

This Week In PHOTONICS

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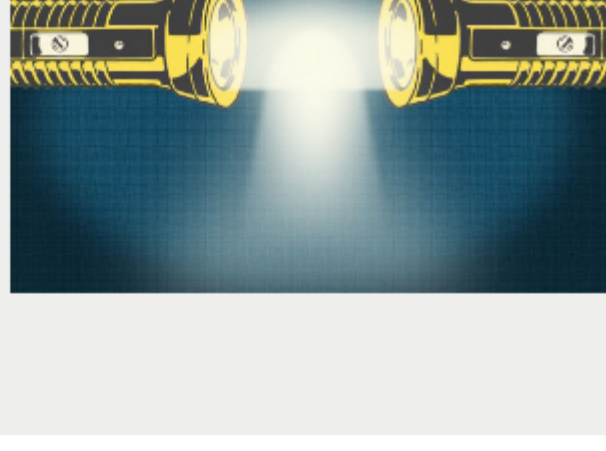
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Team Demonstrates Three-Photon Bound States

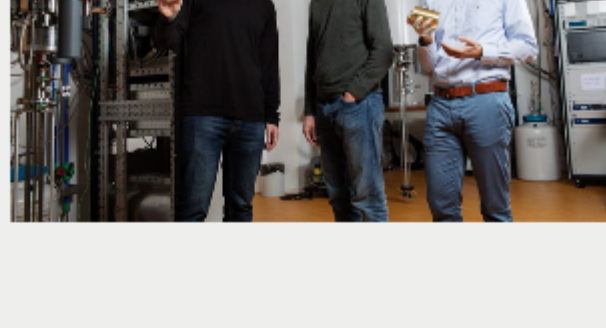
Scientists have observed traveling three-photon bound states in a quantum nonlinear medium, a phenomenon that could help further the use of photons in quantum computing. The researchers further found that the bound photons acquired a fraction of an electron's mass. The newly weighed-down photons traveled about 100,000 times slower than normal, noninteracting photons.



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Silicon Quantum Chip Brings Quantum Computation Closer

Experiments have shown that a single electron spin and a single microwave photon can be coupled on a silicon chip. This coupling could make it possible to transfer quantum information between a spin and a photon, allowing quantum bits (qubits) to be connected across a chip. The process could potentially be scaled up to connect large numbers of qubits.



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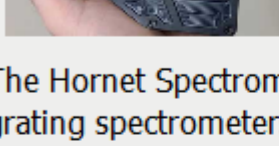
Quantum Dots Catalyze Polymer Creation

Using semiconductor quantum dots (QDs) as a catalyst for light-mediated radical polymerization, materials scientists are exploring a stable and economical method for making polymers. Such a method could be used in place of molecular catalysts or expensive transition metals.



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Featured Products



[Compact, Low Cost <30pm Resolution in the VIS and NIR](#)

LightMachinery Inc.

The Hornet Spectrometer achieves the resolution of large grating spectrometers at a fraction of their cost and size while covering a larger wavelength range. Simple PC based software allows the user to review spectra in real time and save or export for more analysis.

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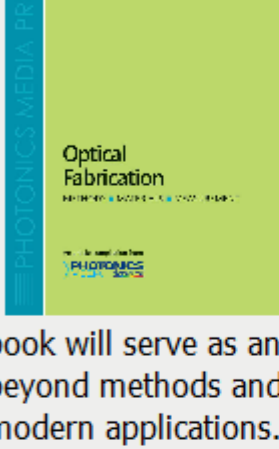


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PCO-TECH Inc.

To see or not to see: If every single photon counts, PCO's back illuminated sCMOS camera system pco.panda 4.2 bi can lead you to the answer. Enabled by PCO's new back illuminated sensor and based on the latest innovations in sCMOS technology, the pco.panda 4.2 bi reaches a quantum efficiency of up to 95%.

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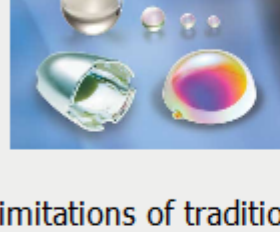


[Optical Fabrication](#)

Photonics Media

Optical Fabrication is a new book for anyone working on or interested in the methods, materials and measurement techniques used in modern lens and optical component manufacturing. The book will serve as an introduction or update, moving beyond methods and materials to design and complex modern applications.

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[IsoDyn™ – Coating Complex Shapes](#)

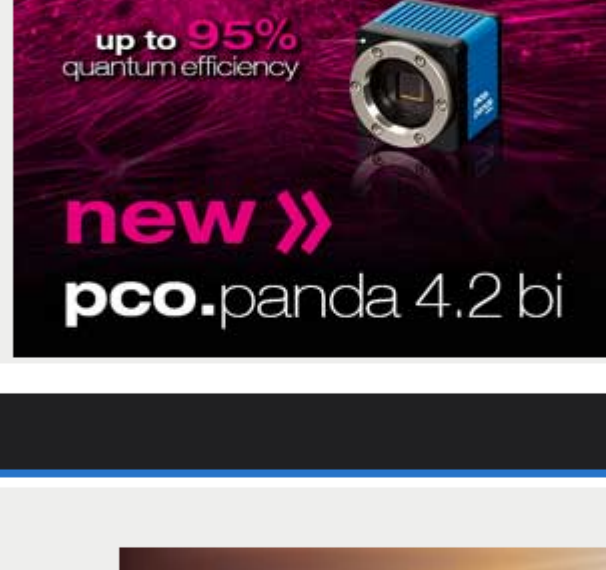
Deposition Sciences Inc. (DSI)

DSI developed IsoDyn™ coating technology to overcome the limitations of traditional methods in producing uniform coatings on highly curved parts, or components with complex three dimensional shapes. The unique IsoDyn process enables volume production of uniform, multi-layer, high performance, high laser damage coatings...

