



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

4th - 6th February 2020

## Welcome to the optics.org Product Focus which we have published specifically for Photonics West 2020 in partnership with SPIE and the Photonics West Show Daily.

product focus

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.

#### Diamond USA, Inc.

## DIAMOND High Power Interconnect Solutions up to 6 W

The DIAMOND Power Solution (PS) connector series is recommended for high power (>50mW) fiber optic transmission on small core fibers to ensure high reliability and a low Insertion Loss fiber optic connection.

Our expanded beam technology reduces the beam power density at the connector interface, allowing connections with an incredibly low failure rate for optical signals up to 6W. Simultaneously, they assure high transmission efficiency, thereby, minimizing Insertion Loss and maximizing Return Loss.

In addition, they are well-suited for Power over Fiber applications, such as connections of optical amplifiers and high-power lasers.

#### Visit us at Booth #2248



#### **Contact Details**

Diamond USA Inc. 85 Rangeway Road, Bldg. 3 North Billerica, MA 01862

www.diausa.com sales@diausa.com Tel: +1 978 256 6544

#### **Diverse Optics Inc.**

#### **Custom Polymer Optics**

Diverse Optics specializes in precision injection molding and single-point diamond turning of custom polymer optics.

We do it all; prototyping to series production of free-forms, spheres, micro-optics, aspheres, domes, convex/concave, plano/convex, bi-convex, diffractives, Fresnels, prisms, light-pipes, lens arrays, collimators, combiners, toroids, CPC's, TIR's, parabolics, off-axis, ellipticals, and more.

Reduce cost, trim weight, improve performance, and simplify your product design by implementing precision polymer optics. Whether its thousands of molded optics or a few diamond turned prototypes, we'll show you how polymer optics are perfected!

#### Visit us at Booth #2262



#### **Contact Details**

**Letty Trevino**, Sales Engineer Diverse Optics Inc., 10310 Regis Court, Rancho Cucamonga, CA 91730

www.diverseoptics.com info@diverseoptics.com Tel: +1 (909) 593-9330 Fax: +1 (909) 596-1452

#### **EKSMA OPTICS**

#### High Reflectivity Laser Mirrors for High Power Picosecond Applications with LIDT >3 J/cm2

New advanced ion-beam-sputtered coatings by EKSMA Optics feature extremely high picosecond laser induced damage threshold, allowing to increase laser power limits and to extend the lifetime of optical components.

EKSMA Optics offers laser mirror coatings with R>99.9% and guaranteed damage threshold value of >3 J/cm2 at 1030 nm or >2.5 J/cm2 at 515 nm.

Laser induced damage threshold measurements were performed according to ISO 21254 standard procedures 1000-on-1 with high power lasers operating at 20 kHz repetition rate and 10 ps pulse duration.

#### Visit us at Booth #748



#### Contact Details

EKSMA OPTICS Mokslininkų str. 11 LT-08412 Vilnius Lithuania

www.eksmaoptics.com info@eksmaoptics.com

#### **First Light Imaging**

## C-RED 3 – A smart compact camera for FSO and industry

C-RED 3 is a 640x512 InGaAs camera running at 600 FPS full frame while offering a <30 electrons RON, with optimized SWaP and low cost adapted for FSO, industrial or surveillance applications.

C-RED 3 supports a unique high dynamic range mode (HDR) providing 93dB dynamic range and true 16 bits linear response.

Available in USB3 and Camera Link Full, C-RED 3 also offers OEM and custom features for easy integration in every system.

(SPIE 11272-14 - C-RED 3: a SWIR camera for FSO applications)

## Visit us at Booth #957D



#### **Contact Details**

First Light Imaging Europarc Sainte Victoire, Bat 6 Route de Valbrillant, Le Canet 13590 Meyreuil, FRANCE

www.first-light-imaging.com contact@first-light.fr Tel: +33 (0) 4 42 61 29 20

#### **ID Quantique SA**

## ID Quantique launches the ID Qube Series

The ID Qube series is a range of very compact and cost-effective modules for single-photon detection.

