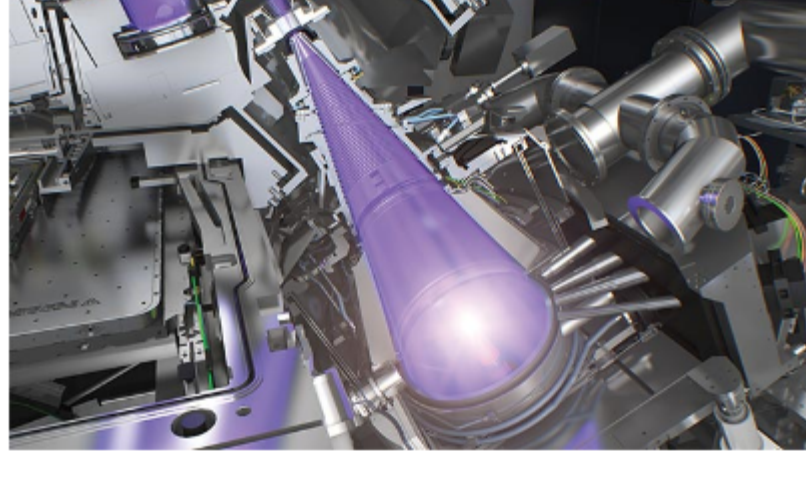




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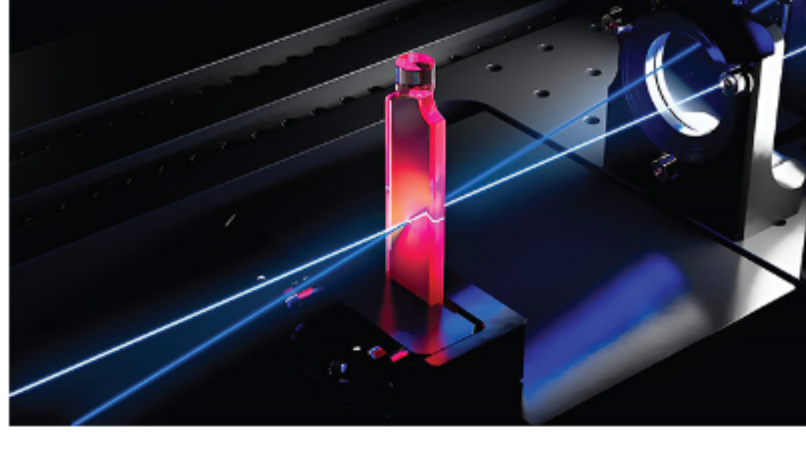
Monthly newsletter from the editors of Photonics Spectra, with features, popular topics, new products, and what's coming in the next issue. [Photonics.com/subscribe](https://www.photonics.com/subscribe).



In Semiconductor Manufacturing and Beyond, Extreme-Ultraviolet Extends Its Reach

Though the concept of extreme-ultraviolet (EUV) lithography dates to the late 1980s, it is only now, in this contemporary era of semiconductor manufacturing, that EUV sources are firmly in the limelight. The company ASML, whose debut EUV lithography systems released in the 2010s quickly set a

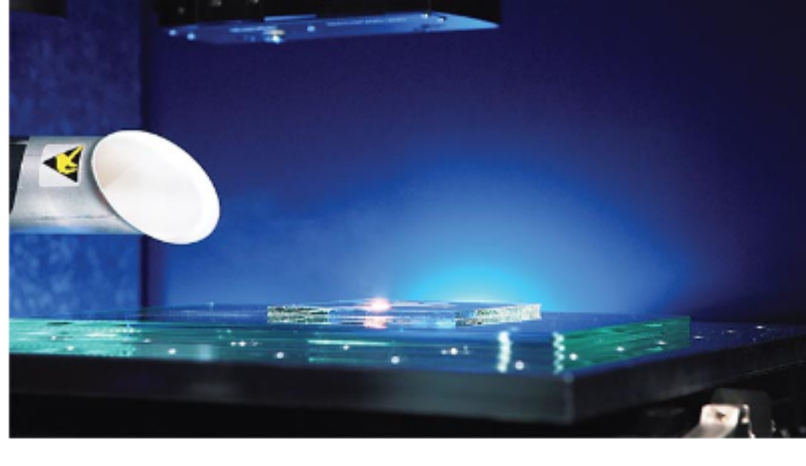
benchmark for the industry, is the dominant force in advanced chip fabrication technology. Today, the company stands as the only supplier of EUV lithography machines capable of producing the most advanced chips. [Read Article](#)



Chasing the Wind: Ultrafast Spectroscopy Captures Nature's Fastest Processes

Although ultrafast laser sources are integral to today's spectroscopy system designs and applications, the field of spectroscopy predates the invention of lasers. As early as 1940, researchers began to examine photochemical reactions on the microsecond timescale. Molecules in various solutions

were excited, or even split, by brief flashes from xenon discharge lamps, resulting in changes in the absorption spectrum of the solution. [Read Article](#)



The Future of Precision Manufacturing is Measured in Femtoseconds

The pursuit of miniaturization and enhanced performance in microelectronics is placing unprecedented demand on the next generation of manufacturing technologies. As devices shrink and complexity grows, reliable, high-density interconnections are increasingly important to component and device design. [Read Article](#)



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In Case You Missed It

[Collaboration Achieves High-Yield Wafer Production from Nontraditional Material Platform](#)

