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IR Digital Holography Lets Firefighters 'See' Through Flames

By employing a specialized lens-free technique, researchers at the Consiglio Nazionale delle Ricerche (CNR) in Rome developed a system that can cope with the flood of radiation from an environment filled with intense flames and smoke. "IR cameras cannot 'see' objects or humans behind flames because of the need for a zoom lens that concentrates the rays on the sensor to form the image," said Pietro Ferraro of CNR's Istituto Nazionale di Ottica. By eliminating the need for the zoom lens, the new technique avoids this drawback. "Perhaps most importantly, we demonstrated for the first time that a holographic recording of a live person can be achieved even while the body is moving."

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PHOTONIS Gen2 Ultrafast Time-of-Flight Ion Detector

Photonis USA Vice President and General Manager Bruce Laprade describes the company's Gen2 Ultrafast time-of-flight ion detector, a 2010 Prism Awards finalist in the Life Sciences and Biophotonics category. Fundamental changes to the detector's anode design reduce measured pulse widths by more than a factor of two with respect to previous state-of-the-art detectors.

Landmark Ireland Research Investment Includes Photonics

The largest-ever state/industry co-funded scientific research investment in Ireland – €300 million, or about \$393 million – includes millions to establish a large-scale research center devoted to advancing photonics and biomedical science.

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Virtual Photons Become Real in a Vacuum

Virtual particles can be transformed into real photons that can be experimentally observed, researchers at Aalto University and the VTT Technical Research Center of Finland discovered by changing the position of a mirror inside a vacuum.

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Techcomp Acquires Majority Stake in Edinburgh Instruments

The European subsidiary of Hong Kong-based analytical instruments firm Techcomp has acquired 66 percent of spectrometer maker Edinburgh Instruments for \$2.9 million in cash, the company announced this week.

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As Sequester Nears, OSA Organizes 'Week of Action'

OSA worked with the American Institute of Physics to create a community letter to members of Congress on the spending cuts and the potential impact of the sequester on federal funding for scientific research and development and will work in cooperation with scientific groups, encouraging them to alert their memberships of the pending deadline and enlist their grassroots support.

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Laser Spectroscopy Narrows Search for Origins of Superconductivity

The mechanism underlying high-temperature superconductivity has remained one of the most important and tantalizing puzzles in physics, but new work that measures fleeting electron waves could help solve the mystery and pave the way for rapid technological advances, say researchers at MIT and Brookhaven National Laboratory.

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Osram Coordinates High-Brilliance Infrared Laser Project

The three-year IMOTHEB (Integrated Micro-Optical and microThermal Elements for diode lasers of high Brilliance) project to improve high-brilliance infrared laser systems performance and to reduce production costs is supported by the German Federal Ministry for Education and Research. Project partners include Dilas Diode Laser and the Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy.

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Show to Cover New Apps for Ultrashort-Pulse Lasers

At May's Laser World of Photonics 2013 in Munich, Christof Siebert of Trumpf Laser- und Systemtechnik will chair the application panel "Latest Applications for Short-Pulse Laser Systems." The continued development of ultrashort-pulse lasers is also an important aspect of the exhibition "Lasers and Laser Systems for Production Engineering" and a topic of discussion at the "Lasers in Manufacturing 2013" conference, which is part of the World of Photonics Congress at the show.

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Quantitative Imaging of Collagen Fibers Using Second-Harmonic Generation
University of Illinois, Photonics Research of Bio/Nano Environments (PROBE) lab group
- Dr. Melissa Skala
Photothermal Optical Coherence Tomography of Nanoparticle Contrast Agents
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In this edition of the industry's premier weekly newscast: A flexible new image sensor is completely transparent, silicon nanocrystals make color LEDs, a holographic imager could have biomedical applications, and a new art installation puts a unique spin on an everyday object. Hosted by Photonics Media's Laura Marshall and Melinda Rose.

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