

# This Week In PHOTONICS

PHOTONICS MEDIA



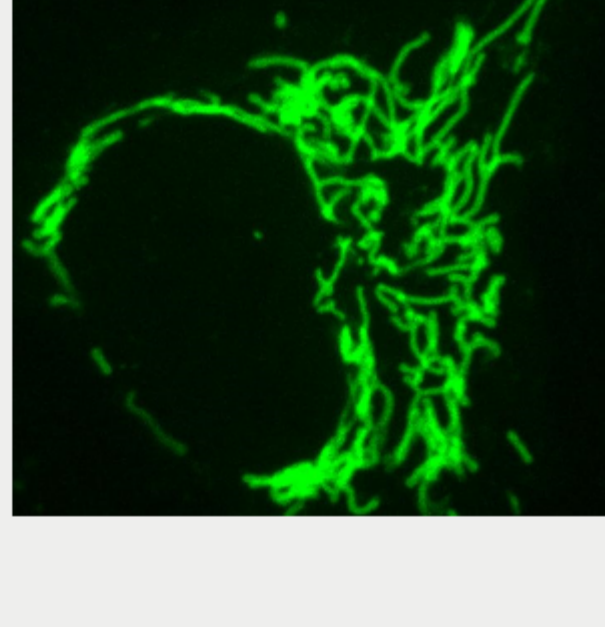
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## Top Stories

### A New Tool for Live-Cell Imaging

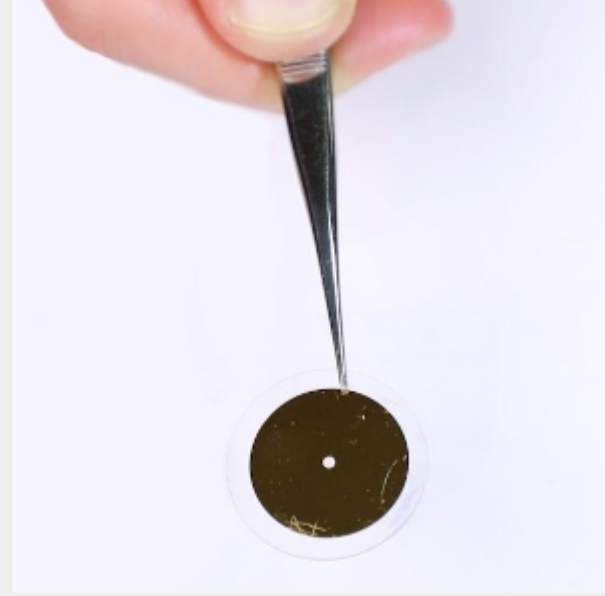
To expand the toolbox of imaging in living cells, researchers from Colorado State University and the Tokyo Institute of Technology have developed a genetically encoded, antibody-based probe that works with specificity in vivo. The probe can light up, in multiple colors, HA-tagged nuclear, cytoplasmic, membrane, and mitochondrial proteins in diverse cell types.



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### Metasurface-Based Camera Could Simplify Polarization Imaging for Vision Systems

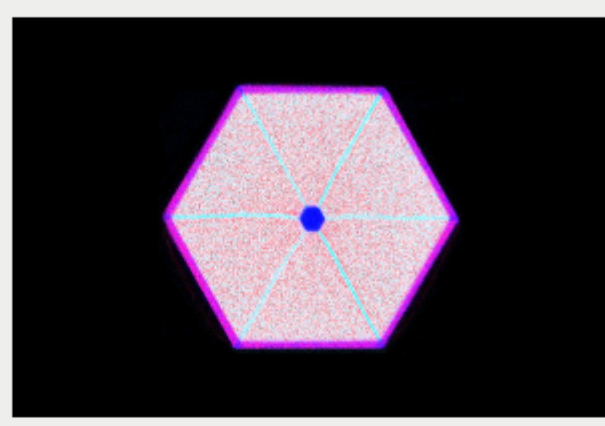
Researchers at the Harvard John A. Paulson School of Engineering and Applied Sciences (SEAS) have developed a compact, portable camera that can image polarization in a single shot. The miniature camera uses metasurface technology to integrate all of the optics needed for polarization in a single device.



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### Nanowires Can Be Tuned to Range of Wavelengths for Optoelectronics

A research team at Helmholtz-Zentrum Dresden-Rossendorf (HZDR), in collaboration with researchers at Technische Universität (TU) Dresden and Deutsches Elektronen-Synchrotron (DESY) in Hamburg, has produced nanowires with operating wavelengths that can be tuned over a wide range by altering the structure of the nanowire's shell.



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## Featured Products

### Remote Sensing

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From space and the sky around us to firmly on the ground, remote sensing is providing an important view of our surroundings that can't be seen with our eyes alone. A variety of optical technologies are

having an impact on applications as diverse as agriculture and defense, weather and climate, and are now part of the payload on satellites, planes and drones, and riding in and even guiding vehicles on the highway. Remote Sensing is for anyone working with the relevant technologies or considering the application of optical remote sensing. It also will serve as an introduction for those completely new to the subject.

