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**Camera Mimics an Insect's Compound Eyes**

A hemispherical-shaped digital camera that mimics the design of ocular systems found in arthropods offers a wide-angle bug's-eye view and nearly infinite depth of field for applications ranging from advanced surveillance cameras to miniaturized endoscopes. "Full 180-degree fields of view with zero aberrations can only be accomplished with image sensors that adopt hemispherical layouts — much different than the planar CCD chips found in commercial cameras," said John A. Rogers of the University of Illinois at Urbana-Champaign. "When implemented with large arrays microlenses, each of which couples to an individual photodiode, this type of hemispherical design provides unmatched field of view and other powerful capabilities in imaging."

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**IPG Photonics: Materials Processing Drives Sales Up 29%**

The fiber laser maker reported a profit of \$35 million, or 67 cents per share, for the first quarter of 2013. The total was up 17 percent from the same quarter a year ago, due largely to growth in materials processing, but fell short of analysts' expectations.

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**LED Streetlight Design Curbs Light Pollution**

LED streetlights developed at Taiwan and Mexico could reduce wasted light to just 2 percent by shining only where needed and could lower power consumption by 40 to 60 percent.

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**Products on PhotonicsBuyersGuide.com**

 <p><b>Fiber Fused Wavelength Combiners</b> Gould Fiber Optics</p>	 <p><b>FLIR Quark</b> FLIR Systems, Inc.</p>
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**London Roadshow Highlights Photonics**

Tomography, superresolution microscopy, and light-based diagnostics and treatment dominated the topics of discussion at the 2013 Photonex London Roadshow, held April 9 at University College London.

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**'Meta-Atoms' Could Advance Optical Devices**


Specially designed "meta-atoms" capable of stretching lightwaves and accelerating them to a speed faster than light could advance optical devices, a Missouri University of Science and Technology team theorizes. The work is the latest in a series of recent findings related to how light and matter interact at the atomic scale.

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**SA Photonics Promotes Browne to Vision Products GM**

Dr. Michael Browne, who started the vision products group over six years ago, will manage engineers focused on building next-generation vision systems for military and commercial markets.

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In this edition of the industry's premier weekly newscast: A concept car features lasers, a biophotonic technique detects cancer before a tumor even forms, LED streets aim to curb light pollution, the cause of LED droop is confirmed, materials processing boosts Coherent's Q2 sales, and SPIE's 2013 award winners include a number of Photonics Media's webinar speakers. Hosted by Photonics Media's Laura Marshall and Melinda Rose.

**Industrial Fiber Laser Sales Boost Coherent's Q2**

Record bookings for materials processing — including the first large order for its 1-kW industrial fiber laser — helped the company report a profit of \$15 million for the second fiscal quarter of 2013.

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**Intricate Experiment Reveals Cause of LED Droop**


The future looks bright for alternative lighting now that scientists at UC Santa Barbara have solved the mystery that causes LEDs to "droop" in efficiency at high currents.

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**Lasers Bring New Urgency to Electric Power Research**

The upcoming deployment of a shipboard laser weapon has brought to the forefront the need for reliable, high-voltage power management systems for national security, officials said at the Office of Naval Research-sponsored Electric Ship Technologies Symposium outside Washington, D.C.

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**Real-time Profiling for Focusing, M2, Divergence & Alignment**  
DataRay Inc.

Beam intensity profiling is an essential tool in many aspects of photonics. The precise intensity distribution in a focused laser beam is critical in many applications: flow cytometry, laser printing, medical lasers, and cutting lasers are just a few examples. Intensity profile measurements can characterize and improve a product or process, leading to substantial cost and time savings that can pay for the measurement instrument many times over. This white paper describes how the unique, patented, real-time multiple z-plane XYZTF capabilities of the BeamMap2 slit-scan profiler can speed and simplify laser assembly alignment.

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PROMOTION



**Preview Agilent's soon-to-be-released Cary Universal Measurement Spectrophotometer (UMS)**  
Monday, May 13, 2013 - 12:00 p.m. EST/9 a.m. PST  
**FREE WEBINAR**

See what you've been missing: Learn how Agilent's soon-to-be-released Cary Universal Measurement Spectrophotometer will advance your materials analysis. Speaker: Travis Burt, Agilent UV-VIS-NIR Product Manager

Whether you research, develop or perform QA/QC analysis of advanced materials such as coatings, thin films, solar or glass, Agilent offers the fastest and most accurate spectroscopy solutions. And soon, Agilent will release a new, unique universal measurement spectrophotometer that will measure absolute reflection and transmission at variable angles — *unattended*. Find out how Agilent's Cary UMS will measure what others cannot at this special first-look webinar.

**Industry Events**

**LASER World of PHOTONICS 2013 - May 13 - 16, 2013 · Munich Germany**  
Visit Photonics Media at Booth 355

Laser World of Photonics, collocated with World of Photonics Congress, is the world's largest trade fair for lasers and laser systems in industrial manufacturing. The 21st event features three photonics forums: Lasers in Manufacturing, Biophotonics and Medical Engineering and Optical Technologies.

The 2013 event will also include an exhibit of more than 200 companies, a talent initiative, the 11th international laser marketplace seminar focused on markets and new technologies in laser materials processing, and a special show called Photons in Production, which addresses the building blocks for the future.

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