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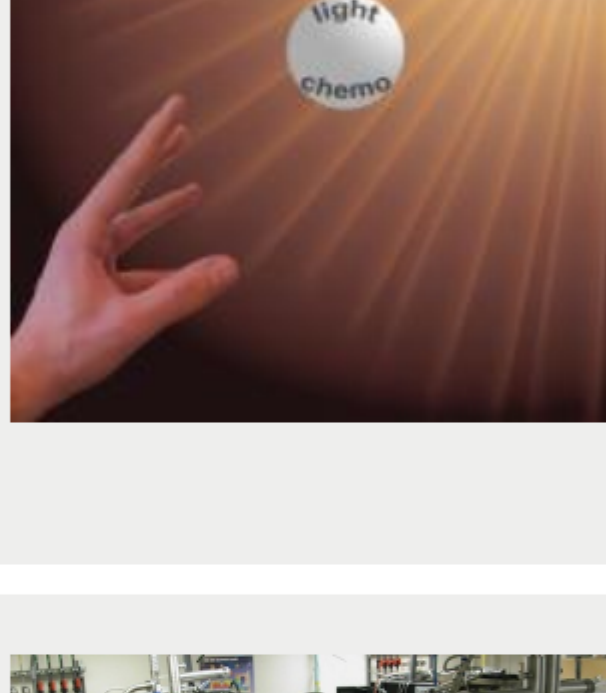
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Spectroscopy Explores Photoinduced Reactions in Anticancer Drug

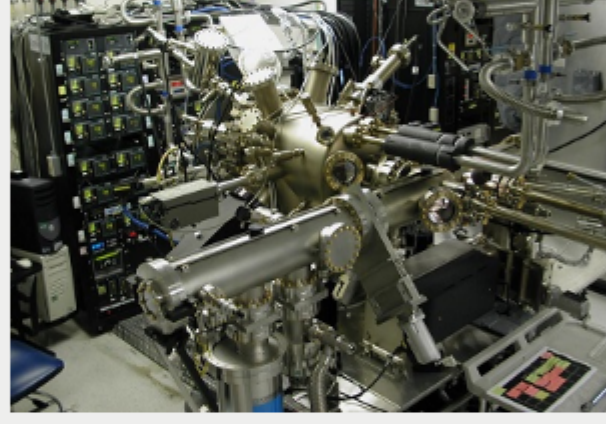
Using IR spectroscopy, researchers have gained fresh insight into how a platinum-based chemotherapy drug candidate functions when activated by light. Completely inactive and nontoxic in the dark, the treatment can be targeted to cancerous areas and is triggered only when directed light hits it.



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Army Research Lab, Stony Brook Develop Nighttime Imaging Material

The U.S. Army Research Laboratory (ARL) and New York's Stony Brook University have developed a new synthesis process for low-cost fabrication of a material previously discounted in literature for high-sensitivity IR cameras, opening new possibilities for future military nighttime operations.



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Industry Events

Advanced Design & Manufacturing 2018

March 7-8, 2018 - Huntington Convention Center - Cleveland United States

The Advanced Design & Manufacturing Expo in Cleveland will bring five established industry events together into one unparalleled experience. Design & Manufacturing (D&M), the Automation Technology Expo (ATX), Medical Design & Manufacturing (MD&M), PLASTEC, and Pack will be featured as zones on the ADM Expo in Cleveland floor, giving you access to an array of solutions to drive your projects forward. The free ADM conference will provide you with unlimited access to smart tracking focused on medtech, battery technology and smart manufacturing.



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Webinars

Optics and Lighting Solutions for Machine Vision

Tue, Mar 20, 2018 1:00 PM - 2:00 PM EDT

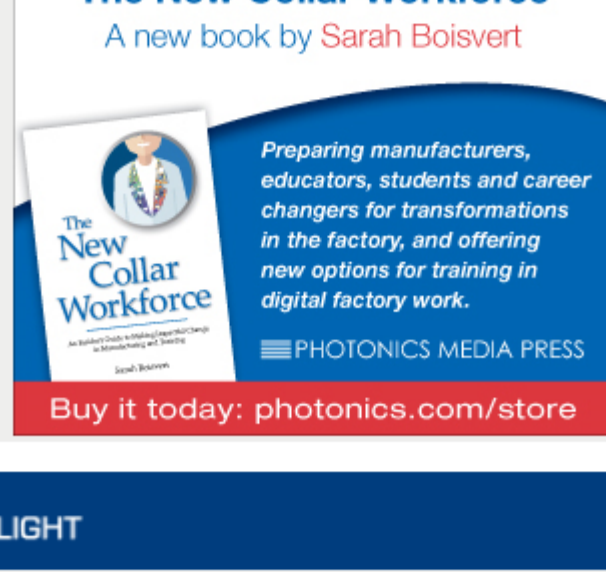
A crucial first step in any good machine vision application is developing the right optics and lighting for the application. This webinar will address the basic principles and methods of machine vision optics and lighting and reviews advances in methods and components that have made machine vision easier to implement in recent years. Sponsored by Smart Vision Lights and Euresys S.A. and Chroma Technology.



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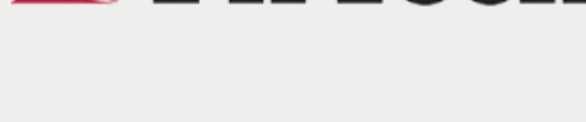


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