



Photonics West is the premier photonics and laser event. With more than 1,250 companies, this exhibition continues to be the flagship event to find the latest products, tools, and applications for your research or business needs.

SPIE. PHOTONICS WEST

The Moscone Center, Moscone North and South
San Francisco, California, United States

5th - 7th February 2019

product focus

Welcome to the optics.org Product Focus which we have published specifically for Photonics West 2019 in partnership with SPIE and the Photonics West Show Daily.

Here you will find an effective at-a-glance guide to some of the latest products available on the market with booth numbers if available making it easy for you to check out the products for yourself.

All this information and more can be found on the optics.org website. Simply go to www.optics.org for all the latest product and application news.

Alternatively, why not sign up to our **free weekly newsletter** (www.optics.org/newsletter) and get the information delivered direct.

Bristol Instruments, Inc.

Visit us at Booth #235

Wavelength Meters – Fast and Accurate for CW and Pulsed Lasers

Bristol Instruments' wavelength meters are used by scientists and engineers who need to know the exact wavelength of their lasers.

Systems are available for CW and pulsed lasers that operate at wavelengths from 375 nm to 12 μ m.

These systems use proven interferometer-based technology to measure absolute wavelength to an accuracy as high as ± 0.0001 nm and offer the fastest sustained measurement rate of 1 kHz.

Continuous calibration with a built-in wavelength standard guarantees the reliable accuracy required for the most meaningful experimental results.



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Nanoscribe GmbH

Visit us at Booth #366

Photonic Professional GT2: Printer for 3D Microfabrication

Nanoscribe's Photonic Professional GT2 is the world's highest-resolution 3D printer. It shifts the boundaries of ultra-precise additive manufacturing for the fabrication of macroscale structures with millimeter dimensions.

The two-photon polymerization driven systems combine the technology of two-photon polymerization with a regular 3D printing workflow for additive manufacturing and maskless lithography.

New features, new tools, and new processes extend the microfabrication capabilities of Nanoscribe's 3D printers and make them a valuable tool for scientific and industrial applications like photonics, micro-optics, micro-fluidics, MEMS, or biomedical engineering.



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First Light Imaging

Visit us at Booth #1059J, French Pavilion

C-RED cameras, above and beyond: High Dynamic Range

Exclusively for Photonics West, C-RED 2 600 + HDR is a high dynamic range 640x512 VGA TEC2 InGaAs SWIR camera: ultra fast (600 FPS FF), very low noise (<30 electrons), very low dark (300 e/p/s), and High Dynamic (93dB linear dynamic range and true 16 bits image), all at the same time.

Designed for Scientific, Industrial or Surveillance applications where sensitivity, speed, dynamic and resolution are crucial, easy as plug-and-play, C-RED Cameras are able to empower any system.

More information: www.first-light-imaging.com/products/



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Oz Optics Ltd

Visit us at Booth #4548

OCT components

OZ Optics is introducing a new line of Fiber Optic Components for OCT Applications:
High Speed Polarization Controller/Scrambler, 330ps Electrically/Manual Controlled Optical Delay Line, Collimators/Focusers, Electrical Controlled Variable Attenuators, Faraday Rotators/Mirrors, Isolators, Fiber Pigtailed Ultra Stable Laser Module, Fused Coupler, Polarizers, Reflectors, Directional Fiber Optic Power Monitors (Taps/Photodiodes), Miniature Inline Polarization Maintaining Splitters/Taps/Combiners, Polarization Maintaining Fused Fiber Couplers/Splitters, Optical Circulator, Voltage Controlled Tunable Filter, Inline Fabry-Perot Tunable Filters.



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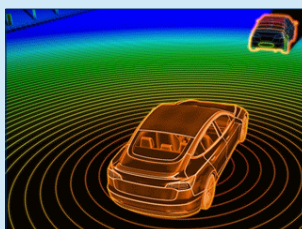
Iridian Spectral Technologies

Visit us at Booth #644

Iridian optical filters – providing “More Signal, Less Background” for LiDAR applications

LiDAR systems work with common laser wavelengths including 532nm and 1064nm with the wavelengths typically used in automotive applications being 905nm and 1550nm. Regardless of the wavelength employed, Iridian provides customized optical filter solutions for LiDAR applications providing “More Signal, with Less Background” from design and manufacture of initial prototypes through to high volume production in our ISO9001:2015 certified Canadian operation.

