Monday, March 20, 2017

IMAGING Tech Pulse

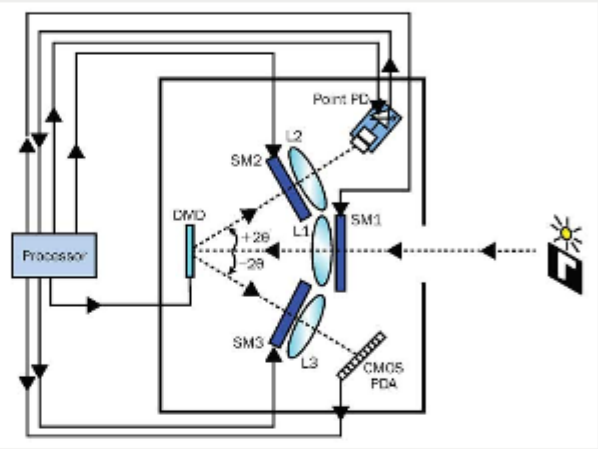
PHOTONICS MEDIA

March 2017

Imaging Tech Pulse is a special edition newsletter from Photonics Media and PCO-TECH Inc. covering key developments in imaging technology.

CAOS Smart Camera Captures Targets in Extreme Contrast Scenarios

A new camera technology working in unison with CMOS sensors smartly extracts extreme scene contrast pixel light intensity information using time-frequency coding of selected agile pixels. Imaging electromagnetic radiation is of fundamental importance to a number of fields, from medicine and the biological sciences, to security and defense. Often, demanding contrast imaging scenarios arise that call for a high instantaneous linear dynamic range (HDR) — in certain cases reaching 190 decibels (dB) — and the ability to achieve extremely low interpixel crosstalk.



Read Article

PCO-TECH Inc.

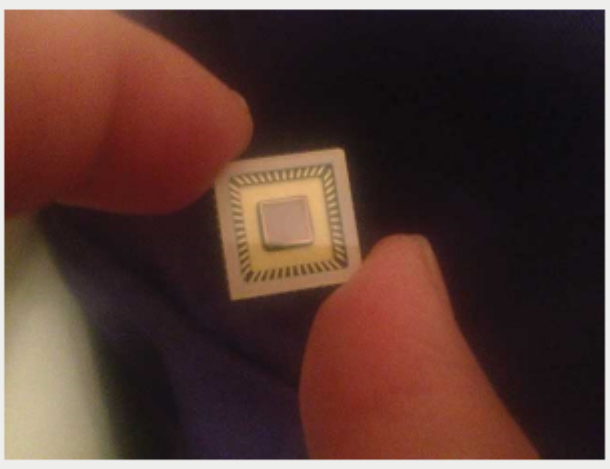
pco.panda sCMOS USB 3.1 Camera: One Cable, Multiple Applications

PCO's new pco.panda camera system is the peerless single-cable-solution in state-of-the-art sCMOS imaging technology. Operating through a USB 3.1 interface brings remarkable advantages as it provides PCO's new generation of cameras with high data transfer speed and direct power via the one USB cable making external power supplies redundant. Compact dimensions of roughly 65 x 65 x 65 mm make it suitable for countless applications. PCO is pioneering a new generation of high-performance cameras enabling its customers to achieve the highest resolution, dynamic range, quantum efficiency and frame rates while providing the lowest readout noise. Download the pco.panda flyer for additional technical details and discuss with our experts at the Defense + Commercial Sensing Expo (April 11 – 13, booth #657, Anaheim) on how the pco.panda can make a positive contribution to your work.

Request Info **Visit Website**

Ultralow-Light CMOS Bio-Optical Sensor Enables Low-Cost, Portable Molecular Testing

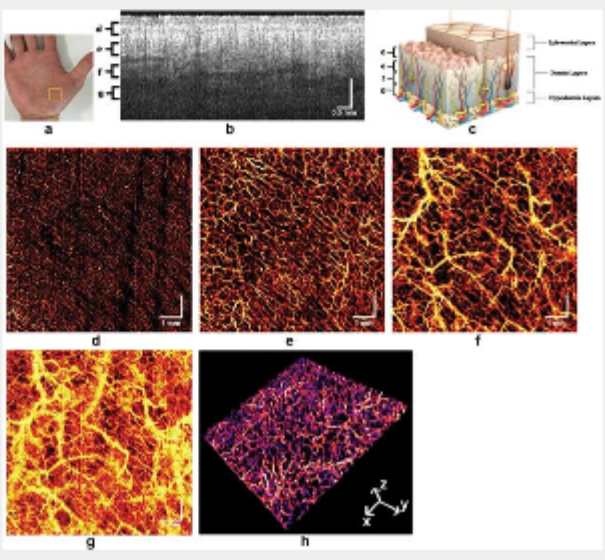
The miniaturization of molecular tests enabled by CMOS biosensors and microfluidics could have positive impacts on global efforts against infectious diseases and cancer. Recent decades have seen great advancement in molecular diagnostics technology. Nucleic acid (DNA, RNA) and protein (antibody) tests now allow doctors to get very precise information about the type of virus and bacteria cells behind each case of disease, such as an infectious disease or cancer. However, much of the world's population still cannot enjoy the benefits of this technology, largely due to the cost and bulkiness of the test instruments required.



Read Article

Swept Source OCT Takes Optical Medical Imaging to the Next Level

There are a number of serious eye maladies that can only be properly diagnosed if ophthalmologists can visualize the vasculature of the eye in detail. It used to be that eye vasculature imaging required the injection of a contrast agent such as fluorescein and, just as it properly infused in the eye, the capture of a blue light picture. If the ophthalmologist knew to run the test, and if the patient didn't react to the agent, and if the image was taken at the precise moment, then the vasculature could be observed. Changes in the vasculature could be monitored and abnormalities could be identified, allowing for the diagnosis of serious diseases such as diabetic retinopathy and early macular degeneration. These diagnoses are critical to affect the best treatment.



Read Article