

# This Week In PHOTONICS

PHOTONICS MEDIA



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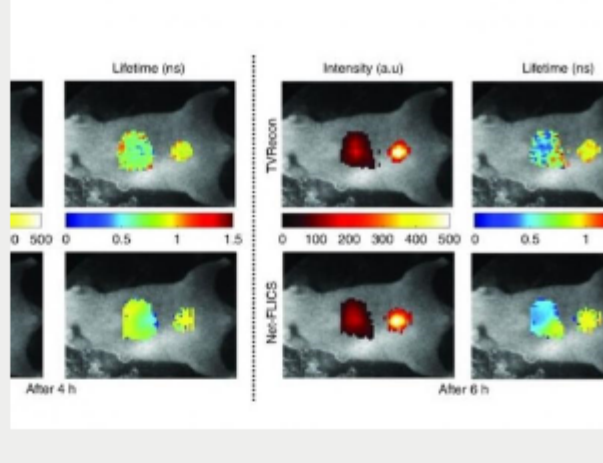
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## Top Stories

### New Technique Uses Deep Learning to Speed Molecular Imaging

A deep learning approach to image reconstruction, developed by a team at Rensselaer Polytechnic Institute, generates comprehensive molecular images of organs and tumors in living organisms at high quality and ultrafast speed.

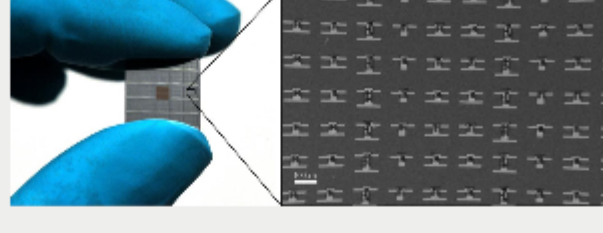


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### Microscopic Robots Made from Silicon, Powered by Light

Using novel nanofabrication techniques, researchers from the University of Pennsylvania and Cornell University have built micro-robots made from silicon and powered by solar cells. One million functional microscopic robots can be produced from a 4-in. silicon wafer.

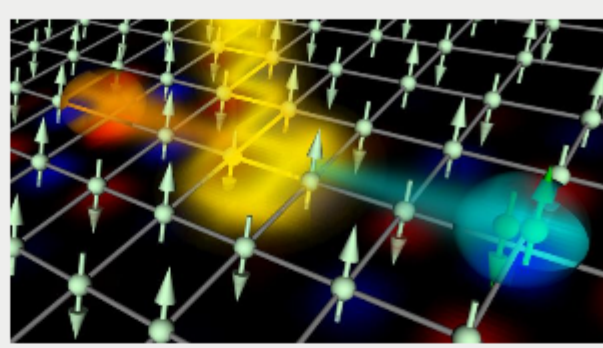


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### Light Pulses Could Provide a New Route to Superconductivity

Scientists from the RIKEN Cluster for Pioneering Research have used light pulses to transform Mott insulators into superconducting materials. Through numerical simulations, the researchers showed that pulse irradiation could induce unconventional superconductivity in a Mott insulator of the Hubbard model and found that this superconductivity occurred as a result of a phenomenon known as eta pairing.



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## Featured Products



### Cameras with Liquid Lens Control

#### IDS Imaging Development Systems GmbH

The low-cost uEye LE USB 3.1 Gen 1 board level cameras (6 MP or 18 MP sensor) from IDS are available as variants able to control liquid lenses. Users can easily and conveniently adjust the focus via the user interface or programming interface.

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### Near-IR Light Measurement Software

#### Radiant Vision Systems, Test & Measurement

Part of the Radiant Vision Systems family of automated photometric test and measurement software, the near-infrared light measurement software module (TT-NIRI) provides all of the benefits of Radiant's TrueTest software test sequencing platform to efficiently perform image-based measurements of 940 nm near-infrared (near-IR or NIR) LEDs, lasers, and Diffractive Optical Elements (DOE) used for:

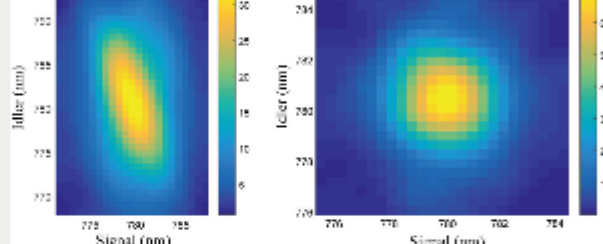
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## More News

### New Approach to Measuring Large-Scale Photonic Correlation at Single-Photon Level

A multi-institutional research team has demonstrated a way to map and measure large-scale photonic quantum correlation with single-photon sensitivity. In addition to the new measurement technique, which is called correlation on spatially mapped photon-level image (COSPLI), the researchers also developed a way to detect signals from single photons and their correlations in tens of millions of images.

