

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

## LightMachinery

Excellence in Lasers and Optics



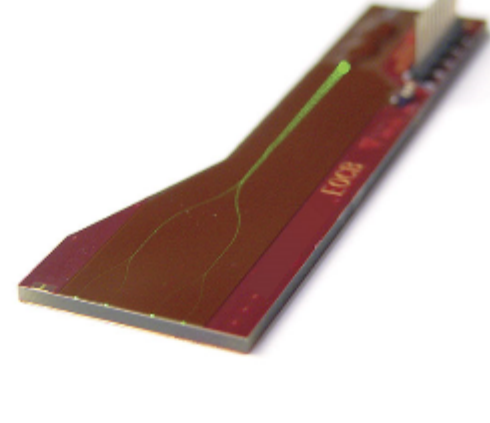
### Hyperfine Spectrometer

A sub-picometer resolution spectrometer in a compact package.

### Polymer Waveguides Smooth Path to Smaller Optical Sensors

The worldwide sensor market is growing rapidly with the establishment and growth of new applications, such as medical devices that leverage noninvasive optical sensors, and environmental monitoring, which is gaining importance due to a rise in the need for both indoor and outdoor air quality measurements.

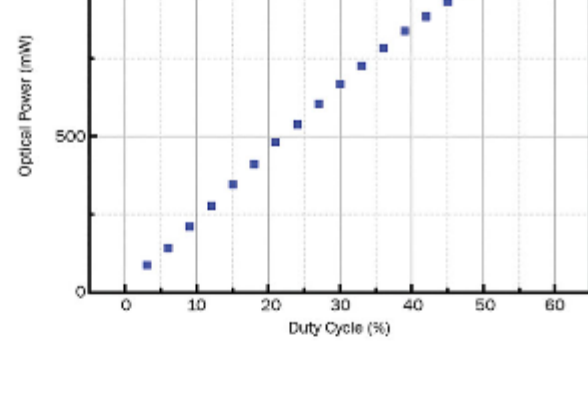
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### Beam Combination Boosts Power for Quantum Cascade Lasers

Quantum cascade laser (QCL) sources offer a compelling option in the MIR range, but they currently deliver limited output power. This drawback is driving growing interest in methods that would allow QCLs to combine their beams passively and in a compact format to permit higher power outputs and to help integrate these sources in new applications.

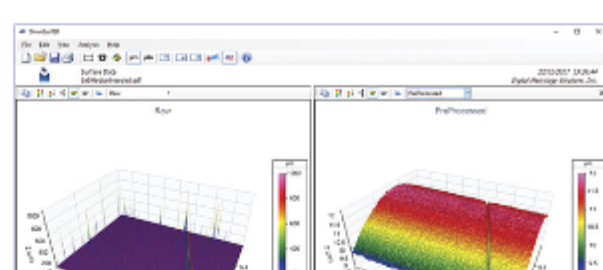
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### Optical Surface Analysis: Focusing on the Fundamentals

Today's instruments for measuring optical components deliver increasingly higher resolution, larger measurement areas, and greater analysis functions. In addition to improving results, the added sensitivity and analysis options can also increase measurement variability, which can inadvertently raise the number of good components that must be reworked or scrapped.

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## .: Featured Products



### High-Speed Sensor for Femto Lasers

**LaserPoint srl**  
BLINK High Speed is the latest LaserPoint's achievement specifically developed to measure ultrafast lasers with pulse duration down to femtoseconds. It is the ultimate solution for whatever application requiring: accurate energy measurements for ultrafast pulsed lasers, monitoring of fast manufacturing processes in...

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### 1-Click, 6-Angle Display Testing

**Gamma Scientific**  
The only spectroradiometer with display testing and characterization from six different angles simultaneously. Display angle performance is determined immediately from one click empowering production and labs to optimize their products for real-world use, streamline processes, and decrease costs.

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### Automated Glass Components Processing

**NYFORS Teknolog AB**  
The NYFORS SMARTSPLICER is a CO2 laser glass-processing system designed for the production of high-power and sensitive photonic components. It offers contamination free end-capping, splicing, tapering, bundling, and many other glass-shaping processes.

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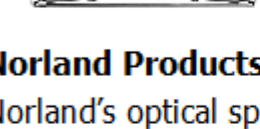


### DFB Lasers for Industrial Gas Sensing

**Eblana Photonics Ltd.**  
Based in Dublin, Ireland, Eblana Photonics manufactures a wide range of single frequency DFB laser diodes, Fabry-Pérot (FP) laser diodes, superluminescent diodes (SLDs), and other optical sources which are specifically designed for optimum performance in optical sensing, lidar, and telecoms applications.

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### Norland Optical Splice

**Norland Products Inc.**  
Norland's optical splice provides a high-performance connection for optic fibers in a unique one-piece design.

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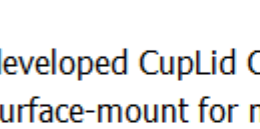


### Compact Laser Vibrometer

**OmniSensing Photonics**  
Built upon the photonics chip and all-in-one packaging technologies, the MV-H series compact laser vibrometer sensor (module) can perform precise noncontact vibration measurement from DC to 2.5 MHz. It can be widely used in automation production lines...

