

# Dynamic Photonics Debuts 25Gbps Dynamic Biasing APD Technology that Enables Communication at Lower Cost

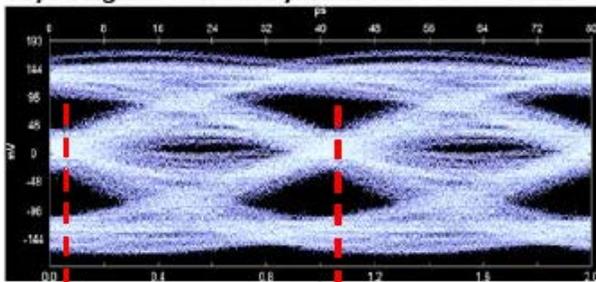
March 14, 2017

An Albuquerque, NM-based startup company, [Dynamic Photonics, Inc.](http://www.Dynamic-Photonics.com), has developed a 25Gbps avalanche photodiode technology solution. The company's patented Dynamic-Bias Enhanced Avalanche Photodiodes technology makes its debut this week at the [OFC](#) Technical Conference and Exposition, the largest global gathering for optical communications and networking professionals, March 21-23 in Los Angeles.

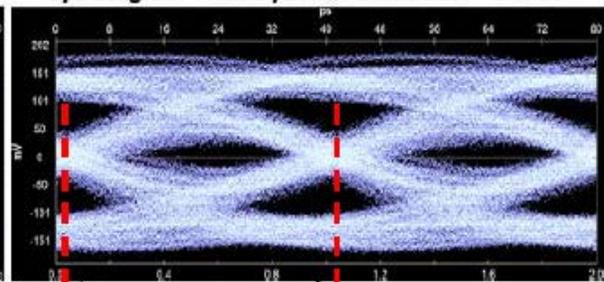
Avalanche photodiodes (APDs) are devices that convert optical signals into an electrical current and they provide a cost-effective solution to optical receivers for Telecom and Datacom. An APD relaxes the power requirement for incoming optical pulses, which translates to longer optical links and/or higher bit rates. APDs are therefore used, whenever their speeds permit, to improve the receiver sensitivity, which is the minimum optical power required at the receiver to achieve the bit-error rates required by industry standards. Due to the APD's traditional speed limitations, there has been a very limited number of APD-based 25-Gbps optical receiver solutions that are available commercially for communication systems for the wavelengths of 1.3 or 1.55 micron.

## 10 Gbps InGaAs APD Operating at 25 Gbps with DPI's Dynamic Biasing Technology

Eye Diagram Without Dynamic Bias : BER =  $3.3 \times 10^{-4}$



Eye Diagram With Dynamic Bias : BER =  $1.6 \times 10^{-7}$



Dynamic Photonics CEO Earl Fuller has announced that his company has the solution: a patented high-sensitivity APD fiber optics technology that has been tested at a speed of 25 Gbps. The technology reduces the bit-error rate by thousands in optical receivers that use APDs as their core photodetector and it does so at a fraction of the cost of current high-speed optical receivers on the market.

Fuller says “we have recently demonstrated that our dynamic-biasing solution enables existing 10Gbps InGaAs-InP APDs to operate at speeds of 25Gbps, and is expected to answer the needs of industry standards for high-speed, direct-detection optical communication.”

Fuller adds “our dynamic biasing technology gives us the unprecedented opportunity to penetrate the 100-Gb/s and 400-Gb/s Ethernet systems that will, at a minimum, make long-haul 25Gbps per channel links in core and metropolitan area optical networks more robust in sending high-speed, clearer signals.”

Dynamic Photonics' technology was co-developed by Majeed Hayat, Ph.D., and Payman Zarkesh-ha, Ph.D., of the University of New Mexico (UNM). The company licensed two technologies developed at UNM, and has two technologies developed and owned by Dynamic Photonics.

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