

This Week in PHOTONICS



LightMachinery
Excellence in Lasers and Optics

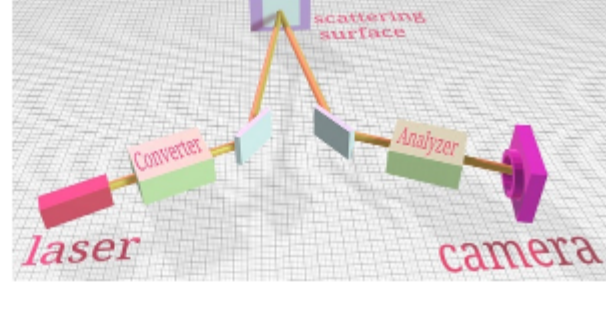


Hyperfine Spectrometer
A sub-picometer resolution spectrometer in a compact package.

:: Top Stories

Quantum Coherence Transferred in Free Space

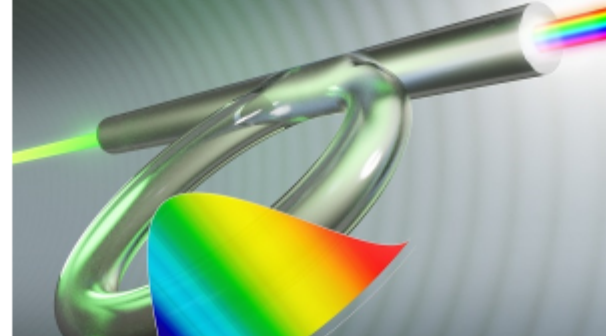
Researchers at the University of Waterloo report the first successful transfer and recovery of quantum coherence using photons scattered in free space. The work points toward research opportunities and applications in fields ranging from quantum communication to imaging and beyond.



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Rochester Researchers Use Spectral Filter in Kerr Resonator to Create Highly Chirped Laser Pulses

Researchers have produced ultrashort, extremely high-energy (chirped) laser pulses using a spectral filter in a Kerr resonator. The pulses created in the work remained stable in low quality-factor resonators, despite large dissipation.



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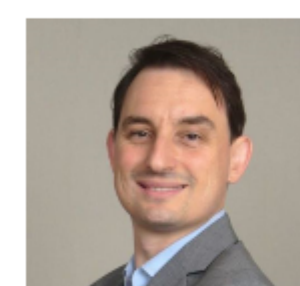
Liquid Metal Enables Switchable Mirrors

Researchers have demonstrated the ability to switch the surface of liquid metal between reflective and scattering states. The technology could one day be used to create electrically controllable mirrors or illumination devices.



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:: Vision Spectra Conference



Presentation: "Commercial High-Resolution Quantum Dot SWIR Sensors and Cameras for Industrial Automation Markets"
Presented by: Ethan Klem, SWIR Vision Systems

Industrial cameras capable of imaging objects in the shortwave IR (SWIR) range are attracting increasing interest for applications in food, pharmaceutical, and other industries. While InGaAs sensors gained an early foothold, imaging sensors based on quantum dots (QDs) are introducing unique advantages — such as higher resolutions, wider fields of view, and significantly broader imaging bandwidths. QD cameras are also inherently lower cost than equivalent-resolution InGaAs-based cameras, so they often translate to a lower-cost total system solution.

In his presentation, Ethan Klem introduces attendees to QD sensor technology, and discusses how it works and how it compares to InGaAs-based SWIR sensors. He also discusses key imaging applications and best practices when implementing QD cameras within a broad range of machine vision, automation, defense, and scientific imaging applications.

The inaugural *Vision Spectra* Conference runs July 20 - 22. Registration is free for the event, which is offered exclusively online. For more information and registration, please visit www.photonics.com/vsc2021. Continued coverage of this inaugural event will also be available on vision-spectra.com and Photonics.com leading up to the conference.

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:: Featured Products



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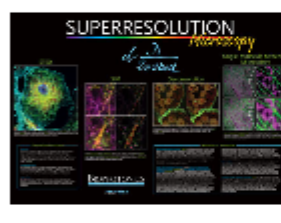
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Photonics Media
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EXFO Rejects Acquisition Offer from Test and Measurement Rival VIAVI [Read Article](#)

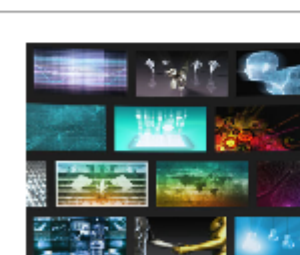
Improving Photoluminescence in Silicon Boosts PIC Performance [Read Article](#)

Extremely Bright Quantum Emitter Self-Heals [Read Article](#)

Researchers Create Video from a Single Image [Read Article](#)



:: Upcoming Webinars



European Photonics Manufacturing Services Funded by EC

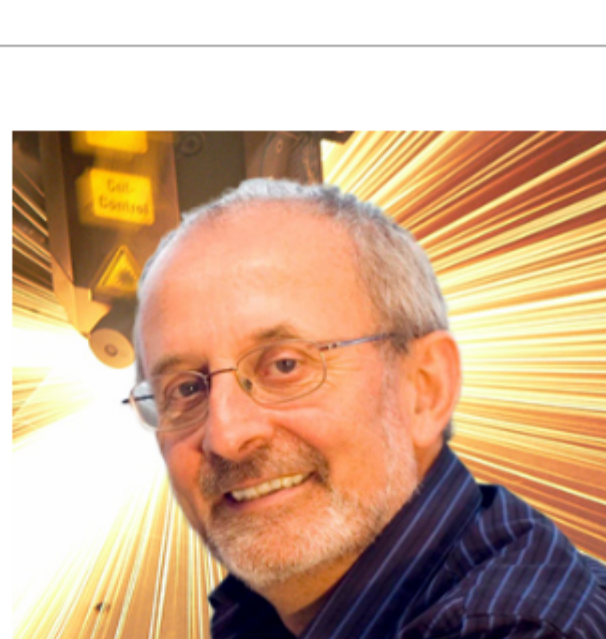
Wed, Jun 30, 2021 8:30 AM - 11:00 AM EDT

In this webinar, representatives for preeminent EU acceleration initiatives present ongoing projects supported by the European Commission, helping companies to access photonic technologies developed in Europe to improve manufacturing worldwide. Moderated by EPIC, this event showcases ten initiatives and their goals for products in numerous application areas ranging from architectural lighting to automotive, from healthcare to consumer electronics. Presented by the European Photonics Industry Consortium (EPIC).

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:: All Things Photonics

In the season's final episode, John Harvey, founder and CEO of Southern Photonics, shares his journey from nuclear physics to biophotonics, and from lasers to test and measurement equipment. The state of the photonics industry in Australia and New Zealand is among the points of discussion. Rohit Bhargava, Founder Professor of Engineering and director of the Cancer Center at the University of Illinois at Urbana-Champaign, talks about a new technique for solid-tissue imaging that relies on the microscopic detection of chirality.

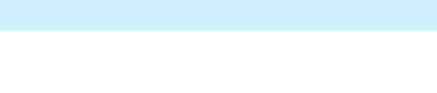


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