrared and ultrasound imaging to draw blood or insert catheters to deliver fluids and drugs. The device can accurately steer needles and catheters into tiny blood vessels with minimal supervision.

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## More Headlines

**Built-In Neural Hardware Allows Image Recognition in Nanoseconds** Read Article

**Caltech and JPL Launch Hybrid, High-Rate Quantum Communication Systems** Read Article

**Optical Defects as Sources of Quantum Light** Read Article

**SwRI Delivers Ultraviolet Spectrograph for Jupiter Mission** Read Article

**In FET Open Project, Researchers Chart Course for Bio-LEDs** Read Article

## Industry Events

**SPIE Defense + Commercial Sensing 2020**

April 26-30, 2020 - Anaheim Convention Center - Anaheim, Calif.
Photonics Media Booth: 4024

SPIE Defense + Commercial Sensing 2020 will feature over 300 exhibiting companies, industry sessions, a job fair, product announcements, networking events, and more. The technical exhibit will provide an opportunity to engage with suppliers who provide everything from components to the most advanced sensor systems. Free sessions on the exhibition floor will provide valuable information and networking for anyone, from engineers to CEOs, who is looking for insight about the future of the industry and what is possible now. Course topics will cover lidar, deep learning, imaging and sensing, and more.

More Info

**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.