



## All wavelengths.

### From 190 nm to 0.1 THz – TOPTICA presents laser technology for research and commercial applications at CLEO

From May 7th – 9th, TOPTICA Photonics will present their high-performance lasers at the CLEO Conference in San Jose. At booth 1825, TOPTICA will showcase their broad product portfolio which covers All Wavelengths from deep-UV (190 nm) to terahertz radiation (0.1 THz). Quantum technology, microscopy and metrology are only a few examples of applications where TOPTICA's lasers help to advance science and high-tech industry

For **molecular spectroscopy** and quantum optics, TOPTICA's new and powerful **DLC TOPO** – Prism Awards 2019 winner – provides wide tunability, narrow linewidth, and convenient hands-free digital control over the full 1.45 to 4.00  $\mu\text{m}$  spectral range. A large 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.

The **FemtoFiber ultra 920** is the new member of TOPTICA's third generation **ultrafast fiber lasers for spectroscopy and two-photon microscopy**. The system delivers laser pulses shorter 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 laser head with minimal heat dissipation that is connected to a 19" rackmount control and supply unit.

Compact, robust, high-end, and convenient, TOPTICA's **Difference Frequency Comb (DFC)** product line is based on difference frequency generation. It is inherently  $f_{\text{CEO}}$ -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.

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



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



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



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

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. 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 low-noise performance.



MDL pro – tunable ECDLs for rack integration

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**.



UV/RGB solutions for holography & lithography

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).

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<sup>AC</sup> automatic alignment technology, making the laser combiner system ready-to-use with one simple click of a button.



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

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

San Jose McEnery Convention Center – CLEO 2019 – Booth 1825

**TOPTICA**  
PHOTONICS

**Do you know all about quantum technology?** Play the quiz and win Schrodinger's cat (maybe)... Take the **TOPTICA Quantum Quiz** during CLEO at our booth #1825 to find out how much you know about the field of quantum physics!

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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.*