

# Imaging Technology Update

WINTER 2005

VOLUME 2 ISSUE 1



## Highlighting New Products and Technologies **Shown Live** at the Biophysical Society 49<sup>th</sup> Annual Meeting 2005

### *New Software introduced for Optimized Streaming and Playback for All Stanford Photonics, Inc. High Speed ICCD Cameras*

Stanford Photonics has consistently pushed the envelope in providing researchers with products that can image down to single photon thresholds at speeds unmatched by other camera platforms.

“Unfortunately, many commercial image acquisition packages are still bogged down by time bases and sample windows measured in seconds as opposed to milliseconds,” states Michael Buchin, President. “Last year, we initiated a program to develop software that would allow customers to fully leverage the capability of our products. We are featuring this new system at Biophysics.”

“We don't have a clever name for this software yet, but it is data friendly,

painlessly letting you **"Stream it, See it and Save it™"**.”

The software provides low cost RAM or RAID array recording with flexible user options for processing and displaying incoming data in a **parallel viewing bandwidth rubberbanding** while recording--you can play with averaging, stacking and false colors to see what's going on, while seamlessly saving full bandwidth TIF files to memory. The automatic TIF conversion allows easy, immediate export capability to virtually any post processing analysis program.

Stop in and take a look--we know you will like what you can now easily see.

### *Stanford Photonics, Inc. Debuts the New and Improved XR/Turbo™ ICCD Camera—1000 Frames per Second with Single Photon Capability*

The XR/Turbo™ is now available with **all** intensifier tube options, including the **cooled photocathode GaAsP** for zero dark count, single photon detection.

It has a native resolution of 640 by 480 at 120 frames per second, and 320 by 240 at 400 fps. With 6 x 6 binning, you can view the entire image field at 1000 frames per second, 100 by 80 pixels.

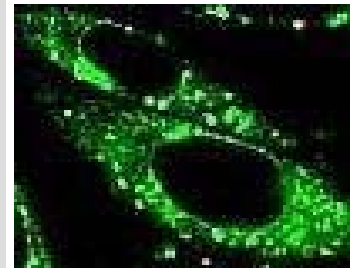
And, you can Stream it, See it and Save it™ at any speed, in any mode.

"We are excited about providing demonstrations of this new camera/software platform," states Verna Rodriguez, Director, Stanford Photonics. "We are constantly asked to push the limits in speed and detection. The XR/Turbo™, software enabled, will provide researchers with another innovative tool to explore new areas of research that they couldn't reach before."



*XR/TurboEX™ ICCD Camera*

### The XR/Turbo™ ICCD Images at *Ultra fast* speeds



Cholesterol vacuole : 100 X 80 pixels

- Speed: 60-1000 fps
- 10 bit LVDS or Camera Link® output
- Software enabled:

***STREAM IT  
SEE IT  
SAVE IT***

- ▶ Visit us in Booth #826
- ▶ Come see our custom camera configurations
- ▶ Sneak preview our latest breakthrough technologies for photon limited detection

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## Simultaneous Dual Camera Acquisition: Single Board Solutions

Stanford Photonics, Inc., has always responded to challenging configuration requests. One of those has yielded a simultaneous dual camera acquisition system. (see Imaging Technology Update, Vol.1, Issue 1)

“We are getting more inquiries these days regarding dual camera capture,” says Mike Buchin. Last year, Stanford Photonics, Inc. developed a platform to do just that for a military Night Vision application. And, at the request of a well know Biophysicist, this was modified to allow simultaneous

acquisition and **RAID** recording of two custom XR/MEGA-“Z” cameras: 12 bits; cooled photocathode; 1K by 1K at 30 fps; and 200 fps and 400 fps partial scan modes.

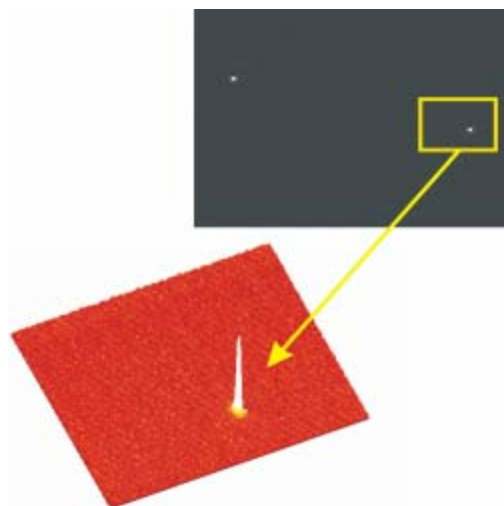
Stanford Photonics, Inc. ultimately provided **dual XR/MEGA-12Z™ ICCD’s with single card capture.** These are automatically gen-locked so that data from two ports can be streamed and viewed with **ROI** selection for extended storage and/or upstream data reduction.

*Come by the booth to see this running live and to talk to us about how this system can help you in your research.*

### And, Don’t Forget...

*Stop in at Booth # 826 and you can see live images of single photons with 15:1 signal to noise background discrimination, captured on a 1K by 1K format, 30 frames per second.*

*Don’t get burned by advertisers claiming to have the most sensitive camera in the world. Check out the XR/MEGA-10Z™ first. You will see what the limit of detection really looks like.*



Single photon event from XR/MEGA-10Z™  
15:1 signal to background ratio, typical

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Visit us at:  
Biophysical Society 49<sup>th</sup> Annual Meeting  
Long Beach Convention Center  
Long Beach, CA  
**Booth # 826**

Also at:  
Experimental Biology 2005  
San Diego Convention Center  
San Diego, CA  
**Booths # 1530, 1521 & 1523**