

# This Week in PHOTONICS



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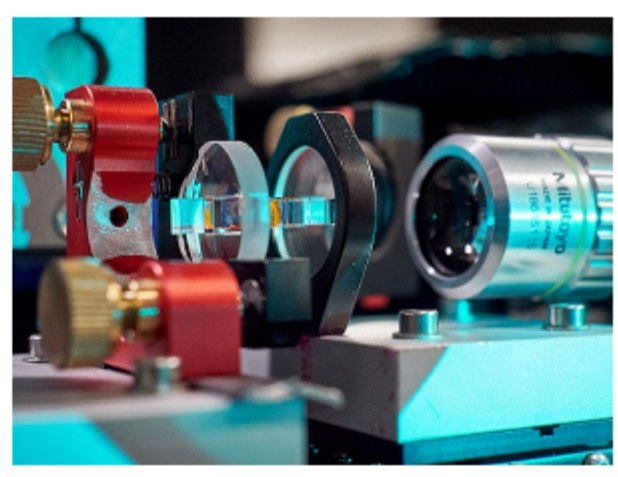
Atomic Spectroscopy Webinars

## .: Top Stories

### New Phase in Optical Bose-Einstein Condensate Raises Quantum Communication Possibilities

Led by University of Bonn professor Martin Weitz, researchers have observed a previously unknown phase transition in the optical Bose-Einstein condensate. The state is known as an overdamped phase, and it may be relevant for encrypted quantum communication.

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### White-Reflectance Paint Cools Need for Air Conditioning

A team from Purdue University has developed an improved ultrawhite paint that, tests showed, reflected more than 98% of sunlight — compared to 95.5% of sunlight that an earlier version of the paint reflected following its introduction in October 2020. Applied to, or coated on a surface, the paint also directs incoming infrared heat away from the surface.

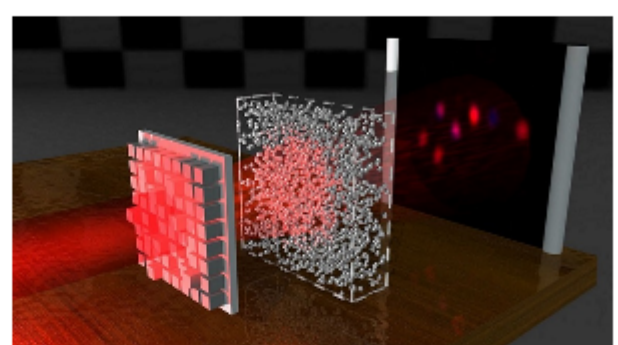
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### Lightwaves Penetrate Opaque Materials, Emerge Unchanged

A special class of lightwaves possesses the physical qualities that make it able to emerge largely unchanged upon penetrating disordered media. A team from the Vienna University of Technology (TU Wien) and Utrecht University determined that, for any specific disordered medium, tailored light beams can be constructed that are practically unchanged by this medium, and in fact only attenuated.

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## .: Photonics Spectra Optics Conference



### Presentation: "Intelligent Material Design for Infrared Optics" Presented by: J. David Musgraves, Rochester Precision Optics LLC

Chalcogenide glasses offer an opportunity to expand the possibilities available to infrared optical designers by providing the ability to create IR optical materials with specifically designed refractive index dispersion. The ability to create a material with a known dispersion profile allows optical engineers to design achromatic and apochromatic lenses in the infrared — and could also enable creation of Risley prism systems with minimized primary and secondary dispersions.

The flexibility to design the dispersion profile is available in chalcogenide glasses, as opposed to crystalline IR materials, because the compositions can be tuned through the inclusion of additional ingredients — analogous to what is done in visible optics systems. In his session, Musgraves, director of research and development at Rochester Precision Optics LLC, will review recent work in creating and characterizing suites of chalcogenide glasses, with an aim toward developing tight composition/property dependence relationships that can allow the prediction of glass compositions with dispersion profiles designed for specific optical applications.

Musgraves' presentation will be available starting at 10:15 a.m. EDT on April 28.

Additional sessions will include the keynote, "From the Design Lab to the Factory Floor: How Optics Manufacturers Move Swiftly from Concept to Creation," from Ulrike Fuchs, vice president of strategy and innovation at asphericon; an optics market analysis on the effects of COVID-19, from Tom Hausken, senior industry adviser at The Optical Society (OSA); and "Optical Coatings: A Full Spectrum of Solutions," from Dan Fiore, vice president of North American Coating Laboratories (NACL).

The two-day [Photonics Spectra Optics Conference](#) runs April 27-28. Registration is free for the event, which is offered exclusively online. For more information and registration, please visit [www.photonics.com/ps2021](http://www.photonics.com/ps2021). Continued coverage of this inaugural event will also be available on Photonics.com leading up to the conference.

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## .: Featured Products



### Cobolt Tor™ XE Pulsed Laser

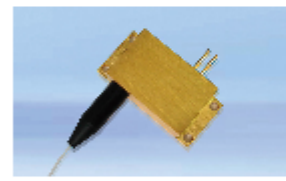


#### HÜBNER Photonics

HÜBNER Photonics is proud to introduce the Cobolt Tor™ XE, a high performance compact Q-switched laser at 1064 nm and with 0.5 mJ/pulse. The Cobolt Tor™ XE is intended for integration into instruments for marking, laser induced breakdown spectroscopy (LIBS) as well as photoacoustic microscopy applications....

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### 878.6 nm High-Power Wavelength Stabilized Laser Diode

#### PhotonTec Berlin GmbH

PhotonTec Berlin expands its wavelength stabilized diode family with new 878.6 nm diodes. Powers of 30W, 40W, 70W, 90W, and 120W are available from 200 μm, 0.22 NA fiber pigtail. The diode modules come with hermetically sealed packages in compact size. Thermistor and monitoring photodiode are optionally available....

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[Light-Activated Molecule Eliminates Alzheimer's Protein in Live Mice](#)

[Thermo Fisher Scientific Extends Reach in Pharma, Biotech with PPD Acquisition](#)

## .: Upcoming Webinars



### Micro-Optics for Wearable Devices

Tue, May 18, 2021 1:00 PM - 2:00 PM EDT

Rick Brown of Accumold will highlight specific design and production challenges that micro-molders have seen in wearable markets and how they have been addressed. Brown will also cover some secondary operations that can add value to a molding operation.

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