

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

LASER Munich, B2.103

More than 500 and new questions!
Can you master all 9 expert levels?



Visit our Presentations at CLEO®/Europe – EQEC 2019

Sunday 13:00 – 14:00

„Frequency-Tunable Two-Colour Ultrafast Fiber Laser for Nonlinear Microscopy in the Fingerprint Regime Emitting at Central Wavelengths 780 nm and 810 nm to 950 nm“
CF-P.24, Hall B0

Tuesday 13:00 – 14:00

“Frequency-domain terahertz spectrometer based on a comb-locked optical synthesizer”
CC-P.28, Hall B0

Wednesday 13:00 – 14:00

“Characterization of a robust Er: fiber-based Difference Frequency Comb at 200 MHz repetition rate”
ED-P.26, Hall B0

Tuesday 16:45 – 17:00

“Comb-Locked Frequency-Swept Spectroscopy”
ED-2.4, Hall A1, Room 1

Wednesday 13:00

“Iodine-Stabilized 633 nm Diode Lasers for Metrology and Interferometry”
ED-P.11, Hall B0

Application Panels: Focus on the Trends in Optical Quantum Technologies (Wednesday Hall B3)

Sensing and Computing 13:00 – 15:00

Prof. Dr. Karsten Buse, Executive Director, Fraunhofer Institute für Physical Measurement Techniques IPM and **Dr. Wilhelm Kaenders**, TOPTICA Photonics AG

Quantum technology 2.0 utilizes the special features of the atomic world for new sensors and ways to process information. Photonics play a key role in that.

This session provides information on the research strategies in Germany as well as contributions from companies on their cutting-edge developments on quantum sensors and quantum computers.

Imaging and Communication 15:00 – 17:20

Prof. Dr. Andreas Tünnermann, Head of Institute, Fraunhofer Institute for Applied Optics and Precision Engineering IOF and **Dr. Jürgen Stuhler**, Senior Director Quantum Technologies, TOPTICA Photonics AG

This session will exemplify the disruptive potential as well as the challenges associated with entangled photon pair sources in the context of newly arising technological applications: Imaging and detection in new spectral ranges as well as principally eavesdrop-proof communication are currently being adopted by both companies and research institutions alike.



Quantum
Ca⁺rnival

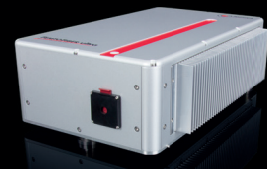
Tuesday June 25th, 2019
from 6 pm, B2.103
LASER World of PHOTONICS

#TOPTICATuesday Party
Join us for drinks, food,
music and great company!

FemtoFiber ultra 780 / 1050

Ideally suited for 2-Photon Polymerization and Microscopy

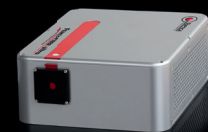
- Ultrafast fiber laser @ 780 nm & 1050 nm
- > 500 mW / > 10 W average power **NEW**
- Down to 100 fs pulse duration **NEW**
- SAM mode locking, PM fiber based MOPA system



FemtoFiber ultra 920 **NEW**

Ideally suited for MP Microscopy (GFP excitation)

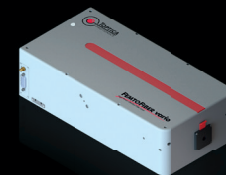
- Ultrafast fiber laser @ 920 nm
- Unique technology: < 100 fs with > 1.5 W power
- SAM mode locking, PM fiber based MOPA system
- Robust, reliable, compact, cost-effective, push-button



FemtoFiber vario 1030 **NEW**

Ideally suited for Ophthalmology and Micro Machining

- Ultrafast fiber laser @ 1030 nm
- > 2 W, < 300 fs pulse duration
- Variable pulse duration, repetition rate and pulse energy
- Robust, reliable, compact, cost-effective, push-button



Holo-Litho 405 **NEW**

Ideal replacement of Krypton lasers

- 1 W @ 405 nm, cw
- Coherence length > 100 m
- Beam quality: $M^2 < 1.3$
- Low power consumption < 0.2 kW



TopWave 266

Ideally suited for Semicon Inspection

- 300 mW @ 266 nm, cw **NEW**
- Excellent lifetime (> 10000 h)
- Consistent beam quality ($M^2 < 1.3$) over full lifetime
- Sealed doubling cavity with automatic crystal shifter



TeraFlash smart **NEW**

Ideally suited for Non-Destructive Testing

- Time-domain terahertz system based on ECOPS
- Up to 1600 pulse traces/s
- Thickness gauging at unprecedented speed
- Robust, high-performance system ready for industrial use



TOPO **NEW**

Ideally suited for MIR Spectroscopy

- 1.45 – 4.0 μm (2500 – 6900 cm^{-1})
- 300 GHz (10 cm^{-1}) mode-hop-free tuning range
- Narrow linewidth: 2 MHz (1·10⁻⁵ cm^{-1})
- Hands-free motorized tuning



MDL pro **NEW**

Ideally suited for Advanced Quantum Technology

- High performance without an optical table
- Up to 4 tunable diode lasers
- Wavelength between 369 nm and 1625 nm
- For 19 inch standard racks



Sodium Star

The only choice for Adaptive Optics

- Guide star laser for adaptive optics systems
- Excitation of atmospheric sodium @ 589 nm
- > 20 W cw output power, linewidth < 5 MHz
- 2 W version available for laser cooling of sodium



Frequency Combs

Ideally suited for Optical Clocks

- Compact high-performance frequency comb
- Ultra-low phase noise
- Highest stability
- Outputs from 420 nm – 2200 nm



iChrome CLE 50 **NEW**

Optimized for Confocal Microscopy

- 4 colors in one compact box
- 405, 488, 561, 640 nm with > 50 mW each
- COOL^{AC} – hands-free, self-aligning system
- 561 nm: Direct diode technology



iChrome FLE **NEW**

Perfect solution for Advanced Microscopy

- Up to 7 colors out of one box
- Automatic alignment COOL^{AC}
- Fiber switch / fiber splitter
- AOTF free, direct diode modulation

