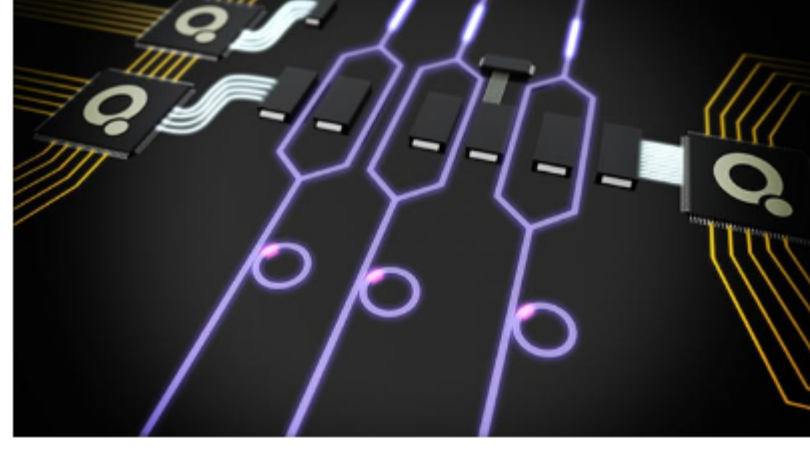




Weekly News



**How to Build a Photonic Quantum Computer**

Expectations for quantum computers are high: They are supposed to outperform digital computers and pave the way for solutions that go far beyond the capabilities that artificial intelligence already delivers. They are predicted to crack unbreakable codes, find new materials for superconductors, and help develop medicine for the next pandemic. These are

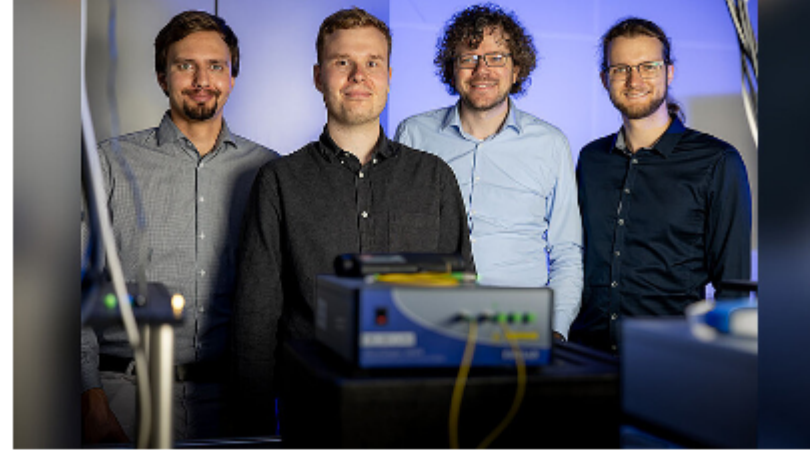
only some of the envisioned outcomes. [Read Article](#)



**Researchers Boost Transparency in Microdisplays**

As part of the Fraunhofer Society's HOT project (High-performance transparent and flexible micro-electronics for photonic and optical applications), researchers succeeded in the development of OLED microdisplays with 20% transparency. Recent work has pushed that further, enabling 45% transparency in a CMOS OLED microdisplay.

[Read Article](#)

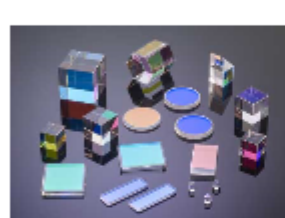


**Method Combines Conventional and Quantum Internet**

Researchers from Leibniz University Hannover have sent entangled photons and laser pulses of the same color over a single optical fiber. According to the researchers, this is the first time the feat has been achieved. The work could enable the next generation of telecommunications technology, the quantum internet, to be routed via optical fibers. [Read Article](#)



**Featured Products & Services**



**HE Laser Mirrors & Beamsplitters**

Perkins Precision Developments LLC

PPD's custom Polarizing beamsplitter cubes, dichroic laser mirrors, and output couplers exhibit both low absorption and high damage thresholds (20J!), making them ideal for use with high-energy Nd:YAG and fiber lasers as well as other high-power pulsed and CW laser systems.