In collaboration with semiconductor recycling company III/V-Reclaim, researchers at the Fraunhofer Institute for Solar Energy Systems ISE have produced high-quality indium phosphide on gallium arsenide substrates with up to 150-mm diameter. [Read Article](#)

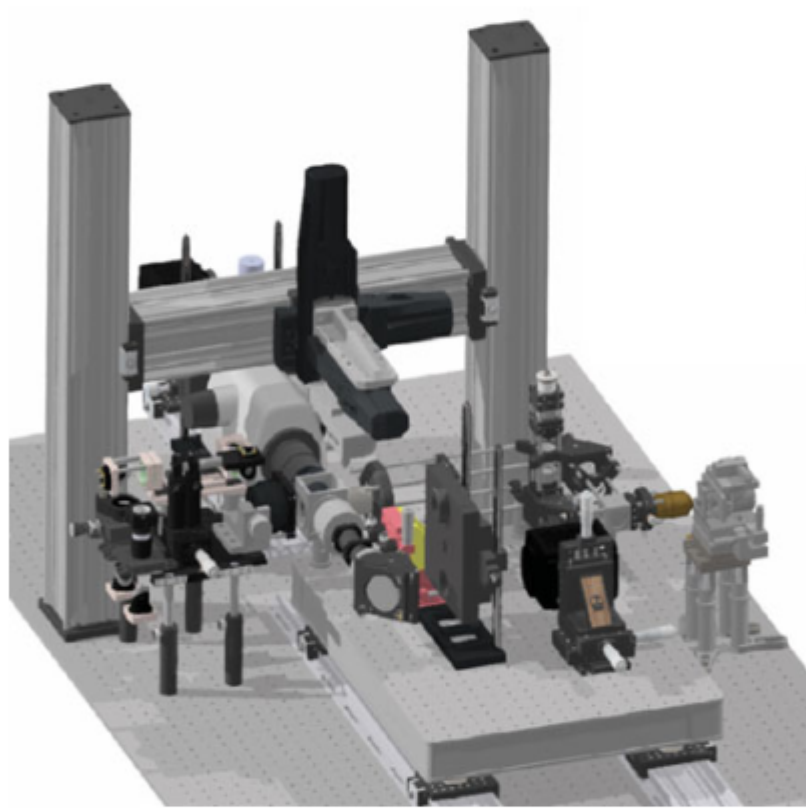
[Easier Path to Light-Matter Study Could Spur Emerging Tech Development](#)

A simple approach to fabricating optical microcavities, developed at the University of Turku, will enable more researchers to engage in the light-matter studies that are critical to the development of quantum optics, next-generation displays, ultra-efficient lasers, and other emerging technologies. [Read Article](#)

[Lasers Cool Down the Gravity Debate](#)

One of the most profound open questions in modern physics is: "Is gravity quantum?" The other fundamental forces — electromagnetic, weak, and strong — have all been successfully described, but no complete and consistent quantum theory of gravity yet exists. [Read Article](#)

Latest Webinars



Autonomous Multiscale Tissue Imaging

Thu, Jul 3, 2025 1:00 PM - 2:00 PM EDT

Kevin Dean will highlight the successful application of MCT-ASLM across diverse model systems. By integrating automation, extensive volume coverage, and subcellular resolution, MCT-ASLM opens new avenues for comprehensive tissue analysis. The platform holds immense promise for accelerating discoveries in neuroscience, oncology, and developmental biology, offering new insights into the complexities of biological systems. Multiscale Cleared Tissue Axially Swept Light-Sheet Microscopy (MCT-ASLM) addresses a core challenge in biological imaging: visualizing rare events or structures distributed across large, complex tissues. By combining centimeter-scale fields of view with targeted, high-resolution imaging at ~300 nm, this new microscopy platform enables researchers to examine entire

specimens and seamlessly zoom in to investigate finer cellular or subcellular details. Sponsored by Jenoptik.

[Register Now](#)

Featured Video



Pushing the Bounds of Industrial Laser Performance — With Aldas Juronis

Aldas Juronis, CEO of EKSPLA, discusses key parameters in the design and manufacture of industrial laser systems in this final episode of "All Things Photonics" before the start of Laser World of Photonics 2025. EKSPLA's direct refrigerant cooling system highlights the company's capabilities in delivering highly repeatable systems while pushing the bounds of performance and innovation. Additional talking points include emerging applications, application drivers, designing for OEMs, and Lithuania's dynamic laser ecosystem.

[Watch Now](#)

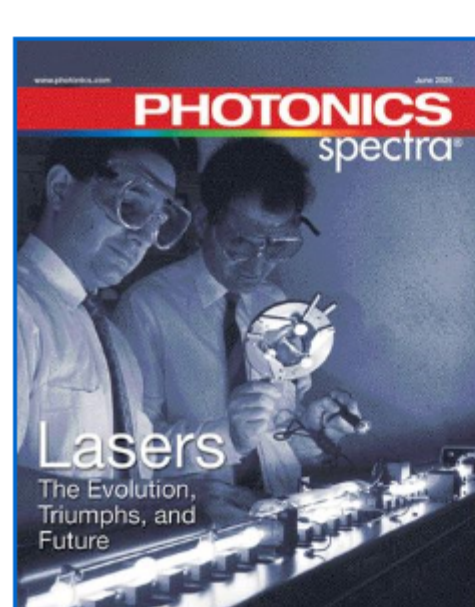
Next Issue:

Features

Laser Materials Processing, Raman Spectroscopy, The Integrated Photonics and Semiconductor Workforce, and Quantum Optical Systems and Metrology

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