



Monthly newsletter from the editors of Photronics Spectra, with features, popular topics, new products, and what's coming in the next issue. Manage your Photronics Media membership at [Photonics.com/subscribe](https://www.photonics.com/subscribe).

STEM Programs Struggle to Satisfy the 'Endless Demand' for Photonics Talent

Earlier this year, at a major recruitment event at the University of Arizona's Wyant College of Optical Sciences, the job openings listed outnumbered students in attendance. This imbalance exemplifies the immense pressure STEM programs across the country face in meeting photonics industry workforce demands.

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More than Skin Deep: Photonics Protects Our Cultural Heritage

For hundreds of years, analysis trumped preservation when it came to irreplaceable cultural heritage objects such as paintings, icons, and written works. Today, conservators avoid taking even tiny samples from works of priceless art, making photonics technology an invaluable addition to cultural heritage research.

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The Second Quantum Revolution Needs Reinforcements

The infancy of the second quantum revolution is upon us. Although the technologies driving this revolutionary struggle are not yet mature, they are attracting a great deal of interest and investment from both government and private organizations. While market projections for the quantum industry are inconsistent, they continue to help spur the momentum. All indications point to double-digit near-term growth. This is good news for investors but not for hiring managers, who face a scarcity of workers to meet the sector's demands.

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:: Featured Products & Services



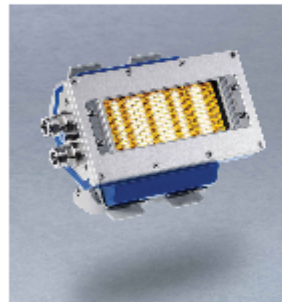
[Single-Channel Pulse Generator](#)

Highland Technology Inc.

The T240 features programmable delay/pulse width in two ranges, from 100-ps FWHM up to 25 ns, and a programmable trigger threshold. It is controlled via USB, RS232, or trippots, with optional SPI, and is powered by USB or 5-V micro-USB power supply.

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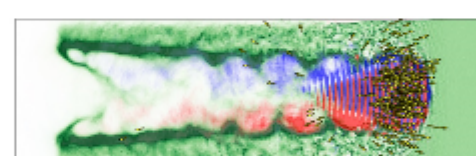


:: In Case You Missed It

Petawatt System Generates Gamma Rays for Industrial Applications

A project that aims to demonstrate the efficient generation of dense gamma-ray beams will include experiments that are expected to provide the first statistically relevant study of gamma-ray generation using high-powered lasers. The researchers on the project hope that the work will open the way for secondary high-energy photon sources that can be used for a range of industrial applications. These include materials science, nuclear waste imaging, nuclear fuel assay, security, and high-resolution deep-penetration radiography in addition to fundamental physics studies.

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3D Holographic Display Achieves Wide Viewing Angle, Large Images

A Beihang University research team created a holographic 3D display system that enlarges image size through the simultaneous implementation of two different hologram generation methods. The system features a tunable liquid crystal grating with an adjustable period to widen the viewing angle.

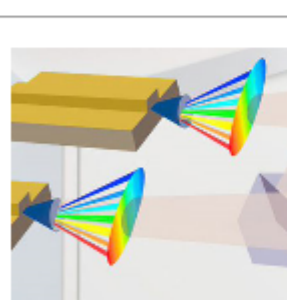
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Ultrathin Light-Field Imaging Film Yields Vivid 3D Images

Soochow University researchers developed an ultrathin film based on light-field imaging — a technology that creates 3D images by capturing the direction and intensity of all light rays in a scene. The 25- μ m-thick film, which is made with low-cost materials, provides a glass-free approach to 3D imaging and offers a full field of view. It produces 3D images that are viewable under normal light and without the need for special reading devices.

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:: Upcoming Webinars



QCL Dual-Comb Spectroscopy Matures into the Mid-Infrared by Combining High-Time and High-Frequency Resolution

Tue, Aug 23, 2022 10:00 AM - 11:00 AM EDT

QCL dual-comb spectroscopy began with high time-resolved (250 μ s-250ms) single shot measurements and has progressed to time-scales that can compete with rapid scan Fourier-transform infrared spectroscopy. Recent research has discovered a high-spectral resolution feature on instruments that allows measurements with less than one MHz resolution over a bandwidth of 50cm⁻¹. This breakthrough was achieved by combining the high-time resolved mode with the high-spectrally resolved mode in superperiod beam measurements. Andreas Hugi, Ph.D. explains the technical background of these acquisition modes and links them to real world applications. Sponsored by Hamamatsu Corp.

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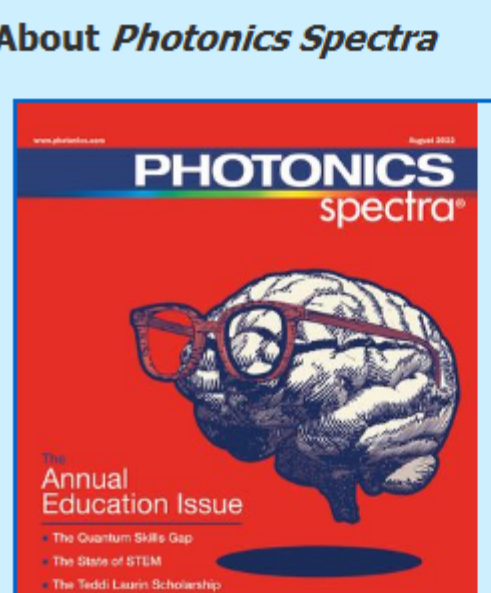
:: Next Issue:

Features

Aspheres, Diffraction Gratings, Optical Filters, and more.

Photronics Media is currently seeking technical feature articles on a variety of topics for publication in our magazine *Photronics Spectra*. Please submit an informal 100-word abstract to Daniel McCarthy, Senior Editor, at Daniel.McCarthy@Photonics.com, or use our online submission form www.photonics.com/submitfeature.aspx.

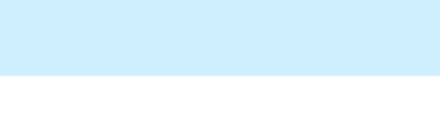
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