- High transmission at the laser wavelength (>90%)
- Narrow bandwidths (<1nm to 20+nm dependent on the system requirements)
- Deep blocking (OD3-5 or better over detector range)
- No maintenance/calibration needed; highly stable; environmentally robust and reliable
- Low sensitivity to angles of incidence (AOI) and temperature variation
- Low cost, high volume manufacturing capabilities



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Tel: +1 (613) 741 4513
Twitter: @IridianSpectral

Voltage Multipliers Inc.

Visit us at Booth #4589

10kV and 15kV High Voltage Optodiodes

OZ100 and OZ150 families feature high voltage isolation in a small package.

Reverse current, in μ A, is generated when the diode junctions are exposed to light. The response is linear, meaning the current level can be used to control and monitor isolated systems.

The optically clear over-encapsulation preserves light sensitivity, protects the device, and provides mechanical stability.

Applications include noisy industrial environments and sensitive instrumentation where high isolation is needed, or in controlled feedback systems like high voltage opto-couplers or voltage regulators.



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kspano@voltagemultipliers.com

EKSMA OPTICS

Visit us at Booth #1633

Ultra High LIDT Laser Mirrors at 1064 nm

EKSMA Optics offers ultra high damage threshold laser mirrors for 1064 nm laser wavelength with reflection value $R > 99.9\%$.

Laser induced damage threshold of $>40 \text{ J/cm}^2$ was measured for both s and p polarization pulses at 1064 nm, 10 ns, 20 Hz, $\text{AOI} = 45^\circ$ under ISO standard 21254-2 1000-on-1 conditions.

New ultra-high damage laser mirrors are produced using advanced IBS coating technology.

Ultra high LIDT mirrors for other laser wavelengths are available upon request.

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Tel: +370 5 272 99 00

Navitar

Visit us at Booth #245

4K HDR Lens/Camera Modules, Large Format Imaging Systems

Navitar imaging technologies being showcased this year include: 4K HDR lens modules for UAV and AV forward-facing camera systems, large format zoom and fixed Resolv4K imaging lens systems, Pixelink polarization cameras for broader visual detection of material properties, and precision microscope objectives.

We design, build, test and assemble optical solutions of the highest quality that are used in new emerging markets.

Stop by booth #245 - Ask us about our lens-sensor active alignment capabilities and talk with us about your next imaging technology application.

**Contact Details**

www.navitar.com

Pixelink a Navitar Company

Visit us at Booth #245

New HDR and Polarization Camera Models with Sony IMX Pregius CMOS Sensors

Pixelink has expanded their USB3 Vision industrial camera line with new HDR and polarization models.

The PL-D757 and PL-D753, featuring Sony 3rd generation IMX420 and IMX421 sensors, capture and combine dual ADC images into a single hybrid HDR image directly on camera – making them ideal for HDR imaging applications such as moving parts inspection.

The PL-D755-POL polarization machine vision camera, featuring Sony's IMX250MZR image sensor with pixel-level quad polarization filter technology, offers broader visual detection and characterization capabilities of material properties over conventional monochrome sensors.

**Contact Details**

Pixelink
www.pixelink.com

Ophir

Visit us at Booth #927

Beam Profiling Camera with GigE Interface for High-Speed Industrial Applications

The Ophir® SP920G GigE Silicon CCD High Resolution Camera is designed for industrial laser beam profiling applications. Accurately captures and analyzes wavelengths from 190nm - 1100nm.

Features a compact design, wide dynamic range, unparalleled signal to noise ratio, and high-speed GigE (Gigabit Ethernet) interface.

Delivers 1624 x 1224 pixel resolution with a 4.4µm pixel pitch for measuring beam widths of 44µm - 5.3mm.

Ideal for measuring CW and pulsed laser profiles in laser cutting of medical devices or welding of dissimilar materials.

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Synopsys

Visit us at Booth #1259

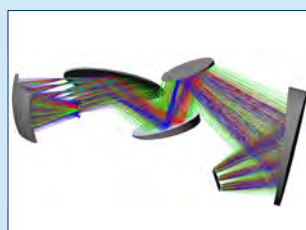
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Visit Synopsys in Booth 1259 at SPIE Photonics West 2019 to get a demo or contact us today for a free evaluation.

