

PHOTONICS spectra



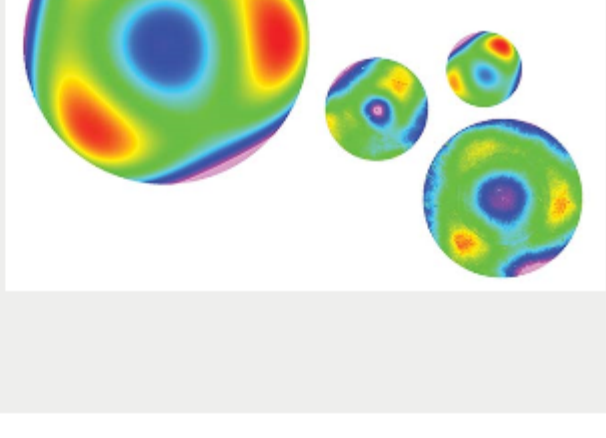
Monthly newsletter from the editors of Photonics Spectra, with features, popular topics, new products, and what's coming in the next issue. Manage your Photonics Media membership at Photonics.com/subscribe.

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Meet the Editors

Talk directly with our editors about trends in the industry or becoming a contributor.

Nuances in Optical Design for Manufacturing
 From time to time, a lens assembly that appears successful in the software stage encounters roadblocks once moved to manufacturing, assembly, and testing. Closing the loop between design and fabrication will result in fewer design iterations and improved real-world performance. Optical designers must consider aspects such as the manufacturability of individual lens elements, manufacturing assumptions made in statistical distributions, surface irregularity models used, and stackups used in tolerancing.



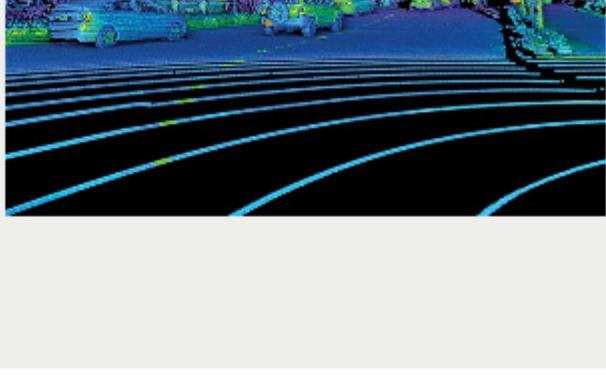
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Low-Powered VCSELs Find a Wide Variety of Uses
 By the end of 2018, nearly 1 million sq ft of new production space will have opened in the previous two years — space dedicated to making some of the world's smallest and least power-hungry lasers. Known as vertical-cavity surface-emitting lasers, or VCSELs, these miniature devices have found use in 3D sensing, lidar, automated driving and manufacturing, high-speed data communication, laser printers, optical mice, and smartphones.



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For Self-Driving Cars, Sensors Galore
 Sensors in self-driving cars must resolve multiple performance challenges that involve temperature, illumination, reflectivity, navigation — and even cybersecurity. Self-driving cars bring both opportunities and challenges to photonics-based sensors. Autonomous vehicles will need dozens of sensors of many types — lidar, camera, radar, and ultrasonic — and many sensors on millions of vehicles make the potential opportunity significant.



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Featured Products

FGC Fiber Geometry Measurement

Arden Photonics Ltd.
 The FGC-G Fiber Glass Geometry systems provide high-speed automated measurements of optical fiber end-face geometry including core diameter, core non-circularity, cladding diameter, cladding non-circularity and core-to-cladding concentricity.

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Pulsed UV Light System

Xenon Corp.
 Since its introduction in January 2017, XENON's X-1100 High-Intensity, Pulsed Light system has been sold to 50+ research laboratories worldwide! Researchers and scientists spanning The Americas, Europe, Asia, are using this system for numerous markets and in Printed Electronics, Food Safety and semiconductor applications.

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SL Microcontroller Laser

Osela Inc.
 Osela is proud to introduce the new Microcontroller Option for our Streamline laser! This option allows for digital interfacing with the Streamline laser using RS-232 or RS-485 communication. The MC monitors and reports key parameters as well as allowing users to set operational conditions of the laser.

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New Machine Concept for Electronics Fabrication

SCANLAB GmbH
 Posalux SA has introduced a newly designed machine for electronics fabrication that employs SCANLAB GmbH's highly integrated precSYS 5-axis scan sub-system. The Swiss manufacturer's laser processing system is specifically tailored to demands of micromachining.

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Driving Innovation in Micro Optics

FISBA AG
 FISBA excel in the design and manufacturing of prism, singlets and compound elements enabling ultra compact imaging solutions. Starting with diameters as small as 0.3mm up to 50mm FISBA's Microlenses are lightweight, compact and extremely small. We offer built-to-print, built-to-spec and in-house coating services.

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USHIO Short-Arc Mercury Lamp for Microscopy Systems

Ushio America Inc.
 The USHIO UXR™ Ceramic Xenon lamps are highly efficient, pre-aligned, parabolic reflectorized lamps for use in numerous scientific, medical and industrial illumination applications. The UXR features strong output reliability over life, highly stable 6100K color temperature...

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Broadband Fiber Optic Components and Modules

Gould Fiber Optics
 Three Decades of Innovative Components for Fiber Optics. Gould Fiber Optics, a leading manufacturer of passive fiber optic products, with over 30 years of proven reliability as a leader in the research, development and manufacturing of fiber optic components and integrated assembly solutions has expanded its component lines.

