

This Week In PHOTONICS

PHOTONICS MEDIA



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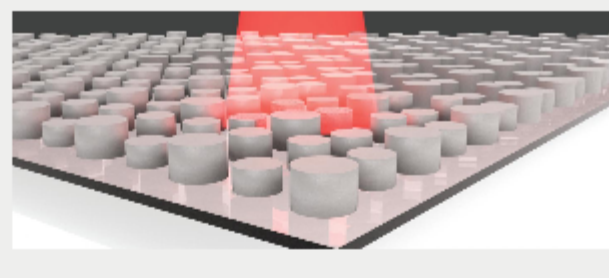
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Top Stories

Machine Learning Speeds Metamaterial Design for Thermophotovoltaic Devices

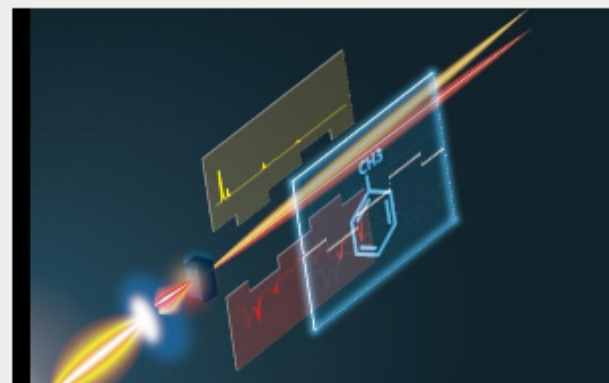
A Duke University engineering team has used machine learning to design dielectric metamaterials that absorb and emit specific frequencies of terahertz radiation. Use of machine learning made it possible to calculate design requirements for the metamaterial in 23 hours — a process that without machine learning could have taken more than 2000 years, according to the team.



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Spectroscopy Technique Widens the Spectra for Measuring Molecular Structure

Researchers at the University of Tokyo have combined two current spectroscopy techniques — infrared absorption and Raman scattering spectrometry — to create complementary vibrational spectroscopy. The new technique employs IR absorption and Raman scattering spectroscopy simultaneously.



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Light-Activated Biohybrid Bots Drive Muscle Activity Through Nerve Cells

Researchers from the University of Illinois at Urbana-Champaign have developed soft, microscopic, swimming biohybrid robots powered by skeletal muscle tissue that is stimulated by onboard motor neurons. The neurons have optogenetic properties — upon exposure to light, they fire to actuate the muscle tissue.



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Featured Products



[LIGHT: Introduction to Optics and Photonics, Second Edition](#)

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Offering a comprehensive treatment of the subject as well as key applications, and employing minimal math, LIGHT: Introduction to Optics and Photonics was written with readers in mind. This textbook is for beginning students of optics

and photonics in high school, community college, and university STEM courses.

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[Stabilizing the Line of Sight](#)

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In Stabilizing the Line of Sight, authors Peter J. and Rhonda L. Kennedy provide a methodology and an example for executing a successful end-to-end line-of-sight (LOS) design. Comprehensive in scope, this book will give readers a better understanding of the relationships between the various engineering disciplines that are required for successful LOS control.

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THE EVENT WHERE PHOTONICS COMES ALIVE!

9 & 10 OCTOBER - RICOH ARENA COVENTRY, UK

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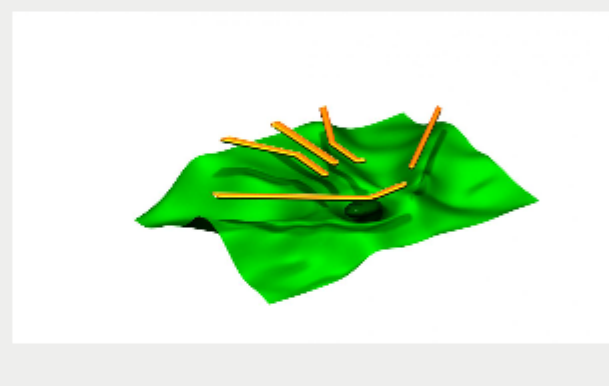
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More News

Machine Learning Helps Tune, Characterize Quantum Dots Quickly

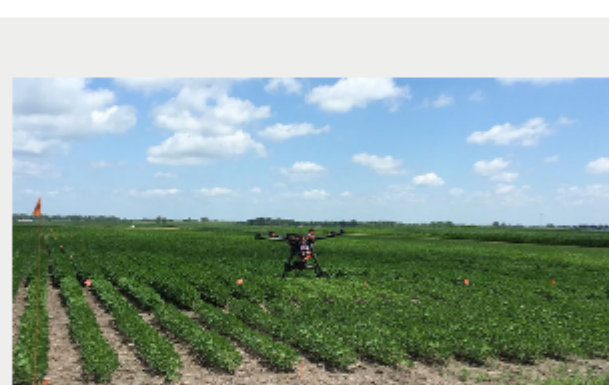
Using a machine-learning approach, scientists from the Universities of Oxford, Basel, and Lancaster are automating the process of characterizing and tuning individual semiconductor quantum dots for use as qubits. This machine-learning approach to tuning could reduce the measuring time and the number of measurements by a factor of approximately four compared with conventional methods of data acquisition.



