

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](http://Photonics.com/subscribe).

## 2021 Prism Awards Call for Entries

Deadline: October 31

### Biological Systems Inspire New Image Preprocessing Solutions

Data, as the saying goes, is king. But as any chess player knows, the king without his minions is hamstrung by limited mobility. The ubiquitous deployment of CMOS and CCD imagers across a range of industries and applications has generated an avalanche of image data. However, without the use of centralized processing units — a CPU, GPU, or cloud processor — that data is similarly hobbled.

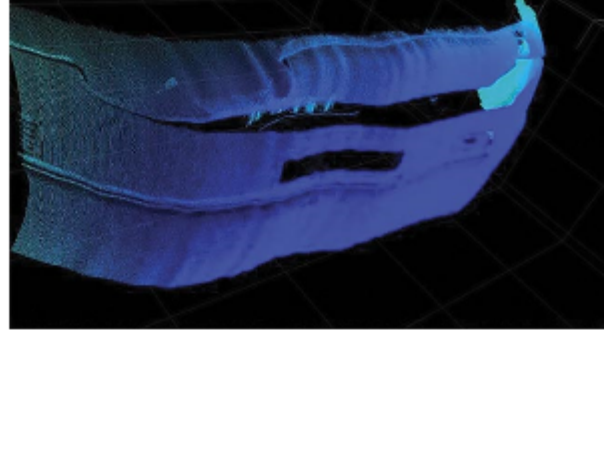
[Read Article](#)



### How Vision Systems Can Deliver More than the Sum of Their Parts

The use of both 3D-imaging technology and smart cameras is expanding the flexibility and capabilities of machine vision systems. Integrating these elements with advanced image preprocessing and intelligent software can further enable automated inspection applications that were once challenging or impossible to automate.

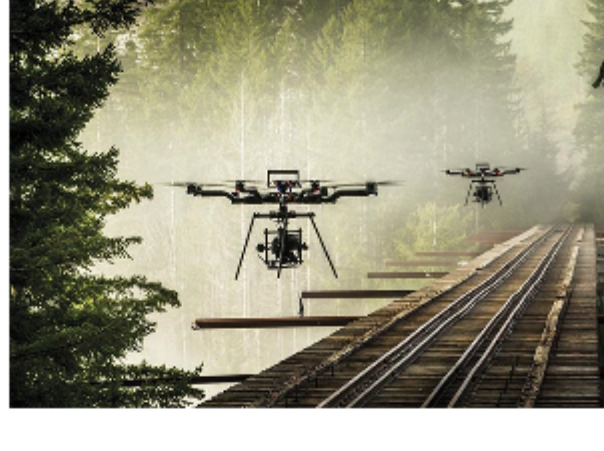
[Read Article](#)



### Drones Deliver a Fresh Take on Airborne Imaging Applications

Initially swooping in to provide aerial shots in big-budget movies, unmanned aerial vehicles — or drones, in consumer parlance — are now bringing aerial cinematography technology to other applications. Drone-mounted imagers are helping to inspect infrastructure, monitor crops, and conduct search and rescue operations. They could eventually deliver vital goods. As demand grows for these high-flying imaging platforms, the technology is evolving to allow drones to perform finer maneuvers, capture higher-quality images, and stay airborne longer.

[Read Article](#)



## Featured Products



### Kentek's Livestream Laser Safety Officer Course!

**Kentek Corp.**  
Kentek's Livestream Laser Safety Officer course is delivered over 5-weeks using Zoom. The sessions are 2-days a week (Tuesdays & Thursdays) for 2-hours a day (1pm-3pm EST). Zoom is a web-based video conferencing that can be used on a desktop, laptop, or mobile device.

[Visit Website](#)

[Request Info](#)



### Alluxa Ultra Series Filters and Coatings

**Alluxa**  
Alluxa Ultra Series Filters, including Narrowband, Dichroic, UV, IR, and Notch filters, provide the highest performance optical thin film solutions available today. For example, the Ultra Series Flat Top Narrowband filters offer the narrowest bandwidths and squarest filter profiles in the industry.

