

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

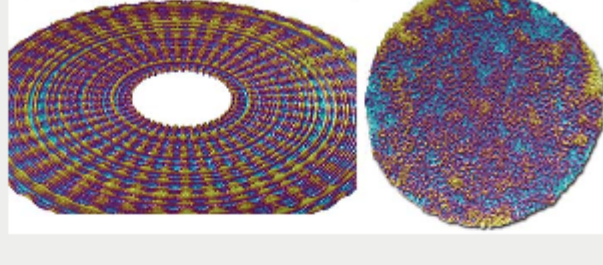
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**COME MEET THE PHOTONICS MEDIA EDITORS**

<b>BIOS</b> Saturday Jan 27, 2018 3:00 p.m. Booth 8735	<b>PHOTONICS WEST</b> Tuesday Jan 30, 2018 3:00 p.m. Booth 846-847
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## Pushing the Limits of Interferometric Testing

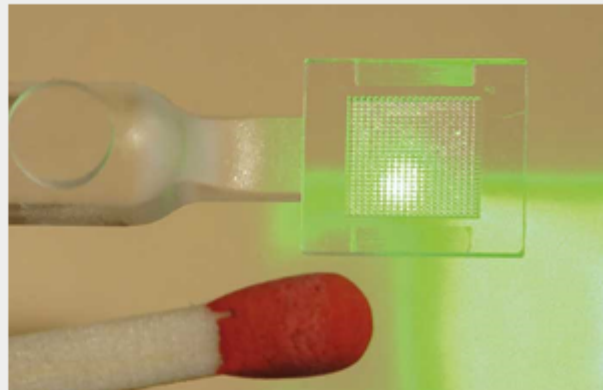
Laser interferometers have come a long way in the last 40 years. At 76 million independent surface image points per second in phase-shifting mode, the latest in laser interferometer instrumentation delivers extreme levels of surface characterization. By comparison, the first phase-shifting interferometers in the 1970s measured at a rate of only 512 points per second. These advances in surface visualization capability coincide with ever-increasing metrology requirements.



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## Fabricating Precise Polymer Optics

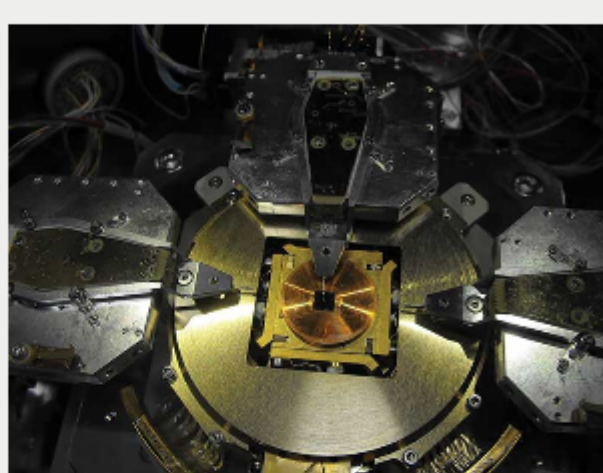
Polymer optics are one of the cornerstones of photonics, driving the innovation necessary to meet the requirements for ever-smaller installation spaces and significant weight savings, all while achieving a higher image quality. The miniaturization of optics using micro-structured surfaces today can be found in many areas including smartphones, LED lighting and consumer electronics, where these attributes are particularly important.



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## Optical Techniques Tackle Nanoscale Measurements

Materials at the nanoscale can behave in surprising ways. While the properties of macro materials can often be predicted, the behaviors of a material invisible to the naked eye can differ greatly. Providing insight into this nanospace is essential for maximizing its commercial success. The extremely high spatial resolution characterization capabilities of today's nanomeasurement and test tools reveal vital information about correlations between structure and property. Only by studying, designing and modifying these nanostructures can we achieve the desired properties and performance from nanomaterials and devices.