It offers the possibility to receive external pulses for fast and slow gating operations depending on the model

A first module is optimised for fast-gated (up to 100 MHz) operations at telecom wavelengths, specially suited for quantum communication protocol while a second module offers ultra-low noise free-running operation mainly required for photon correlation and Time of Flight measurement.

More info: www.idquantique.com/IDQube-series

#### Visit us at Booth #4356



#### **Contact Details**

ID Quantique SA, Ch, de la Marbrerie, 3 1227 Carouge/Geneva, Suisse/Switzerland www.idquantique.com info@idquantique.com Tel: +41 22 301 83 71

#### **Oz Optics Ltd**

#### 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.

## Visit us at Booth #4445



#### **Contact Details**

OZ Optics Ltd 219 Westbrook Road, Ottawa, Ontario, K0A 1L0

www.ozoptics.com sales@ozoptics.com Tel: +1 613-831-0981 Fax: +1 613-836-5089

#### Suruga Seiki Co., Ltd.

#### Suruga Seiki New Laser Autocollimator: Ultra-compact Sensor Head with Easy-to-use Processing Unit

We are announcing new version of Laser Autocollimator (H410 Series) designed to fit for alignment and inspection of various miniature devices.

It consists of ultra-compact sensor head (W40 x D40 x H64mm) and easy-to-use Image Processing Unit (IPU), and is capable of measuring +/- 1.75 degree with 650nm class-1 laser beam (Infrared-option will be available soon).

Please drop by at our booth and have a look at the brand new product, as well as our range of optoelectronic components.



Visit us at Booth #4186

Contact Details
Suruga Seiki Co., Ltd.
https://eng.surugaseiki.com
e-ost@suruga-g.co.jp
Tel: +1 408-435-2974 (San Jose office)

#### Radiant Vision Systems, LLC

#### Visit us at Booth #4282

# Evaluate Displays as Seen from the Headset: All-In-One AR/VR Display Test System

No costly equipment or advanced programming required – Radiant's compact AR/VR display test solution is designed to simplify visual performance evaluation within augmented & virtual reality headsets and glasses.

The system captures up to 120° horizontal field of view from the eye position in a single measurement for quick and comprehensive analysis.

Combining a high-resolution imaging photometer or colorimeter, specially engineered lens system, and AR/ VR display measurement software, the solution evaluates virtual projections for accurate brightness, color, contrast, distortion, sharpness (MTF), uniformity, and more.



#### **Contact Details**

Radiant Vision Systems, LLC 18640 NE 67th Court Redmond, WA 98052 USA

www.RadiantVisionSystems.com Info@RadiantVS.com Tel: +1 (425) 844-0152

#### Navitar

## Tunable Lens Focus Module for Zoom 6000 System

Gain greater working distance and faster focus by integrating a tunable lens focus module with the Navitar Zoom 6000 digital imaging system.

#### **Key Features**

- Fast and accurate fine focus adjustment in a compact design
- Extends working distance range of the 6X lens attachments
- Increases depth of field when coupled with infinity corrected microscope objectives
- Maintains image resolution with the integrated Optotune EL 16-40 tunable lens
- Long cycle life of the tunable lens unit and motorized Zoom 6000 system
- Easy to install USB electrical lens driver with software to control the tunable lens

#### **Contact Details**

200 Commerce Drive Rochester, NY 14623

www.navitar.com

info@navitar.com Tel: +1 585.359.4000

## Visit us at Booth #238 Duma Optronics Ltd.

#### BeamOn U3 – High Resolution Innovative beam profiler

Duma Optronics offers an innovative beam profiler system (1/1.2") with integrated filter wheel. The device is based on a high resolution 2.3 MegaPixel camera with 12 bit dynamic range.

