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Innovations in Optics, Inc. to Showcase LumiSpectra™ Broadband LED Illuminator, Winner of the BrightStar and Innovators Awards 2022, at The Vision Show & CIOE.

Woburn, MA, August 31, 2022 - Innovations in Optics, Inc. will exhibit LumiSpectra™ Broadband LED Illuminator, the winner of the BrightStar Award and the Vision Systems Design Innovators Bronze Award, at CIOE in Shenzhen, China, and The Vision Show in Boston, MA (Oct. 11 - 13).

Please join us for our Vision Show Session: “How LED Multispectral Imaging Can Replace More Complex Hyperspectral Imaging for Applications Characterized by Slowly Varying Spectra.”

LumiSpectra™ provides a unique solid state lighting solution with a continuous broadband spectrum and high CRI > 92 to replace Xenon and Tungsten Halogen lamps. Innovations in Optics, Inc.'s robust, patented design enables high radiance, long lifetime, and stability, eliminating the need for frequent calibrations and maintenance necessary for standard lamps. Two user-friendly options are available in CW or pulsed modes with external trigger and fast rise and fall times. Wavelengths ranging from visible to near IR can be turned on one at a time in quick succession for improved productivity in multispectral applications without the need for a filter wheel. The LED wavelength distribution can be customized to suit the application, and, with its individually controlled die, the output power can be adjusted to shape the spectrum. The output of the fiber coupled option is designed to a standard endoscopic NA of 0.66 and can accept up to 6mm diameter fiber bundles. Remote digital control is enabled by RS-485 interface with Modbus RTU communication protocol. Advantages over arc lamps include environmental safety with reduced CO2 emissions, low-maintenance, and higher electrical efficiency with lower operating cost.

LumiSpectra™ can be used as a broadband multispectral source in agricultural inspection for crop health and food quality control, and industrial inspection of semiconductor wafers and printed circuit boards. The product provides a contiguous broadband light source for Hyperspectral and Multispectral imaging applications. Its tunability and customizable wavelengths facilitate endoscopy, medical diagnostics, and surgery where viewing differences in tissues and early detection of disease are critical. The spectrum can be extended further into the NIR, and, coupled with InGaAs camera, comprises a multispectral imaging system. Other areas of interest include forensic science, archaeology, pharmaceutical production, waste sorting, and artworks.

The Brightstar Awards Program honors innovators and product developments that have advanced LED-centric SSL components, systems, and applications into the mainstream, with capabilities beyond traditional light sources. The Vision Systems Design Awards Program recognizes the most innovative products and solutions available to the machine vision and imaging community.

About Innovations in Optics, Inc.

Founded in 1993 and located near Boston, Innovations in Optics, Inc. offers high power LED light sources for science and industry that provide maximum photon delivery, illumination uniformity, and stable optical power. With over 70 international and U.S. patents, IOI products offer system-level advantages over lasers and arc lamps in OEM equipment for many applications. Available LED wavelengths range from the UV through the NIR, including broadband white and multispectral options. IOI light engines are used as excitation sources in fluorescent imaging for life science applications, and they support photomask exposure, direct image writing, 3D printing, and photocuring. High radiance LED projectors enable 3D machine vision. Fiber-coupled light engines provide superior light delivery for industrial borescopes, medical endoscopes, microscopes, and UV spot curing.