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## Featured Products



### Pivot Bearings

#### C-Flex Bearing Co. Inc.

The C-Flex bearing or pivot is a cylindrical, limited rotational bearing, with a high relative radial and axial stiffness which is available in low, medium, or high torsional spring rates. It is typically available for maximum deflection angles of +/-30, but various configurations are supplied upon request.

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### Request Your Free 400G Poster

#### Keysight Technologies

400G has new physical design challenges: whether you are looking at 400G Ethernet in data centers or metro and long haul transport optical links, 400G technology needs to fulfill extremely tight requirements regarding signal quality. This poster gives you a broad overview on all the new evolving standards for your path to 400Gb/s.

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## In Case You Missed It

### Optical Systems Capture First Light From Colliding Neutron Stars

Scientists from the international LIGO and Virgo Scientific Collaborations have announced the detection of the bright spark of two neutron stars colliding. This event has been dubbed GW170817 because it sent ripples through space-time that reached Earth on August 17, 2017.



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### NIRS and Chemometrics Offer Insights Into Earth's Surface

When applied to hyperspectral remote sensing images, the techniques of near-IR spectroscopy and multivariate chemometric calibrations, such as partial least squares regression, enable quantitative mapping of the properties of Earth's surface.

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### Cloaking Approach Prevents Light Scattering in Opaque Objects

In a novel approach to cloaking technology, researchers irradiated an opaque material from above, using a specific wave pattern that allowed light waves from the left to pass through the material without any obstruction. The researchers believe that this approach could be applied to different types of waves, including sound waves.

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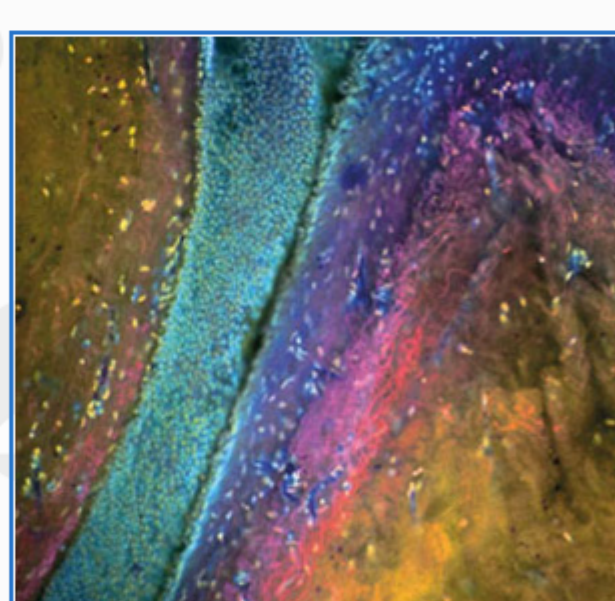
## Webinars

### The MUSE Microscope for Advancing Light Microscopy

Tue, Jan 16, 2018 1:00 PM - 2:00 PM EST

This webinar will introduce microscopy with UV surface excitation (MUSE), a fluorescence-based, slide-free optical imaging system that provides high-resolution diagnostic images in minutes without causing damage to fragile tissue samples. Presenter Richard Levenson, M.D., FCAP, will discuss the development of the MUSE microscope and demonstrate its use. Researchers, scientists and clinicians who are interested in learning about novel forms of microscopy and recent advances in the field will benefit from attending and/or viewing this free webinar.

[Register Now](#)



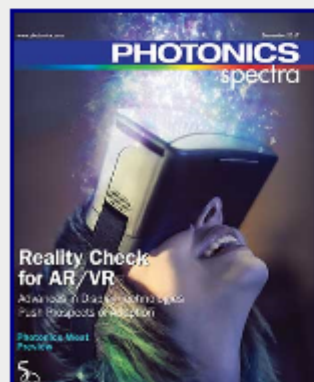
## Coming in January...

### Features

Trends in lasers, spectroscopy, optics; Microdisplays for augmented reality; Supercontinuum light

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 Managing Editor Mike Wheeler at [michael.wheeler@photonics.com](mailto:michael.wheeler@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.

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