Wednesday, March 11, 2020

PHOTONICS spectra

Monthly newsletter from the editors of Photonics Spectra, with features, popular topics, new products, and what's coming in the next issue.
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Moth-Eye Metasurfaces for Fiber Optics

The use of optical fiber in astronomy, biomedical instrumentation, communications, defense, digital projection, industrial laser, medical, and sensing applications has increased over several decades to the point that it is now almost ubiquitous. Among its many functions, optical fiber delivers high optical power and detects very low intensity signals. Regardless of the application, however, a generally unwanted reflection from the end face of the fiber causes problems.

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Advancements in Telecentric Technology

The discipline of machine vision encompasses imaging technologies and methods to perform automatic inspection and analysis in various applications, such as verification, measurement, and process control. Driven by trends in Industry 4.0, machine vision has grown steadily over the past few years and now covers a wide range of applications in the most disparate sectors: from automotive to pharma, from food and beverage to electronics. Practically no sector has been left out of this transformation.

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The Reality of Intelligent Manufacturing

"Rise of the Machines," the third "Terminator" sci-fi movie, features a future controlled by cold, calculating cyborgs that make their own decisions, including going back in time to exterminate the human resistance. While the evolution of machines using artificial intelligence and machine learning to design and build improved machines is still a long way off (much less the ability to time travel), smart factories — the highly productive phenomena at the center of the Industry 4.0/Industrial Internet of Things revolution — are growing and succeeding.

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Featured Products

CELESTA Light Engine

Lumencor Inc.

Lumencor's Celesta Light Engine delivers exceptional brightness and speed. This laser-based, solid-state illuminator is designed to support today's most demanding multidimensional fluorescence microscopy applications. Generating ~1000 mW/color at the distal end of a 1.5 mm fiber, its seven intense, pre-aligned, independently operable lasers...

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Test Displays Within AR/VR Headsets

Radiant Vision Systems, Test & Measurement

Test the visual performance of displays in augmented and virtual reality headsets using a scientific-grade imaging system with the size and efficiency needed for production inspection. The Radiant Vision Systems AR/VR Lens solution is designed to simplify display measurement in VR headsets, AR smart glasses, and...

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Norland Optical Splice - Easy To Use!

Norland Products Inc.

The Norland UVC Optical Splice is the first really easy to use, high performance connection for optical fibers. This splice incorporates a precision TRW glass alignment guide and a proactive glass sleeve in a unique one piece design that minimizes handling of bare fiber.

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New Lasers for Life Science and Quantum Technologies

HUBNER Photonics

HÜBNER Photonics is proud to announce an expansion of the Cobolt 06-01 Series of plug and play modulated lasers. The expansion includes twelve additional wavelengths covering 405 nm – 975 nm, as well as higher powers on several existing wavelengths: 405 nm with 365 mW, 445 nm with 400 mW, 457 nm with 400 mW, and 515 nm with 150 mW.

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Photonics Spectrum Reference Chart

Photonics Media

This full-color, 30 × 20.5-inch poster of the photonics spectrum displays the major commercial laser lines, detectors and optical materials in the ultraviolet to the far-infrared and beyond. The chart was updated in 2018 to reflect the changing technologies in the photonics industry.

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Full Digital High Definition OLED Microdisplay

Yunnan OLIGHTEK Opto-Electronic Technology Co. Ltd.

The prominent high-definition OLED full digital microdisplays by OLIGHTEK profoundly widen near-to-eye applications and lead the way in near-to-eye technology. OLIGHTEK's full digital high-definition OLED microdisplays are available for new applications...

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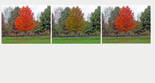
In Case You Missed It

Metasurface-Based Contact Lenses Could Correct Red-Green Color Blindness

A custom contact lens could offer a convenient way to help people who experience color blindness. Researchers at Tel Aviv University embedded large-scale, plasmonic metasurfaces into off-the-shelf contact lenses and studied the ability of the contacts to serve as visual aids for color vision deficiency. Based on simulations, the researchers observed that their metasurface-based contact lens could restore lost color contrast and improve color perception up to a factor of 10.



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SwRI Delivers Ultraviolet Spectrograph for Jupiter Mission

An ultraviolet spectrograph (UVS) designed and built by Southwest Research Institute (SwRI) is the first scientific instrument to be delivered for integration onto the European Space Agency's (ESA) Jupiter Icy Moon Explorer (JUICE) spacecraft. Scheduled to launch in 2022 and arrive at Jupiter in 2030, JUICE will spend at least three years making detailed observations in the Jovian system. Aboard JUICE, UVS will get close-up views of the Jovian moons Europa, Ganymede, and Callisto,

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Topology Protects Light Propagation in Photonic Crystal

A team from research institute AMOLF and Delft University of Technology observed light propagation within a photonic crystal without the usual distortion caused by reflections. Since the crystal consists of two parts, each with a slightly different pattern of perforations, light can propagate along the boundary between the two parts in such a way that it is "topologically protected," and therefore does not bounce back at imperfections. Even when the boundary forms a sharp corner, the light follows it without a problem.

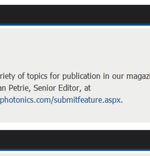
Read Article

Webinars

Getting Specific About Coating Specifications

Wed, Apr 15, 2020 1:00 PM - 2:00 PM EDT

In this webinar, the technical team at North American Coating Laboratories (NACL) will provide a basis for specifying, testing, and confirming that your coating needs are clearly stated on drawings and are clearly conveyed to your coating solutions provider. To achieve this, the NACL team asks that you let them know what challenges you have faced or are facing currently with regard to specifying and testing optical coatings and meeting your coating requirements. You can do this when you complete the registration process. The NACL team will review all responses and prepare a presentation that is customized to the concerns of the registrants.



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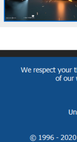
Features

Auto Sensors, 3D/4D Imaging, Scanning Lidar, and more.

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *Photonics Spectra*. Please submit an informal 100-word abstract to Susan Petrie, Senior Editor, at Susan.Petrie@Photonics.com, or use our online submission form www.photonics.com/submitfeature.aspx.

About *Photonics Spectra*



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