[Visit Website](#)

[Request Info](#)



### 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.

[Visit Website](#)

[Request Info](#)



### Most Versatile Infrared Cameras

**InfraTec GmbH, Infrarotsensorik und Messtechnik**  
InfraTec offers an entirely new level of flexibility for its high-end camera series ImageIR®. Users can choose between two speed modes for the same camera. In standard mode, the familiar frame rates for full frame, half frame, and sub-frame are available with full spatial resolution.

[Visit Website](#)

[Request Info](#)

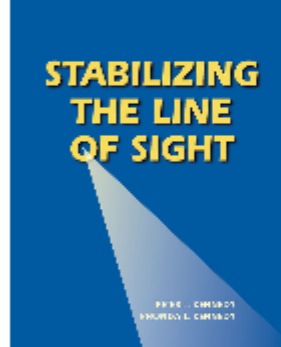


### IN-STOCK ITAR Sapphire Windows Made in The USA

**IRD Glass**  
IRD Glass is proud to offer stock sapphire windows in a variety of sizes and options. Windows are available to ship same-day! Contact us for the current list of window options. Because of our recent investment in cutting-edge sapphire processing equipment, we are able to compete with off-shore prices...

[Visit Website](#)

[Request Info](#)

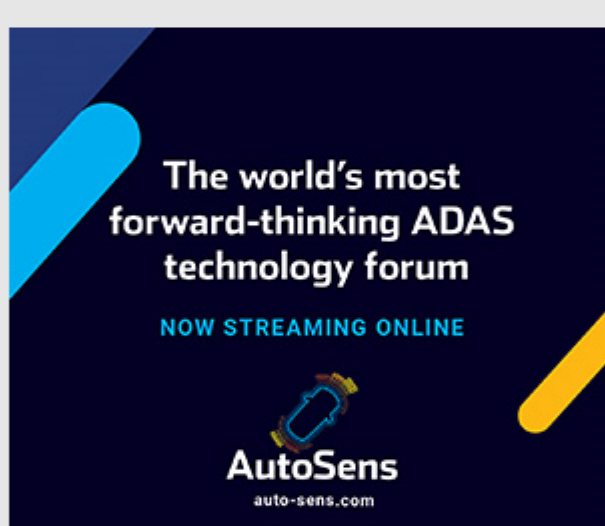


### Stabilizing the Line of Sight

**Photonics Media**  
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.

[Visit Website](#)

[Request Info](#)

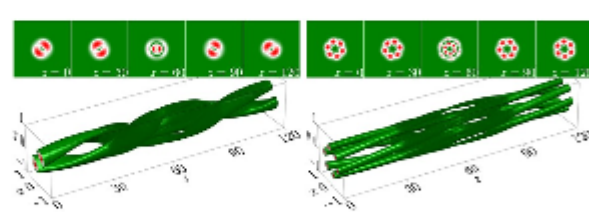


## In Case You Missed It

### Nonlinear Multimode Waveguide for Flip-Flopping Azimuths Demonstrated

A research team from Xi'an Jiaotong University has demonstrated weakly nonlinear waveguides that guarantee the stable propagation of vortex beams known as azimuths. The research may have applications in encoding and encrypting optical information. Azimuths carry an orbital angular momentum and can now be made to exhibit a mutual conversion pattern known as Rabi oscillation — a periodic motion between two different energy levels in the presence of an oscillatory driving field.

[Read Article](#)



### Responsive Photonic Biobased Materials Self-Assemble in Liquid Marbles

By coating droplets of an aqueous solution of hydroxopropyl cellulose with silica nanoparticles, and placing these "liquid marbles" inside an organic solvent, scientists have successfully made and displayed structural colors from cellulose-based polymers. Liquid marbles, which are millimeter-size droplets of liquid crystalline solutions, serve as a surrounding fluid in the system, and are coated to prevent them from mixing with the solvent.