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### Defense & Aerospace

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Drawing mainly from the pages of Photonics Spectra and focusing on the last decade or so of developments, Defense & Aerospace offers an overview of these industries as only Photonics Media

can present it — from laser paint removal and laser bonding in aerospace, to breakthroughs in quantum sensing. It is a resource for designers, engineers, researchers, marketers, and students looking for a broad survey of advancements in optic and photonics technologies and their applications in defense and aerospace.

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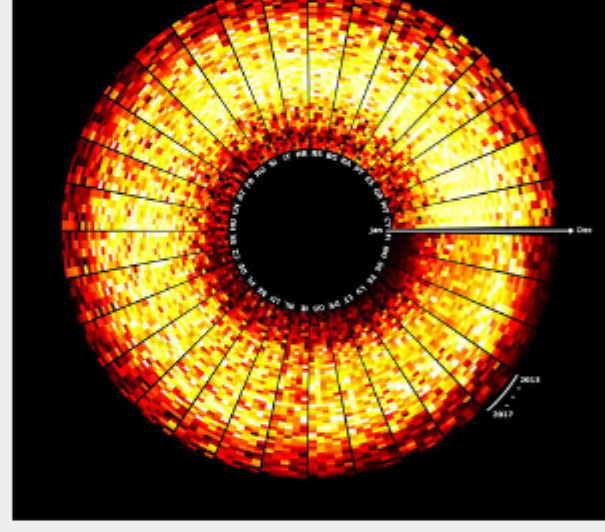
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## More News

### Worldwide Solar Energy Model Provides Historical PV Performance Data

A model for how much energy photovoltaic (PV) systems produce worldwide has been developed by researchers at Aarhus University. The researchers collected 38 years of global solar radiation, weather, and temperature data for the entire globe, and compared this with historical data for PV installations in Europe.



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### Optochemogenetics Tested for Neuronal Repair after Stroke

Researchers at Emory University School of Medicine have developed optochemogenetics, a combinatorial approach based on optogenetics and chemogenetics, to enable the selective, noninvasive stimulation of brain cells using light.



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## More Headlines

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## Industry Events

### Microscopy & Microanalysis 2019

August 5-8, 2019 - Portland United States  
 Photonics Media Booth: 849

The Microscopy & Microanalysis Meeting, organized by the Microscopy Society of America, will cover the latest techniques, methodologies, and findings, spanning nano to macroscopic scales, and advances in fields including nanotechnology, the biological and clinical sciences, materials science, 3D manufacturing, and metallurgy. The conference will offer over 1200 platform and poster sessions, workshops, tutorials, and networking events, in addition to one of the largest microscopy products and services commercial expo hall in the world.

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## Webinars

### Keys to Success with Vision-Guided Robotics

Tue, Jul 16, 2019 1:00 PM - 2:00 PM EDT

Industry leader David Dechow will present practical methods to successfully integrate conventional vision-guided robotic (VGR) applications into machine vision systems. He will discuss some cutting-edge VGR applications, the challenges they present, and the potential advantages they offer. He will provide examples of the products that are being used successfully in VGR, including robots, cameras, and software and will conclude with a discussion of machine vision technologies that could be key to expanding the future use of VGR. This webinar is sponsored by Photoneo; Teledyne DALSA; and Integro Technologies Corp.

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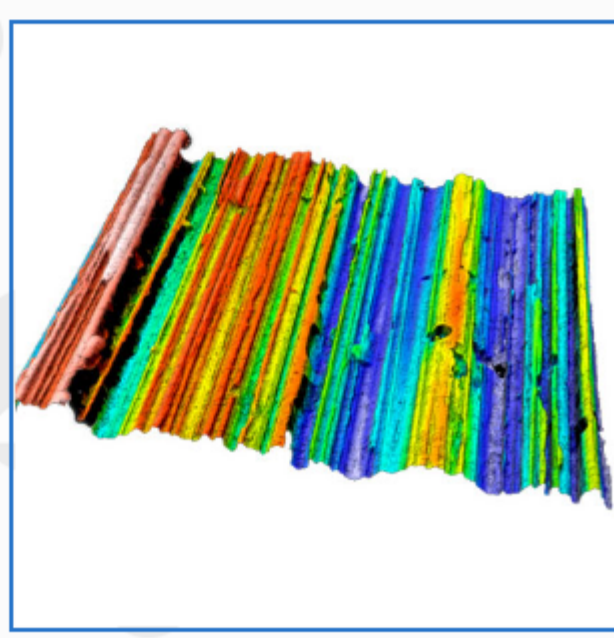


### Optical Metrology Solutions for the Semiconductor and Microelectronic Industries

Wed, Jul 31, 2019 11:00 AM - 12:00 PM EDT

This webinar, presented by Sensofar Metrology, will discuss specific analysis for QC in PCB applications. It will also cover critical dimensional measurement, roughness, and defect identification. It will discuss solutions pertaining to ISO 4287, ISO 25178, and how Sensofar's proprietary software quickly identifies profiles, roughness parameters, and defects for surface texture, height, and traces. The focus will be on imaging wafers, pads, step heights, bonds, and probe cards.

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