Measurements include: Beam Profile, position and power. The spectral range covered is 190-1600nm. Sensor area 11.34X7.13mm, with USB3.0 interface. Optional accessory for high power attenuation up to a few KWatts.

New software module for testing multiple beams in parallel. The most cost effective solution for beam profiling tasks!



Visit us at Booth #2621

Contact Details
Duma Optronics Ltd.
www.dumaoptronics.com

sales@duma.co.il

## Iridian Spectral Technologies

#### Wavelength Selective Custom Optical Filter for Satcom Applications

Iridian designs and manufactures custom wavelength selective optical filters including solar rejection windows (SRW) and dichroic beam-steering filters to improve the signal to noise and enable wavelength multiplexing for optical inter-satellite links (OISL) and ground to satellite links.

Iridian has over 20 years of experience producing industry leading optical telecom filters for terrestrial systems.

This communications filter expertise is combined with a space heritage providing filters flown in satellite applications such as earth observation and is supported by our dedicated Aerospace and Specialty Optics team.



Visit us at Booth #3241

#### **Contact Details**

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www.iridian.ca sales@iridian.ca Tel: +1 (613) 741 4513 (x240)

#### Photon etc.

#### Scientific Gade Infrared Cameras

InGaAs / MCT Detectors

Featured in our IR Vivo preclinical imager, IMA hyperspectral microscope, S-EOS and Linescan hyperspectral imager, Photon etc ZephIR and Alizé cameras are your window into the vast world of infrared.

- » TE4 air-cooled at -80°C
- » Exceptionally low noise
- » QE up to 85%





Booth #4455

# Meet Us at Booth 5356 for the Photonic Inverse Design Challenge Entering is easy. You spec the design - the best Figure of Merit triumphs. Let your brain guide our Photonic Inverse Design. Leave with top honors.



#### **Boston Electronics Corp (BEC)**

#### Visit us at Booth #3401

## High-Performance, High Speed Infrared Detectors and QCL

Boston Electronics offers fast, high-performance infrared detectors from the leader, Vigo System. Detectors (MCT or III-V) are room-temperature or TE-cooled and have nanosecond time constants.

Detectors are available with preamplifiers, controllers and software providing you with turn-key capability for your most important measurements.

New products include >1 GHz sensors, linear arrays and affordable chip-on-board modules. We also provide OEM modules specially designed to your volume application and packaging requirements.

We also supply infrared quantum cascade lasers (QCL) from Alpes Lasers to complement your infrared detectors.



#### **Contact Details**

Boston Electronics Corp (BEC) 91 Boylston St. Brookline, MA 025445 USA www.boselec.com shop.boselec.com

boselec@boselec.com Tel: ++1 617-566-3821

#### **ADIT Electron Tubes**

#### Visit us at Booth #1461

# 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
- Signal output analog, TTL, USB
- Dual TTL and USB available
- Operates from +5 volts
- Dynamic range up to 100 Mcps
- Choice of 3 software configurable counting modes
- HV and data retrieval controlled by dedicated application software

We welcome your inquiry for custom modules.



#### **Contact Details**

ADIT Electron Tubes, 300 Crane Street Sweetwater, TX 79556

www.electrontubes.com paul@electrontubes.com Tel: +1 325-235 1418

Toll free: 800-399 4557 Fax: 325-235 2872 Cell: 862-209 0653

#### **GPD Optoelectronics Corp.**

# GPD Optoelectronics Corp. announces availability of 1cm InGaAs pin Photodetector

We are pleased to announce the availability of 1 cm diameter InGaAs Photodetectors in die form, on ceramic submount or in TO-9 package.

Ge photodetectors are available in diameters up to 13 mm

GPD Optoelectronics Corp. manufactures germanium PN, PIN, APD and InGaAs PIN high-speed, large-area and extended wavelength photodetectors and APDs for near-infrared applications (800-2600 nm.) Custom submounts and packages including fiber pitgailed and cooled applications are a GPD specialty.