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**More News**

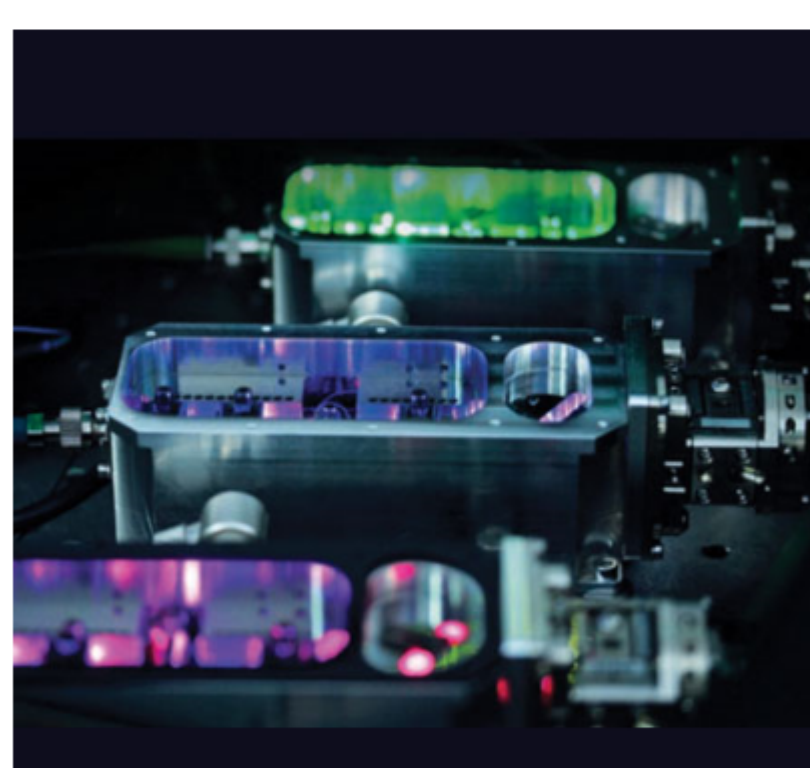
[Light-Matter Interaction Converts Plastic Waste to Functional Materials](#)

[TroGroup Acquires Luxinar](#)

[Sivers Semiconductors to Spin off Photonics Business](#)

[LightSolver Awarded \\$13.7M to Advance All-Optical Supercomputer](#)

**Latest Webinars**



**Industry Innovations in Fiber-Based Frequency Combs: Ultrabroadband Comb with Sub-3-kHz Free-Running Linewidths**

Tue, Aug 27, 2024 1:00 PM - 2:00 PM EDT

Femtosecond frequency combs represent unparalleled measurement tools with diverse applications in spectroscopy, metrology, and quantum physics. This discussion delves into the critical aspects of maximizing the passive stability of these instruments to unlock their full potential in fundamental science and high-tech industries. By studying the noise properties of fiber-based frequency combs across varying intracavity dispersion, pump power, and repetition rate parameters, researchers have notably identified distinct minima where the free-running linewidth of the carrier-envelope offset (CEO) frequency (fCEO) drops below 1 kHz. A comprehensive analysis

of individual comb lines across a broad spectral range unveils the specific contributions to phase noise and their interplay. Leveraging these insights, this presentation showcases the development of frequency combs with sharp teeth at designated positions throughout the spectrum from fCEO to 300 THz. These compact systems offer ultrabroadband stability, presenting a new standard for front-end measurement, such as integrated quantum clock experiments based on Strontium atoms.

Sponsored by Toptica Photonics.

[Register Now](#)



**Reflective Optics for Multispectral EO Systems**

Wed, Aug 28, 2024 9:00 AM - 10:00 AM EDT

Large reflective optics are essential for high-performance multispectral electro-optics imaging systems in defense, surveillance, and aerospace. These systems capture multiple wavelengths to improve target identification and combine data from various bands to offer a comprehensive environmental view, enhancing situational awareness. They excel in adverse conditions by penetrating haze, smoke, and challenging weather better than visible light, and they provide high-resolution imaging for detailed analysis and accurate decision-making. Utilizing advanced data fusion, these systems enhance target recognition and tracking, adapt to various mission requirements from surveillance to disaster response, and reduce operational costs by minimizing the number of necessary maneuvers. Join

MKS Ophir for an insightful webinar on the latest advancements in reflective optics for multispectral systems. Presented by MKS Ophir IR Optics.

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**Call for Articles**

Photonics Media is currently seeking technical feature articles on a variety of topics for publication in our magazines (*Photonics Spectra*, *BioPhotonics*, and *Vision Spectra*). Please submit an informal 100-word abstract to [editorial@Photonics.com](mailto:editorial@Photonics.com), or use our [online submission form](#).



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