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Weekly News

The Power of a Frequency Comb on a Chip, SPIE Calls for Predictability in Grantmaking

MULTI-COLOR LASERS ON A SINGLE CHIP

NEW EPISODES EVERY THURSDAY

Researchers from the Michal Lipson lab at Columbia University have found a path to fabricating a frequency comb on-chip, paving the way for supercharged data centers and other photonic breakthroughs. SPIE calls for "long-term and predictable federal investment in scientific research." Imec appoints Patrick Vandenameele as CEO. Energetiq Technology is appointing Vikram Singh as its new president. Thorlabs has announced that it has acquired No Opto Inc. Semiconductor companies Axcelis and Veeco have entered into an agreement to join forces in an all-stock merger. And The CORNERSTONE Photonics Innovation Centre has announced the launch of its new Open Platform. Sponsored by Edmund Optics and Thorlabs.

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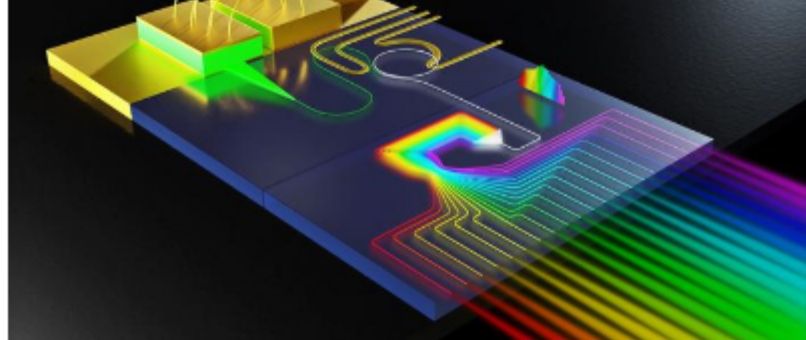
Lipson Team Develops Microcomb Source On-Chip for Modern Data Centers

Researchers from the Columbia University School of Engineering and Applied Sciences have developed a method to create a high-power frequency comb that avoids the need for large and expensive lasers and amplifiers. The team's discovery enabled the researchers to brings the power of the frequency comb on-chip, yielding a compact, high-power, multiwavelength light source. The researchers believe that the developed approach and system could find use in state-of-the art data centers, which are already using fiber optic links to transport data, yet still typically rely on single-wavelength lasers. **Read Article**

Collaborations, Demonstrations Shine Spotlight on ECOC 2025: Event Roundup

ShunYun Technology, an optical transceiver manufacturer, and NewPhotonics, an integrated photonics manufacturer, announced a strategic partnership for volume manufacturing of the NewPhotonics NPG product line. ShunYun will provide full functional wafer and photonics integrated circuit level test and laser burn-in at both volume and new-product introduction. NewPhotonics is preparing for high-volume manufacturing of the NPG PIC transmitter on chips for 1.6T digital signal processor-based transceivers and the 800G and 1.6 T linear pluggable optics optical signal processing chips.

Read Article

USC Team's Optical Thermodynamics Approach Holds the Key to Universal Routing of Light

In nonlinear, multimode optical environments, light is typically too chaotic to be routed in a predictive way. Conventional optical routers require complex arrays of switches and electronic controls to toggle multiple pathways. Both of these approaches are technically challenging and provide limited speed and performance. To remove these constraints and smooth the path to universal optical routing, researchers at the University of Southern California developed a way for light to self-direct itself along designated paths by applying the principles of thermodynamics. **Read Article**

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Photonics Media
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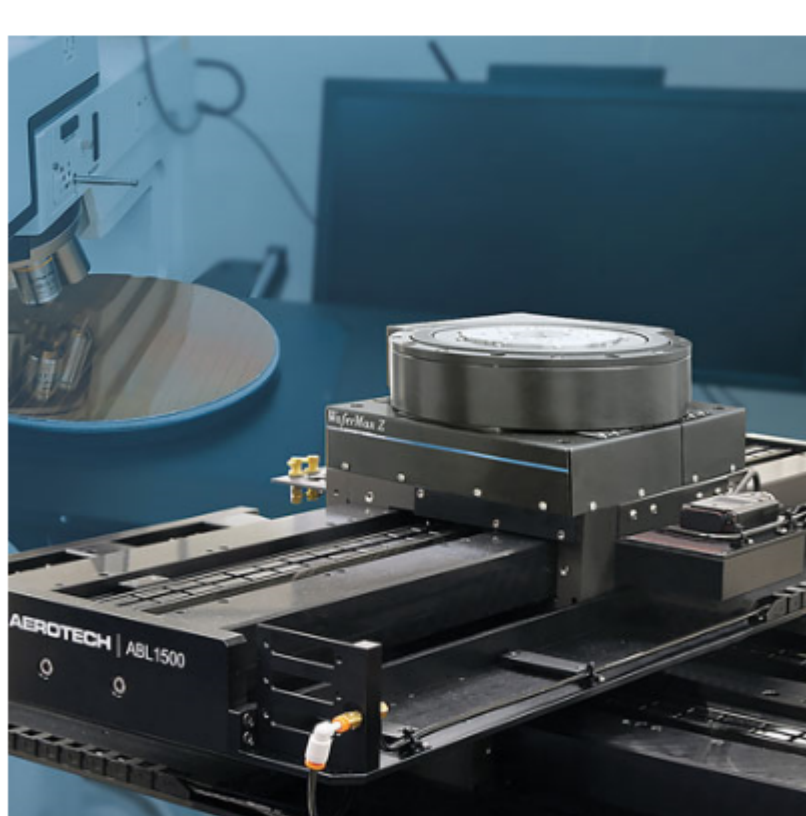### Looking for something else? Check the Photonics Marketplace.

