

Meet TOPTICA at at SPIE Photonics West & BiOS

Join TOPTICA at Photonics West & BiOS and discover our latest, cutting-edge laser systems for quantum applications, biophotonics and materials

Graefelfing, Germany | January 16, 2025

Visit us at booth #3501 at Moscone Center in San Francisco, January 28 - 31, to explore our latest laser systems for quantum technologies, including quantum computing, sensing, and secure communications. Dedicated laser solutions for biophotonics will be shown at the BiOS Expo, January 25 - 26, at booth #8501.

About TOPTICA

TOPTICA has been developing, producing, and marketing high-end lasers and laser systems for science, research, and industry for over 25 years. The portfolio includes diode lasers, ultrafast fiber lasers, terahertz systems, and optical frequency combs. Worldwide, TOPTICA has 600 employees in seven business units with a consolidated group revenue of €140 million.

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Join the TOPTICA team at SPIE Photonics West & BiOS to explore our latest high-performance laser systems designed for quantum applications, biophotonics, and advanced materials research.

"At TOPTICA, we work hard to understand our customers' needs and at the forefront of their research are reliable, precise laser systems." said Mark Tolbert, President at TOPTICA Photonics, Inc. "We are proud to develop systems that are enabling their innovation and advancing the field of quantum technology."

Discover our precision solutions for quantum applications. Visit our booth to see live laser demonstrations tailored for quantum systems, and discuss your challenges with our experts. Explore how our innovations are driving scalable and reliable quantum technologies for practical use.

You're invited! #TOPTICATuesday Party

Join us for drinks, food, music and great company!

Tuesday January 28th, Start at 5 pm, TOPTICA Booth #3501

Our featured product innovations showcase the latest advancements in our technology:

CLS Clock Laser System: Elevating Qubit Fidelity

TOPTICA's **clock laser systems** are diode lasers whose linewidth is reduced to less than 1 Hz via frequency stabilization to high-finesse optical ULE cavities. These systems yield highest frequency stability far beyond 1 second integration time to drive the very narrow atomic clock transitions in neutral atoms like Yb, Sr and ions like Yb⁺, Sr⁺, Ca⁺ and Ba⁺.

DL pro BFY: Ultimate Stability, Zero Hassle!

The **DL pro BFY** represents the next generation of ECDLs, featuring a hermetically sealed butterfly package and compact resonator design for exceptional passive mode stability and ruggedness. Ideal for applications that demand reliable, trouble-free laser operation, it sets a new standard in diode laser performance.

High Power at 1762 nm for Ba⁺

The **ALS-IR 1762 nm** delivers high power tailored for Ba⁺ ion applications, using thulium as a robust gain medium for efficient single-frequency CW operation. This turnkey, industrial-grade laser ensures high beam quality and ultra-low intensity noise.

ALS-IR & ALS-VIS: Power Meets Versatility with New Wavelength Options!

The **ALS-IR** and **ALS-VIS** fiber lasers now offer expanded standard wavelengths for greater flexibility in high-power applications. These turnkey systems ensure high beam quality, low noise, and rugged industrial performance.

The Fastest THz Imaging for Industry

The **TeraFlash smart** is the fastest commercial terahertz time-domain imaging platform, acquiring up to 1600 pulse traces per second, ideal for industrial inline measurements. Its robust design ensures high-speed, reliable thickness gauging and defect detection.

Visit our connected partners, TOPTICA eagleyard and HighFinesse, located right in the direct neighborhood, to explore complementary technologies.

Don't miss our presentations!

Join us for a focused discussion on the intersection of quantum technologies and frequency combs, exploring pathways to scalability and commercialization. **With these presentations, TOPTICA underscores its commitment to providing practical solutions to today's challenges while laying the groundwork for tomorrow's photonics-driven innovations.** Mark your calendar for our key sessions, including:

Two-color laser system for 2-photon FLIM

January 27, 2025 | 2:20pm – 2:35pm PST | Moscone Center, Room 301

Learn how the new FemtoFiber ultra dual-color from TOPTICA two FemtoFiber ultra laser systems are optically synchronized and allow simultaneous imaging with two different laser colors.

Industry progress in high-precision measurement and sensing using fiber-based frequency combs

January 27, 2025 | 5:50 PM - 6:10 PM PST | Moscone Center, Room 159 (South Upper Mezz)

This presentation will discuss the latest developments in fiber-based frequency combs, highlighting their role in improving precision for industrial and scientific applications.

Unlocking Quantum Potential with Widely Tunable OPO Lasers

January 27, 2025 | 3:30 PM - 3:50 PM PST | Moscone Center, Room 159 (South Upper Mezz)

Learn how tunable optical parametric oscillator (OPO) lasers are driving breakthroughs in quantum applications, including frequency conversion and atomic transitions in the infrared spectrum.

Mode-locked chip-integrated diode lasers in the visible spectral range

January 27, 2025 | 5:00 PM - 5:20 PM PST | Moscone Center, Room 307 (Level 3 South)

Learn about advances in chip-integrated mode-locked diode lasers that provide compact and efficient solutions for applications in the visible spectrum.

Fully Integrated chip-based laser system in the red spectral range

January 29, 2025 | 6 – 8pm PST | Moscone Center, Room 2003

Learn how lasers based on photonic-integrated circuits (PIC) will contribute to integration and upscaling of applications such as quantum computers and quantum networks

Quantum West Business Summit: Advancing Quantum Technologies through Scalable Frequency Combs

January 29, 2025 | 1:15 PM - 2:45 PM PST | Moscone North/South, Room 153 (South Upper Mezz)

Event Details Photonics West 2025

When: January 28 - February 1, 2025

Where: Booth #3507, Moscone Center, San Francisco

Event Details BIOS EXPO 2025

When: January 25-26, 2025

Where: Booth #8501, Moscone Center, San Francisco

To learn more or to schedule a meeting with our team during the event, visit www.toptica.com or contact us at sales@toptica-usa.com