Visit us at Booth #3135

#### **Contact Details**

GPD Optoelectronics Corp. 7 Manor Parkway Salem, NH 03079

www.gpd-ir.com sales@gpd-ir.com

Tel: +1 603 894 6865 Fax: +1 603 894 6866

#### Headwall Photonics Inc.

#### New Hyperspectral Camera with Onboard Processing & Industry-Leading OEM Holographic Gratings,

Headwall's new hyperspectral camera features on-board processing in an industry-first IP-67 enclosure.

Come to the leader with decades of experience creating high-performance, economical solutions, putting our customers ahead of the competition. Our award-winning products are used every day in the field, in the lab, under water, in the air, and in space.

Master-quality holographic gratings are made in house for your instrumentation, custom spectrographs, or as part of an integrated solution. We work with you to design the best solution for your application.



Visit us at Booth #5552

#### **Contact Details**

Headwall Photonics, Inc. 580 Main St, Bolton, MA 01740 www.headwallphotonics.com sales@headwallphotonics.com Tel: +1 978 - 353 - 4100

#### **Bristol Instruments, Inc.**

## NEW Pulsed MIR Laser Spectrum Analyzer

Bristol Instruments now offers a spectrum analyzer for pulsed lasers that operate from 1 to 12 µm.

The model 772B-MIR measures wavelength to an accuracy of  $\pm$  1 part per million, and bandwidth and longitudinal mode structure to a resolution of 4 GHz.

It is the ideal solution for scientists and engineers who need to know the spectral properties of their pulsed mid-IR lasers.



Visit us at Booth #229

#### **Contact Details**

Bristol Instruments, Inc. 770 Canning Parkway Victor, New York 14564

www.bristol-inst.com

info@bristol-inst.com Tel: +1 (585) 924-2620

Fax: +1 (585) 924-2623

#### Pixelink a Navitar Company

#### **USB 3.0 Industrial Cameras**

Pixelink's extensive USB 3.0 Vision compliant camera lines are ideal for OEMs and organizations seeking reliable, high-quality industrial cameras with fast data transfer speeds

Our USB cameras are ideal for new or existing customers looking to upgrade to USB 3.0 while maintaining existing frame rates and resolutions.

All industrial USB cameras are used in both off-the-shelf and custom industrial vision solutions.

Pixelink autofocus cameras feature various frame rates, lens formats, and sensor types in addition to global and rolling shutters to meet your application requirements. https://pixelink.com/products/industrial-cameras/usb-30/

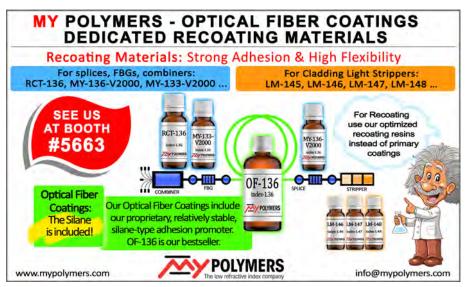
Visit us at Booth #238

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Pixelink 1900 City Park Drive, Suite 410 Ottawa, ON, K1J 1A3, Canada www.pixelink.com Sales@pixelink.com

## -2623





#### Bristol Instruments, Inc.

#### Non-Contact Thickness Measurement

Bristol Instruments offers a family of thickness gauge products that employ proven optical technology to provide the most precise and reliable thickness measurement available.

What's more, this level of performance is achieved with an unprecedented level of versatility and convenience.

These systems are ideal to measure the thickness of optical components and lens assemblies, contact and intraocular lenses, OLED, AMOLED, and LCD displays, and medical tubing.



Visit us at Booth #229

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## Optikos

## New TM-1050 Thermal Module for LensCheck™ Systems

Lenses that are subject to extreme temperatures, such as those in automotive cameras, need to meet stringent performance and athermalization requirements for vehicle safety.