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Advanced Motion Control for Semiconductor Metrology

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Join our webinar on advanced motion control for semiconductor inspection and metrology. Learn how precision motion systems power wafer inspection, SWLI, SEM/FIB, and AFM— Best for those working in boosting accuracy, speed, and reliability in manufacturing. Presented by Aerotech.

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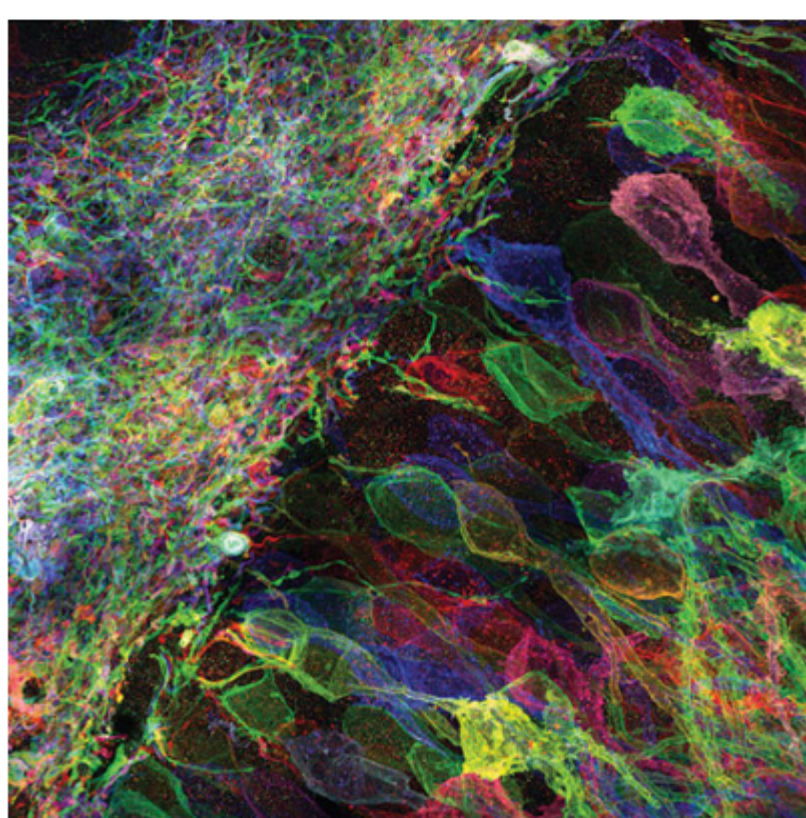
Tools for Analyzing, Controlling, and Simulating Biological Systems

Tue, Oct 28, 2025 1:00 PM - 2:00 PM EDT
It was discovered that one can physically magnify biological specimens by synthesizing dense networks of swellable polymer throughout them, and then chemically processing the specimens to isotropically swell them. This method, which is called expansion microscopy, enables ordinary microscopes to do nanoimaging – important for mapping molecules throughout cells, tissues, and organs. As a second example, Ed's team serendipitously discovered that microbial rhodopsins, genetically expressed in neurons, could enable their electrical activity to be precisely controlled in response to light. These molecules, now called optogenetic tools, enable causal assessment of how neurons contribute to behaviors and pathological states, and are yielding new candidate treatment strategies for brain diseases. Finally, the development of new strategies such as robotic directed evolution, fluorescent reporters enable the precision measurement of signals such as voltage. To reveal relationships between different molecular signals within a cell, there is work of developing spatial and temporal multiplexing strategies that enable many such signals to be imaged at once in the same living cell. Sponsored by Zaber Technologies Inc., Jenoptik and COMSOL Inc.

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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@Photo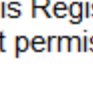nics.com, or use our online submission form.