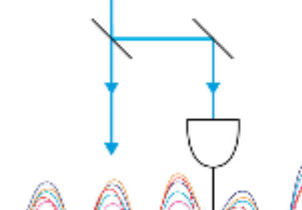
[Read Article](#)

### Ashkin-Inspired Technique Enhances Laser Resonance

Technion-Israel Institute of Technology researchers have introduced a laser-resonator design inspired by the work of Arthur Ashkin. Created by graduate student Jacob Kher-Alden under the supervision of Tal Carmon, associate professor and director of the Optomechanics Center at Technion, the flooding resonator design achieved 10 million circulations of light.

[Read Article](#)

## Upcoming Webinars



### Focus on Recovering Signals in Optical Experiments

Thu, Oct 22, 2020 11:00 AM - 12:00 PM EDT  
Capturing meaningful information while avoiding sizable overheads is crucial for all experiments in optics. In this webinar, Claudius Riek, Ph.D., of Zurich Instruments will look into the effect that specific settings for spectroscopy instruments have on the measurement results, focusing on: filter function, filter order and time constant. He will then explore the relevance of typical properties of electronic measurement devices for optical experiments such as dynamic range, measurement bandwidth and signal input noise. Presented by Zurich Instruments.

[Register Now](#)



### Dynamic Error Reduction via Galvo Compensation

Wed, Oct 28, 2020 1:00 PM - 2:00 PM EDT  
This webinar with Scott Schmidt of Aerotech, Inc. will cover problems that arise in fixed-beam positioning (i.e., moving load) where the large moving mass of a system becomes a difficult problem to solve and address how these challenges may be overcome with hybrid stage-scanner system architectures. Analysis of overall/systemic errors will also be presented. Presented by Aerotech, Inc.

[Register Now](#)

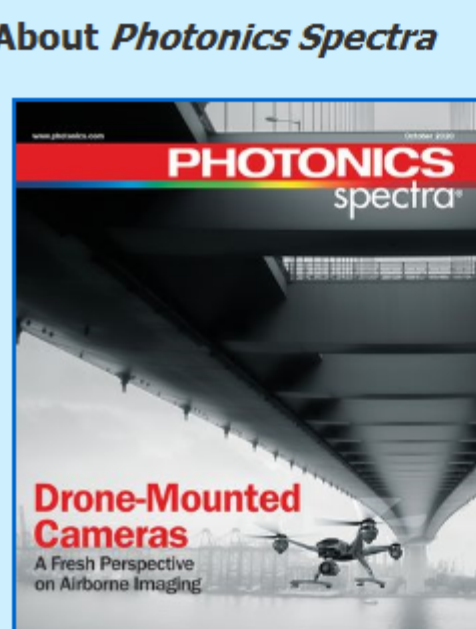
## Next Issue:

### Features

Earth Imaging, Ultrafast Imaging, Freeform Optics, 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 Daniel McCarthy, Senior Editor, at [Daniel.McCarthy@Photonics.com](mailto:Daniel.McCarthy@Photonics.com), or use our online submission form [www.photonics.com/submitfeature.aspx](http://www.photonics.com/submitfeature.aspx).

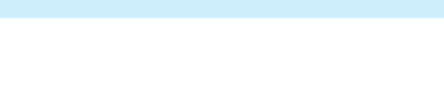
### About Photonics Spectra



Since 1967, *Photonics Spectra* magazine has defined the science and industry of photonics, providing both technical and practical information for every aspect of the global industry and promoting an international dialogue among the engineers, scientists and end users who develop, commercialize and buy photonics products.

Visit [Photonics.com/subscribe](http://Photonics.com/subscribe) to manage your Photonics Media membership.

[View Digital Edition](#) [Manage Membership](#)



We respect your time and privacy. You are receiving this email because you are a Photonics Media subscriber, and/or a member of our website, Photonics.com. You may use the links below to manage your subscriptions or contact us.

Questions: [info@photonics.com](mailto:info@photonics.com)

[Unsubscribe](#) | [Subscribe](#) | [Subscriptions](#) | [Privacy Policy](#) | [Terms and Conditions of Use](#)