Now you can ensure top performance by testing in those extreme conditions using the LensCheck with new Thermal Module.

The TM-1050 provides a flexible and powerful tool to characterize the performance of smaller lenses up to 50mm including image quality and flange focal length, over temperatures of -25°C to 105°C.

Learn more at Booth #1827.



Visit us at Booth #1827

#### **Contact Details**

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www.optikos.com sales@optikos.com Tel: +1 617 354 7557

#### **Special Optics** a Navitar Company

Special Optics is a leading designer and manufacturer of high N.A. microscope objective lenses.

These precision optics are used within the life science, quantum physics, ultra cold atom and physics research arenas, as well as industrial applications.

Our designs span working distances of 0.3mm to 55mm, cover wavelengths from visible (390-750nm) to near infrared (700-1400nm) and can be modified for aqueous, oil and vacuum environments with housings of stainless, ultem and titanium.

https://specialoptics.com/products/microscopeobjectives/objectives/

#### Visit us at Booth #238



#### **Contact Details**

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www.specialoptics.com Craig.fitzgerald@navitar.com Tel: +1 973.366.7289

#### **Presco Engineering**

Presco Engineering, a product design and contract manufacturing company, has expanded its services.

Known for solving challenging electrical engineering problems for over 40 years, they have added staff and facilities to offer complete instrument design and manufacturing.

Expert at designing ultra-low noise front end DAQs, amplifiers, high-speed A/D switching circuits, power and thermal management solutions, Presco is steeped in spectroscopy knowledge and uniquely qualified to service the medical, life sciences and defense industries.

Multi-disciplinary teams include electrical, software, mechanical and optical engineers, as well as, industrial designers and technicians.

ITAR Registered and ISO 9001:2015 Certified.

## Visit us at Booth #3137 Hall D



#### **Contact Details**

Presco Engineering 8 Lunar Drive New Haven, CT 06525

www.prescoinc.com info@prescoinc.com Tel: +1 203 397 8722

#### **iXblue Photonics**

## EY fibers for High Temperature Environment

Based on intensive qualifications from laboratory to field trials with major fiber-based LIDAR manufacturers, iXblue launches new double clad Erbium Ytterbium co-doped fibers compatible with long term 125°C operation.

This new capability, a real gap from the classic 85°C, arises from iXblue's cumulated experience in fiber coating for harsh environment: space qualified, temperature sensing and gyroscope optical fibers.

Test results show no trade-off on long term reliability as well as on optical performances; fiber exhibits record 1.5  $\mu$ m efficiency and low 1  $\mu$ m ASE emission.

#### Visit us at Booth #5548



#### **Contact Details**

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34, Rue de la Croix de Fer
78100 Saint Germain-en-Laye - France
www.photonics.ixblue.com
contact.photonics@ixblue.com
Tel: +33 (0)1 30 08 88 88

## SMARTSPLICER 1.5™

Come see our brand new station for fiber splicing and glass processing with clean CO, laser light in operation!



## MEET US IN HALL B1 BOOTH #1342

#### **OUR PRODUCTS & SERVICES:**

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- END CAP SPLICING
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- CLEAVE QUALITY INSPECTION
   FIBER OPTIC FERRULES
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#### **TOPTICA Photonics AG**

#### Femtosecond Fiber Lasers Optimized for 2-Photon Microscopy

In 2-photon microscopy, peak-power is brightness! If you care for the best image brightness, you need short pulses, high power, and most impotently a clean temporal pulse shape.

With more than sufficient output power, shortest pulses, and our unique Clean-Pulse Technology, the FemtoFiber ultra 920 features the highest relative peak power and enables unmatched brightness in 2-photon microscopy without unwanted heating of the sample.

Turn-key and intuitive operation, fully-integrated dispersion compensation and build-in power control make the system extremely user-friendly and allows you to focus on your research!



Visit us at Booth #3209

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