



Quantum Optics Work Wins Physics Nobel



Separate but related quantum optics technologies - ions in a harmonic trap and photons in a cavity - that allow the measurement and control of individual quantum systems were recognized this week by the Royal Swedish Academy of Sciences in Stockholm with the 2012 Nobel Prize in physics. David J. Wineland of NIST and the University of Colorado at Boulder and Serge Haroche of the Collège de France and Ecole Normale Supérieure in Paris will share the \$1.2 million prize.

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Norman Edmund Inspiration Award Winner Named

Tomasz Tkaczyk of Rice University has won the 2012 Norman Edmund Inspiration Award for his low-cost, portable optical systems for global health applications, the optical components maker announced.

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Light Tube Grabs, Scans Tiniest Bacterium

A light tube that can grab, orient and record the movements of tiny agile unicellular organisms may soon help scientists better understand bacterial infectious diseases.

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Laser Reveals Surprising Optical Effect on Ferromagnets

Investigations of magnetism using a free-electron laser unveiled a new mechanism that causes ferromagnetic materials to demagnetize. The finding - previously theorized, but never before observed - could play a role in reducing the size of magnetic memories for faster storage.

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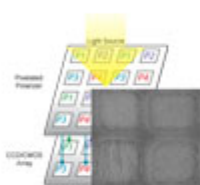
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Tune in for current life science news on Light Matters Weekly Newscast, sponsored by BioPhotonics magazine. In this week's edition: quantum physics takes the Nobel, nanoparticles help photodynamic therapy penetrate more deeply, the solar efficiency of black silicon is doubled, the European Space Agency wants to add a new dimension to its future cameras, and a physicist receives a genius grant. Hosted by Photonics Media's Melinda Rose and Laura Marshall.

IPG Photonics Appoints Veeco CEO to Board

Veeco Instruments Inc. CEO John R. Peeler has joined the IPG Photonics Corp. board of directors, the fiber laser company announced.

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Photocurrent of Single Molecule Measured

Single small molecules can be used as functional components in optoelectronic circuits, but until now, controlling and probing such molecules for photovoltaic and photoelectrochemical applications has proved difficult.

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OCT Images Blood Vessels that Feed Cancer

An optical coherence tomography technique that noninvasively maps the network of tiny blood vessels in the epidermis could soon help doctors better diagnose, monitor and treat skin cancer.

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All-Optical Amplification of Signals

The discovery that the force of light in a nanoscale switch is strong enough to move an optical waveguide without having to rely on the device's mechanical structure could dramatically increase Internet download speeds while also consuming less power.

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Quantum Mechanics Could Thwart Counterfeiters

Physicists in Germany and the US want to take a principle from nature - that information stored on a quantum bit, or qubit, cannot be cloned - and apply it to the problem of credit card fraud.

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Industry Events

OSA Frontiers in Optics 2012 - October 14 - 18, 2012 · Rochester, NY
Visit us at booth 407



Join colleagues and luminaries from around the world at FIO 2012, OSA's 96th Annual Meeting held in conjunction with Laser Science (LS) XXVIII the 28th Annual Meeting of the American Physical Society (APS) Division of Laser Science (DLS). Attend five days of intense, up-to-date programming featuring cutting-edge presentations on the latest advancements in optics and photonics, plenary talks by renowned scientists, seven short courses designed to increase subject-specific knowledge, and a variety of special events offering the opportunity to network with pioneers and colleagues from around the globe.

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Photonex 2012 - October 17 - 18, 2012 · Coventry, England
Visit us at booth G22



Photonex 2012 is a unique forum for scientists and industrialists to learn about the latest innovations, technologies and trends. The conference at Coventry will feature multiple parallel sessions providing the latest solutions, as well as tutorials and educational forums presented by industry specialists. The exhibition, now in its 21st year, is the UK's largest dedicated to optics, photonics and vision technologies. Biophotonics, microscopy, camera technology, hyperspectral imaging, scientific imaging, sensing, spectroscopy, vacuum technology are all strongly covered among the exhibiting companies. Co-located within the same hall are Vision UK, Vacuum Expo and Biomedical Sensing.

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FEATURED VIDEO



Edmund Optics - Filter Coatings - Hard vs. Traditional

Differences between hard and traditional coated filters. Discusses how they are both manufactured and the benefits of one type of coating over the other.