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### CupLid Cavity Windows

**Materion Precision Coatings**  
Materion Balzers Optics has developed CupLid Cavity Windows, a space-saving surface-mount for miniaturized packaging of photonic chips. The windows form a fineleak hermetic package by solder bonding a window cavity with a ceramic submount under vacuum or inert gas atmosphere. They are available with various filter coatings...

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### Power Meter for Blue/Green Lasers

**Ophir, Photonics**  
For blue and green lasers used in battery welding and connecting electrical components, the Ophir Helios Plus industrial laser power meter measures high-power industrial lasers up to 12 kW and wavelengths including 450-550 nm (blue/green) and 900-1100 nm (infrared). PROFINET, Ethernet/IP, and RS232.

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### Alluxa Ultra Series Filters and Coatings

**Alluxa**  
Alluxa Ultra Series Filters, including Narrowband, Dichroic, UV, IR, and Notch filters, provide the highest performance optical thin film solutions available today. For example, the Ultra Series Flat Top Narrowband filters offer the narrowest bandwidths and squarest filter profiles in the industry.

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### HyperFine Brillouin Spectrometer

**LightMachinery Inc.**  
The great challenge with Brillouin spectroscopy is that the scattered signal from the un-shifted wavelength of the laser can overwhelm the small Brillouin shifted return signal. LightMachinery has combined its leading-edge HyperFine spectrometer with a very narrow band tunable filter to suppress the bright un-shifted laser frequency.

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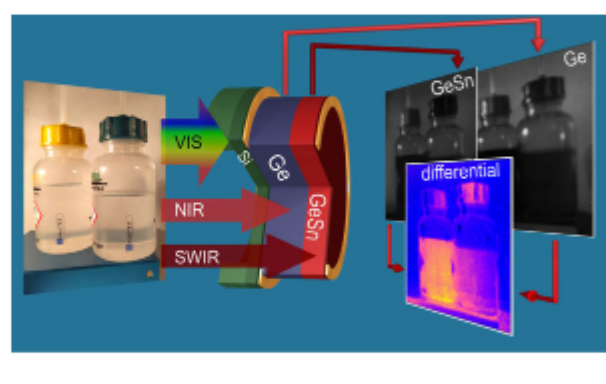


## .: In Case You Missed It

### Dual-Band IR Detector Can Be Integrated with Camera Chips

Scientists at the Forschungszentrum Jülich (Jülich Research Center) and the Politecnico di Milano (Polytechnic University of Milan) have developed an infrared (IR) detector that provides a bias-switchable spectral response in two distinct IR bands. When the bias voltage for the detector is reversed, the device switches from the near-infrared (NIR) to the shortwave infrared (SWIR) band. The dual-band photodetector, which is silicon (Si)-based, can be integrated into existing camera chips and smartphones.

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### No Smoke, Lots of Mirrors: State-of-the-Art Optics Are Rebooting the Advanced Photon Light Source

To support the massive upgrade of the Advanced Photon Source (APS) facility at the U.S. Department of Energy's (DOE) Argonne National Laboratory, the APS optics team has begun the monumental task of building a state-of-the-art optical system — essentially from scratch.

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### Miniature 3D-Printed Sensors Adapt to Chemical-Sensing Platforms

Using direct laser writing (DLW) and optically responsive polymers, researchers at Trinity College Dublin and the Advanced Materials and Bioengineering Research Centre built miniature photonic sensors that change color in response to solvent vapors in the air. The Dublin team collaborated with Radislav Potyrailo, a principal scientist at GE Research in Niskayuna, N.Y.

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## .: Upcoming Webinars

### Expanding Quantum Frontiers with Superconducting Single-Photon Detectors

Tue, Oct 19, 2021 10:00 AM - 11:00 AM EDT  
Félix Bussiès, Ph.D., VP of Research and Technology at ID Quantique explores the technology of superconducting nanowire single photon detectors – optical detectors with incredible efficiency and speed across the visible, IR and fiber-telecom wavelengths – as well as the key scientific applications and emerging technologies they enable, and the benefits therein. He also discusses the outlook for the quantum technology field. Presented by ID Quantique.

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### Ensuring Manufacturing Process Success in Laser Microwelding

Thu, Oct 21, 2021 1:00 PM - 2:00 PM EDT  
This webinar with Mark Boyle, Ph.D., Senior Manager for Product Engineering and Applications at AMADA WELD TECH INC., covers several key factors to consider in laser microwelding process development and measurement before, during, and after a weld. Boyle discusses how the transition from R&D to production can be ensured and optimized.

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## .: Next Issue:

**Features**  
Adaptive Optics, Multiphoton Microscopy, Vision Guided Robots, and more.

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

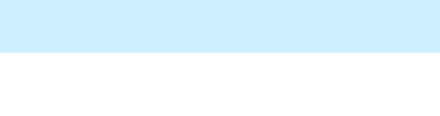
### About Photonics Spectra



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