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Managing Crop Stress with Machine Learning, UAVs, and Hyperspectral Imaging

Iowa State University scientists are developing a machine learning system that could automate farmers' ability to diagnose a range of major stressors in soybeans. The technology will use cameras attached to unmanned aerial vehicles to gather bird's-eye images of soybean fields. A computer application will automatically analyze the images and alert the farmer of trouble spots.



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More Headlines

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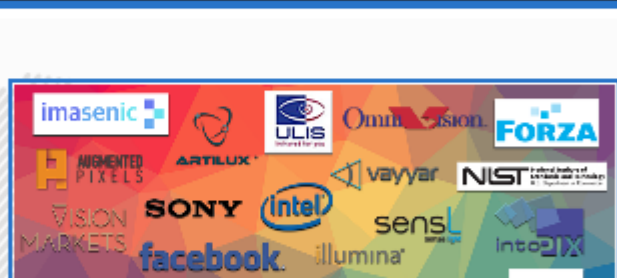
[Photon Etc. Awarded Commercial Innovation of the Year at WMIC](#) [Read Article](#)

Industry Events

Image Sensors Americas 2019

October 15-16, 2019 - Hayes Mansion, San Jose - San Jose United States

Image Sensors Americas brings together key decision makers from across the supply chain, encouraging high-caliber discussions around future trends in sensor applications, new technology, and current and future challenges and industry demands. The 2019 two-day event will include general sessions on Advancing Image Sensor Technology, Exploring Potential and Solutions, Next Gen Technology, and more, and will feature speakers from Facebook Reality Laboratory, SONY, On Semiconductor, Intel, IMASENIC Advanced Imaging S.L., and Dell.



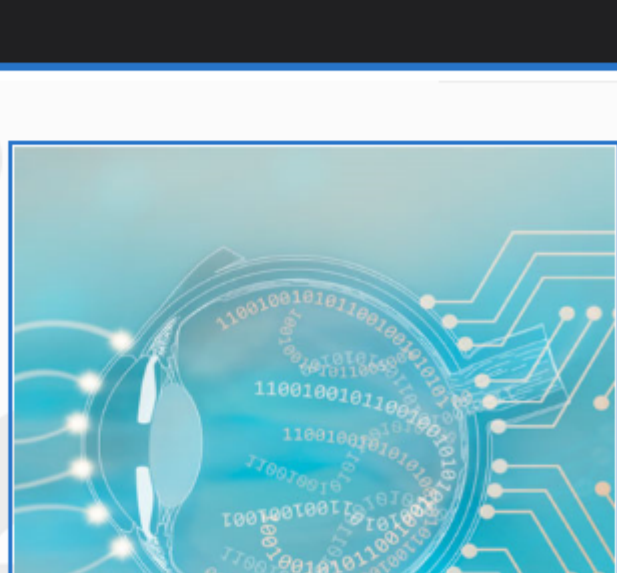
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Webinars

OCT and Ophthalmology in the Age of Artificial Intelligence

Tue, Oct 8, 2019 1:00 PM - 2:00 PM EDT

Presenter Nishant Mohan, Ph.D., will provide an executive overview on how artificial intelligence (AI) is transforming the field of medical imaging, and will demonstrate how to develop a deep-learning AI system, giving attendees insight into how to use this powerful tool. He will provide specific examples of the application of AI in optical coherence tomography (OCT) imaging and show how the combination of these two techniques promises to have a significant impact on our understanding and treatment of ophthalmic disorders, and how this could hold important lessons for similar applications.

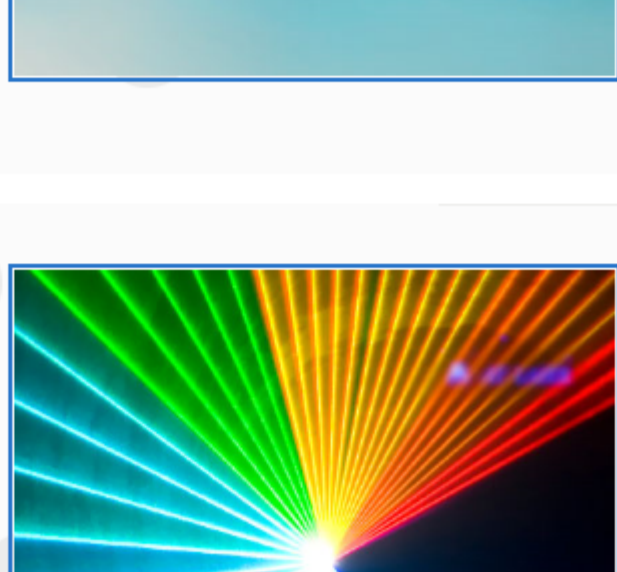


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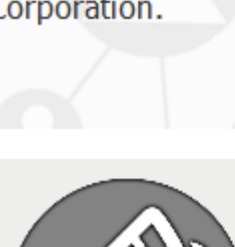
High-Power Diode Laser Solutions for Manufacturing Applications

Wed, Oct 9, 2019 1:00 PM - 2:00 PM EDT

Diode lasers support a diverse field of applications, where the optimum diode laser solution can be quite specific for each application. In this webinar you will learn about several key applications and how high-power laser solutions are optimized for each application. Also, you will learn how innovations ranging from corrosion-resistant cooling schemes to novel beam-shaping optics enable diode laser manufacturers to continue to improve solutions that service these applications. Examples will be taken from a range of industries, including medical devices. This webinar is sponsored by RPMC Lasers Inc., TOPTICA Photonics, and SemiNex Corporation.



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