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www.synopsys.com/optical-solutions/codev/optical-design.html
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Radiant Vision Systems, LLC

Visit us at Booth #3113

NIR Intensity Lens measures near-infrared light sources used for 3D sensing

The Near-Infrared (NIR) Intensity Lens system from Radiant combines a Fourier-optic lens with 16-megapixel CCD imaging radiometer for precise characterization of NIR-emitting light sources used for facial recognition and other 3D sensing applications.

The system captures angular data to ± 70 degrees in a single image to efficiently measure radiant intensity across the distribution, and analyzes structured light patterns produced by diffractive optical elements (DOE).

- Measure near-IR LEDs and lasers
- Capture light across ± 70 degrees
- Output extensive DOE statistics
- Qualify facial and gesture recognition technology

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ADIT Electron Tubes

Visit us at Booth #1853

ADIT Electron Tubes introduces a complete range of Photodetector Modules:

Photodetector modules are available in cylindrical and rectangular format for photon counting and analog signal detection using 25mm and 30mm diameter photomultiplier tubes.

- Spectral range 170nm to 850nm available
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- Dual TTL and USB available
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- Choice of 3 software configurable counting modes
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We welcome your inquiry for custom modules.

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Fax: 325-235 2872
Cell: 862-209 0653

ALPhANOV

Visit us at Booth #1059 F, French Pavilion

MIR-PULS – ALPhANOV unveils a new femtosecond laser tunable over 1800-2100nm.

Part of the PULS family product, MIR-PULS delivers 20mW of sub-300fs FTL pulses at 40Mhz, over the spectral range of 1800-2100nm.

It offers a unique solution for applications such as bioimaging, optogenetics, spectroscopy or seed source for Thulium/Holmium based amplifier systems.

This new laser oscillator developed by ALPhANOV illustrates its expertise in modeling, designing and prototyping innovative fiber laser sources.

Always with the user in mind, ALPhANOV is also ready to customize this laser upon request.


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Ophir Visit us at Booth #927

Advanced Laser Power / Energy Meter Features Sophisticated Touch-Screen Display

Ophir® Centauri is a compact, portable laser power / energy meter for precise measurements of laser performance over time. Features a large, sophisticated touch-screen for visual review of data using a wide range of display formats, such as Digital with Bargraph, Pulse Chart, and Real Time Statistics Displays. Advanced math functions include Density, Scale Factor, and Normalize Against Baseline. Available in single and dual-channel versions. Compatible with all standard Ophir thermal, photodiode, and pyroelectric sensors, including the award-winning BeamTrack power / position / size sensors.

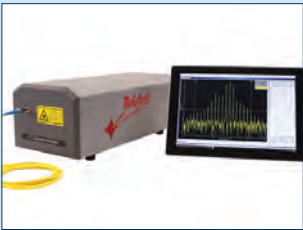


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Bristol Instruments, Inc. Visit us at Booth #235

Spectrum Analyzer— High Resolution and High Accuracy

The Laser Spectrum Analyzer from Bristol Instruments operates as both a high-resolution spectrum analyzer and a high-accuracy wavelength meter. These systems are for scientists and engineers who need to know the spectral properties of their lasers that operate from 375 nm to 12 μ m. With spectral resolution up to 2 GHz, wavelength accuracy as high as ± 0.0001 nm, and an optical rejection ratio of more than 40 dB, this instrument provides the most complete analysis needed for the most demanding applications.



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Diamond SA Visit us at Booth #4786 - North Hall

DIAMOND fiber optic interconnects: official launch of Polarization Maintaining – PM+ connectors

DIAMOND supplies high-quality solutions to Polarization Maintaining (PM) and Polarizing (PZ) fiber optical interfaces for optimal control of the signal's polarization state. The DIAMOND PM+ connector types are designed to achieve the highest and most repeatable polarization extinction ratio (PER), accompanied by excellent insertion loss (IL) and return loss (RL) values. The optical performance is guaranteed in these connectors through tight mechanical properties and low angular tolerances. Come meet with us in Booth #4786 in the North Hall to discuss PM+ connectors and other products.



