



Press Release

January 24, 2019

All wavelengths.

From 190 nm to 0.1 THz – TOPTICA presents laser technology for industry, research and applied quantum technology at Photonics West

TOPTICA Photonics will demonstrate their latest innovations for industrial metrology and quantum technology at Photonics West, at Moscone Center San Francisco from February 5-7, booth #641. Dedicated laser solutions for biophotonics will also be showcased at the BIOS Expo February 2-3, booth #8461.

The **FemtoFiber ultra 920** is the new member of TOPTICA's third generation **ultrafast fiber lasers for spectroscopy and microscopy**. The system delivers laser pulses with a pulse duration of less than 100 fs at a central wavelength of 920 nm with more than 1 W of average output power. The cost-effective and maintenance-free design of the laser is optimized for OEM integration featuring a compact and cold laser head that is connected to a 19" rackmount control and supply unit.



FemtoFiber ultra 920 – powerful and compact 920 nm femtosecond laser system with turnkey operation and cost-effective design for multiphoton and SHG microscopy

For **molecular spectroscopy** and quantum optics, TOPTICA's new and powerful **DLC TOPO** – Prism Awards 2019 finalist – delivers wide tunability, narrow linewidth, and convenient hands-free digital control over the full 1.45 to 4.00 μm spectral range. A wide mode-hop free tuning range up to 300 GHz enables visibility of full spectroscopic signatures, while a 2 MHz linewidth reveals narrow atomic and molecular features.

"TOPTICA is very excited to be in the running for the **Prism Awards** for the first time! Our goal is to commercialize technology with the user in mind. The DLC TOPO is just one recent example where our team brings this user focus and innovation to the market." – Mark A. Tolbert, President, TOPTICA Photonics, Inc.

Winners will be announced on February 6, 2019, at the Prism Awards banquet held during Photonics West. Visit us at booth #641 to see the DLC TOPO on display.



DLC TOPO – widely tunable high-power continuous-wave OPO laser system

Advanced **FDDL technology** enables unique performance for **confocal and general fluorescence microscopy**. The new TOPTICA **iChrome CLE-50** – a compact laser engine – combines four laser lines in one box. It is available with 405, 488, 561, and 640 nm and an output power of more than 50 mW for each color guaranteed after the fiber. The system stands out due to a plug & play installation since it includes TOPTICA's proprietary COOL^{AC} automatic alignment technology, making the laser combiner system ready-to-use after one simple click of a button.



iChrome CLE-50 – compact, efficient four-color laser engine

With the growing interest in augmented reality (AR) displays using holographic optical elements, TOPTICA's **UV/RGB** high-power single-frequency diode lasers are ideal laser sources for a multitude of demanding applications, including **lithography, optics test & inspection** and **holography**.

Top sellers include e.g. 266, 405, 460, 530, and 640 nm at up to 1000 mW output power and coherence length of > 100 m (< 1 MHz linewidth).



UV/RGB solutions for holography & lithography

The new time-domain terahertz (TD-THz) platform **TeraFlash smart** sets new standards in terms of measurement speed: The system replaces the mechanical delay of conventional TD-THz systems with two synchronized femtosecond lasers and an electronic scanning scheme ("ECOPS", a proprietary technique originally developed by TOPTICA Photonics). The TeraFlash smart attains scanning speeds up to 1600 pulse traces/sec, and therefore lends itself to measurements on rapidly moving samples, such as conveyor belts, papermaking machines, or extrusion lines. Both transmission and reflection measurements are possible. The latter option being particularly attractive for **high-speed layer-thickness measurements**.



TeraFlash smart – high-speed system for time-domain terahertz measurements

TOPTICA presents **tunable diode lasers for applied quantum technology**: The multi diode laser **MDL pro** combines up to four tunable narrow-linewidth lasers in one compact standard 19-inch sub-rack. By operating external cavity and distributed feedback diode lasers in racks eliminates the need for optical tables and achieves a higher level of integration. The laser modules of the MDL pro are operated with TOPTICA's digital laser controller **DLC pro**. Based on its digital architecture, it combines unique user convenience with unprecedented performance.



MDL pro – tunable ECDLs for rack integration

Compact, robust, high-end, and convenient, TOPTICA's **Difference Frequency Comb (DFC)** product line is based on difference frequency generation. It is inherently f_{CEO} -stable and is characterized by a high robustness combined with high stability and accuracy. All you need in a small volume, with fully integrated control software for local or remote operation.



All you need in a small volume: compact high performance Difference Frequency Comb

TOPTICA's widely mode-hop-free tunable laser **DLC CTL**, has a new firmware upgrade that converts it into a valuable and **easy-to-use test system**. It can record high-resolution spectra with up to 5 million points while tuning up to 110 nm. The CTL is currently available at wavelengths between 910 and 1630 nm. It features extremely low noise and drift as well as all features of the all-digital DLC pro driving electronics, like touch user interface, remote control and python laser SDK.



DLC CTL – the ultimate choice when looking for a laser that is widely and continuously tunable without any mode-hops

**PLAY THE
QUANTUM QUIZ
AND WIN A
SCHROEDINGER CAT
(MAYBE)**



Moscone Center - Booth 641 - South Hall

Do you know all about quantum technology? Play the quiz and win Schrodinger's cat (maybe)... Take the **TOPTICA Quantum Quiz** during Photonics West at our booth #641 to find out how much you know about the field of quantum physics!

Don't miss our booth party: the **Quantum Carnival**: Join us for drinks, food, music, and great company! Tuesday, February 5, 5-8 pm booth #641

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TOPTICA Photonics AG develops, manufactures, services and distributes technology-leading diode and fiber lasers and laser systems for scientific and industrial applications. Sales and service are offered worldwide through TOPTICA Germany and its subsidiaries TOPTICA USA and TOPTICA Japan, as well as through 11 distributors. A key point of the company philosophy is the close cooperation between development and research to meet our customers' demanding requirements for sophisticated customized system solutions and their subsequent commercialization.