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Lince 11M Sensor for High-speed Applications

Teledyne e2v (UK) Ltd.
 Teledyne e2v announces the expansion of its Lince family of image sensors with a new 11Megapixel detector. Lince11M is a new CMOS image sensor designed for applications that require 4K resolution at very high shutter speed. This standard sensor uniquely combines 4K resolution at 710 fps in APS-C format.

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LIGHT: Introduction to Optics and Photonics, Second Edition

Photonics Media
 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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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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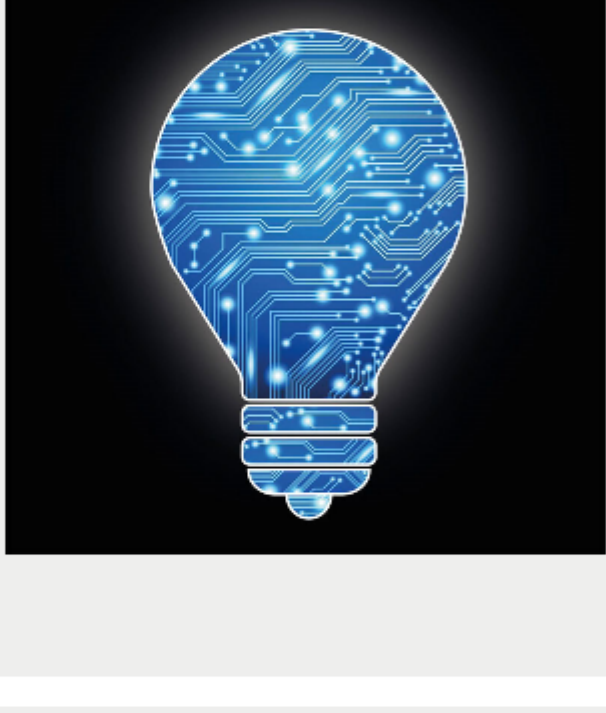
Photonics West 2019

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2 - 7 February 2019 - San Francisco, CA, USA

In Case You Missed It

Machine Learning Speeds Discovery of New Host Materials for LED Lighting
 A machine learning algorithm developed at the University of Houston was able to predict the properties of more than 100,000 compounds and determine those most likely to be efficient phosphors for LED lighting.



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Frequency-Stable Laser Enhances Optical Satellite Navigation
 Scientists report that an active optical frequency reference based on molecular iodine was successfully tested for the first time in space.

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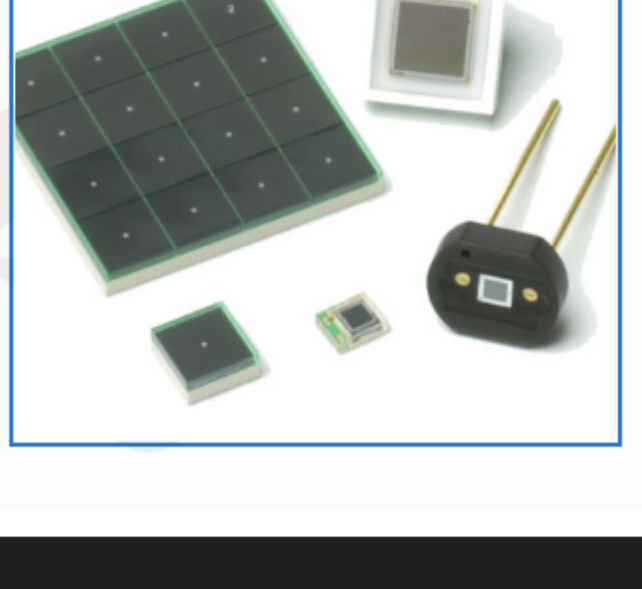
D-Wave Systems Publishes Quantum Computer Study
 Quantum computing systems developer D-Wave Systems Inc. has published a study demonstrating a topological phase transition using its 2048-qubit annealing quantum computer.

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Webinars

SiPM and SPAD: Emerging Applications for Single-Photon Detection
 Thu, Jan 17, 2019 2:00 PM - 3:00 PM EST

This webinar, presented by Hamamatsu Corp., will provide a thorough overview of silicon photomultipliers (SiPMs) and single-photon avalanche photodiodes (SPADs) for low-light level photodetection. Compared to photomultiplier tubes (PMTs), SiPMs and SPADs are smaller, more durable, and more energy efficient. They also offer better immunity to magnetic fields and ambient light than PMTs. By attending this webinar, you will gain a better understanding of SiPM and SPAD technology, so you can determine whether it is the right choice for you.



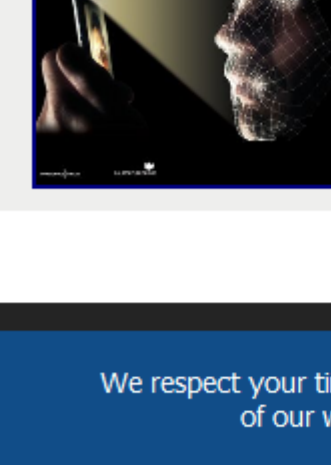
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Features
 The Trends Issue: Lasers, Optics, Spectroscopy, Photonics and IoT, Advances in Quantum Technologies

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