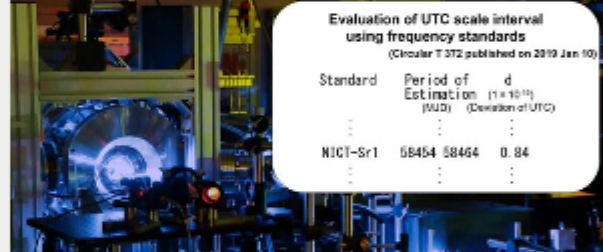


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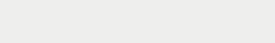


### Optical Clocks Contribute to Steering International Atomic Time

Optical clocks, which have seen rapid progress in the last 20 years, have evaluated the "one second" tick of International Atomic Time (TAI). The resulting data was provided to the Bureau International des Poids et Mesures (BIPM), which used the data to adjust the TAI tick rate.



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## More Headlines

[Coral Health Monitored with Underwater Robots and Hyperspectral Imaging](#) [Read Article](#)

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## Industry Events

### AUTOMATE 2019

April 8-11, 2019 - McCormick Place - Chicago United States  
Photonics Media Booth: 9417

Held once every two years in the United States, Automate is the broadest automation solutions event in North America, affording the best overview of the entire automation industry. Nowhere else in North America will you have the opportunity at a single event to experience first-hand cutting-edge robotics, vision, motion control, and related technologies that are dramatically impacting business.

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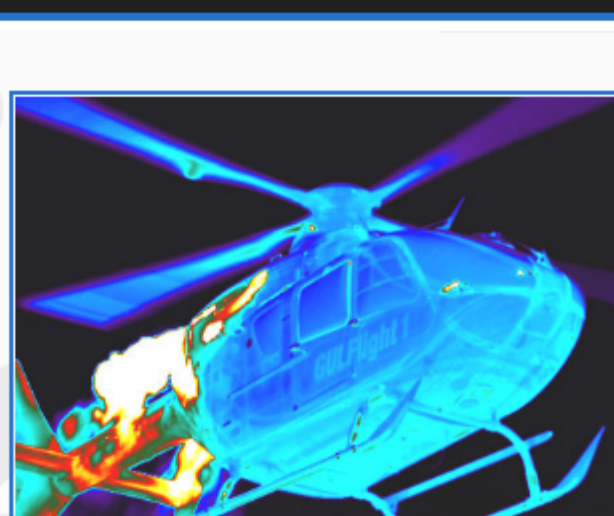
## Webinars

### Selecting an IR Camera for Your R&D Application – 7 Tips from a Top Expert

Tue, Mar 19, 2019 1:00 PM - 2:00 PM EDT

Thermography has become an indispensable tool for all types of R&D projects. Many IR camera options are available with the different features and at varying costs, making it difficult to select the camera best-suited to your application. In this one-half-hour webinar, Chris Bainter, global director of strategic business development at FLIR Systems, will provide the guidance you need to make it easier for you to choose a thermal-imaging camera that meets all your requirements. He will focus on the seven most important things to consider when selecting an IR camera and explain them in plain language to help you select the right tool for your unique application needs. There will be ample time at the end of the webinar for Q&A. This webinar is sponsored by Teledyne DALSA and by InfraTec GmbH.

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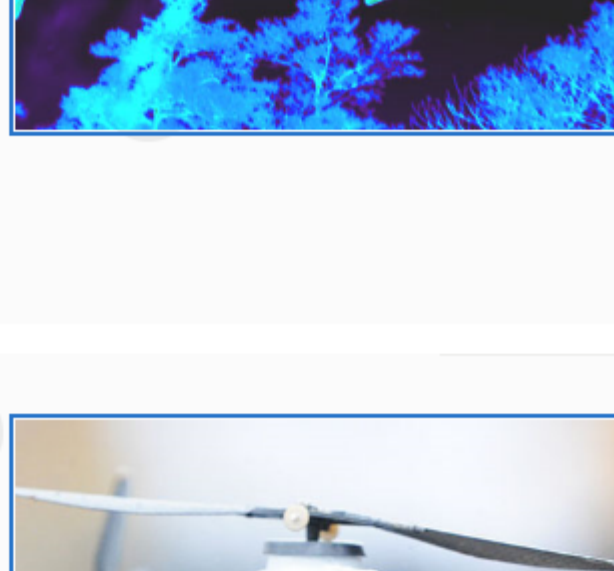


### Going the Extra Mile with Contrast Optimization: A Practical Comparison of Micro-Imaging System Optimization

Thu, Mar 28, 2019 1:00 PM - 2:00 PM EDT

This webinar, presented by Zemax, will demonstrate the use of contrast optimization in the development of a micro-imaging system, along with a comparison using other optimization methods. It will also look at results using alternate lens design programs. Contrast optimization greatly simplifies the calculation of the modulation transfer function (MTF), giving imaging system designers a better option for targeting imaging quality. Contrast optimization also improves the speed of MTF optimization, resulting in better design solutions.

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