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Optikos Visit us at Booth #2151

Lens Temperature Testing Module for Automotive Applications

Following extensive testing and development in our own IQ Lab, Optikos is pleased to announce the release of a new line of configurable Temperature Testing Modules to be used with our OpTest® Lens Testing Systems. This product line has been developed to meet increasing customer demand - particularly from test engineers in the automotive camera market - to evaluate the performance of lenses over extended temperature ranges.



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Ibsen Photonics Visit us at Booth #663

Ibsen offers highly efficient spectrometer platform specifically targeting Optical Coherence Tomography

The EAGLE platform comprises high resolution, compact, and robust spectrometers, suited for OEM integration into medical and industrial grade instruments for applications like Raman and SD-OCT. The EAGLE OCT-S spectrometer is very compact due to the use of Ibsen's wide bandwidth transmission gratings. These unique gratings furthermore enable us to offer higher efficiency than any competing technology. The wavelength range of the standard version is 810 – 900nm, but can be customized to other ranges. EAGLE OCT-S is supplied with Teledyne E2V OctoPlus camera with 2048 tall pixels.



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Phasics Visit us at Booth #4165

SID4 SWIR: High-resolution wavefront sensor from 0.9 to 1.7 μ m for laser and optics metrology

Phasics offers metrology and imaging solutions to laser engineers, lens manufacturers and cell biologists. With a range covering UV to far infrared, our high resolution wavefront sensing solutions - based on the patented Quadriwave Lateral Shearing Interferometry technology - combine high accuracy, best-in-class dynamic range and ease of use. Visit us to discover how our new range of SWIR sensors fully characterizes laser sources, as well as assemblies and lenses used in free space optical communications, aerospace instruments and defense night vision.



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Whether its thousands of molded optics or a few diamond turned prototypes, we'll show you how polymer optics are perfected!

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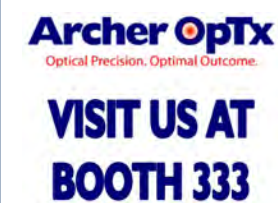
Archer OpTx Inc.

Visit us at Booth #333

An Optical Bench that won't give you the Blues!

Archer OpTx will soon be offering an optical bench representative of their optical quality at globally competitive pricing. This optical bench will be a turnkey, all-in-one solution to your metrology requirements. There is no need for purchasing expensive upgrades or software.

The new Archer OpTx optical bench will be capable of measuring focal lengths of 3mm – 2300mm in reflection and transmission. Live measurement standards of EFL, FFL, centration, radius of curvature, and MTF. MTF measurements with precision accuracy.

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TOPTICA Photonics AG

Visit us at Booth #641

Powerful 920 nm Femtosecond Laser

TOPTICA Photonics AG (based in Graefelfing/Munich, Germany) has introduced a new high-power fiber laser system for microscopy applications (neurosciences, 2-photon excitation).

The 920 nm emitting laser delivers sub-100fs with more than 1 Watt average power at 80 MHz repetition rate.

The FemtoFiber ultra 920 represents the only fiber laser currently on the market that combines shortest pulses with highest power levels in an air-cooled design.

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SPI Lasers UK Ltd

Visit us at Booth #1068, South Hall

redENERGY Pulsed Fiber Laser sets new levels of versatility!

Our redENERGY G4 200W EP-Z Pulsed fiber laser extends the power range of the G4 platform with greater pulse energy, peak power and pulse repetition frequency.

Combining these features with the G4's range of pulses provide a high level flexibility across a number of applications including high speed welding, cleaning, cutting and drilling.

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Boston Micromachines Corp.

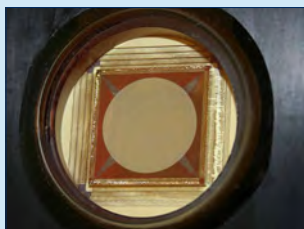
Visit us at Booth #440

Boston Micromachines presents its new deformable mirror model, the 648-DM!

Boston Micromachines is excited to introduce the latest addition to our deformable mirror portfolio, our 648-DM.

This new-sized deformable mirror extends the available stroke of our mid-actuator count DMs to 5.5µm, up from 3.5µm, making it our largest device with 5.5µm stroke. The 648-DM enables high speed, high actuator count control with extended stroke.

Please stop by Booth 8440/440 for a chance to learn about our DM product line, broadband optical modulator technology and a see our newest adaptive optics SDK module demonstration.

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Zygo Corporation

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Photon etc.

Booth #4455

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