

# This Week In PHOTONICS

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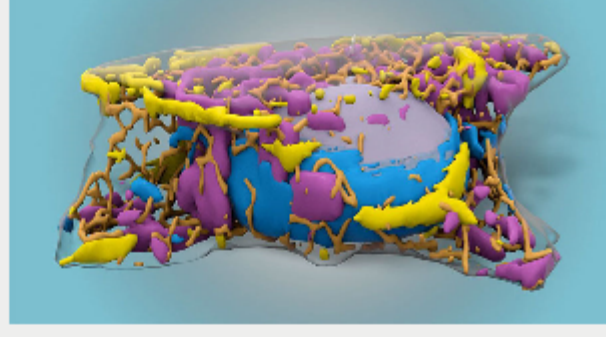
Recognizing the best new photonics products on the market

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## Top Stories

### Machine Learning Enables Label-Free Prediction of 3D Images from Transmitted-Light Microscopy

Scientists have used machine learning to develop a label-free tool for predicting 3D fluorescence directly from transmitted-light images. Instead of fluorescence microscopy, the new method uses only black-and-white images generated by a bright-field microscope.



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### NUS Team Enables Solar-Powered Drone Flight

A team from the National University of Singapore has achieved a major step forward in stretching the capabilities of quadcopter drones by powering the flight solely by natural sunlight. A first in Asia, the current prototype has flown >10 m in test flights, utilizing solar power with no battery or other energy storage on board.



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### Neural Networks Predict Crystal Stability

Researchers are using neural networks to predict the stability of materials in two classes of crystals: garnets and perovskites. They trained artificial neural networks to predict a crystal's formation energy using just two inputs: electronegativity and ionic radius of the constituent atoms.



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## Featured Products



### 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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### ContrastMax High Performance Filters for Machine Vision

#### Chroma Technology Corp.

ContrastMax filters from Chroma feature sputtered interference coatings engineered for automated vision applications like machine vision and robotic guidance. These optical filters offer superior levels of contrast and blocking of unwanted light, while also performing well at wide viewing angles.

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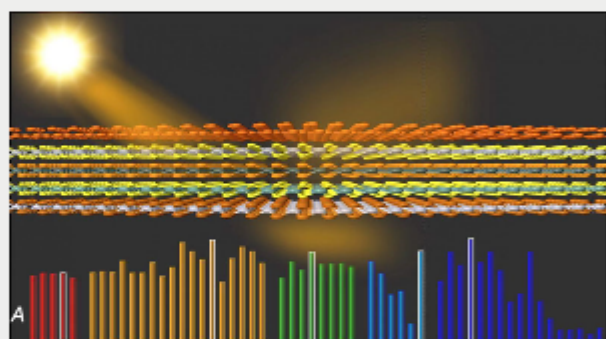
High power laser technologies that drive Europe's largest optoelectronic infrastructure projects

1 - 4 April 2019 · Prague, Czech Republic

## More News

### Rice Researchers Investigate 2D Materials for Maximum Optical Response

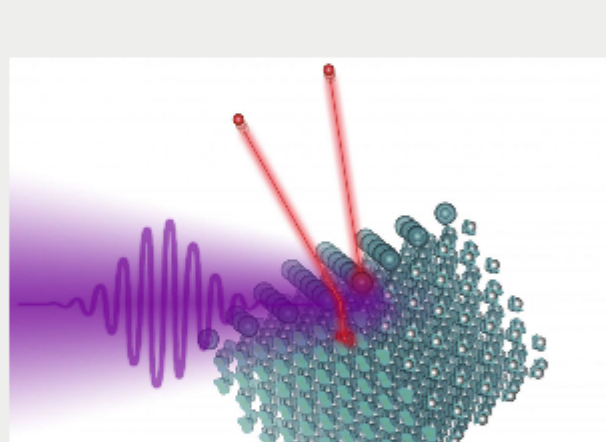
Scientists have used qualitative analytical modeling and first-principles calculations to determine the theoretical limit of the maximum optical response in 55 different 2D materials. The study suggests several 2D materials that could be used in ultrathin reflectors and absorbers for optoelectronic applications.



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### Atomic Clock Can Determine Absolute Timing of the Photoelectric Effect

Scientists have determined the duration of the photoelectric effect using a tungsten surface. While scientists have previously been able to determine the time interval between different quantum jumps and show that different jumps take different amounts of time, until now it has only been possible to determine time differences, not the absolute duration of the process.



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## More Headlines

**In Memoriam: Charles Kao, 'Father of Fiber Optics,' Dies at 84** [Read Article](#)

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**RIT Awarded \$422K Grant for Photonic Integrated Circuit Technology** [Read Article](#)

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## Industry Events

### ICALEO 2018

October 14-18, 2018 - Rosen Centre Hotel - Orlando United States

The International Congress on Applications of Lasers & Electro-Optics (ICALEO) is the premier source of technical information in the field. Laser industry professionals from academic and industrial settings will gather to discuss the latest in laser materials processing, laser microprocessing, and nanomanufacturing. Topics range from the interaction between a laser beam and a material to how a process can be integrated and optimized for an application.

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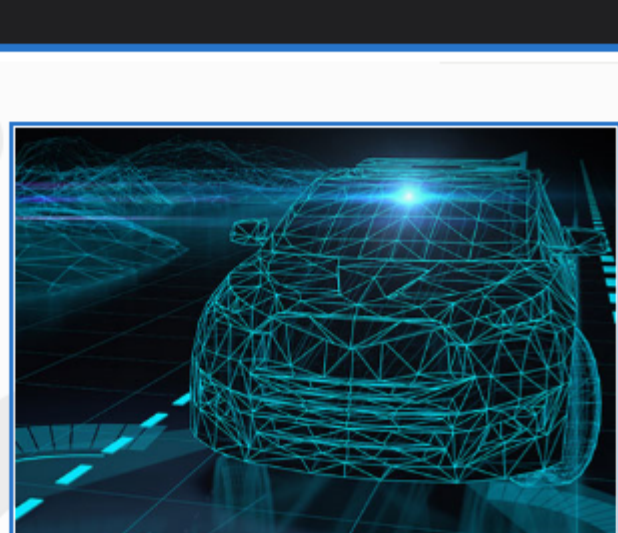
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## Webinars

### Green Light on Lidar: Developing Low-Cost Systems for Autonomous Vehicles

Wed, Oct 3, 2018 1:00 PM - 2:00 PM EDT

For driverless cars to see mainstream adoption, engineers must solve critical lidar design challenges. This webinar will discuss the factors crucial to accelerating the development of lidar, including the need to be able to quickly try out and identify new solutions; incorporate manufacturing and assembly limits into design constraints to ensure manufacturability; and simulate the impact of mechanical designs on optical performance. With tools that provide these abilities, teams can reduce development time and lower costs to win the race for autonomous vehicle market share. This webinar is presented by Zemax.



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### CALL FOR ARTICLES!

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

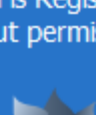
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