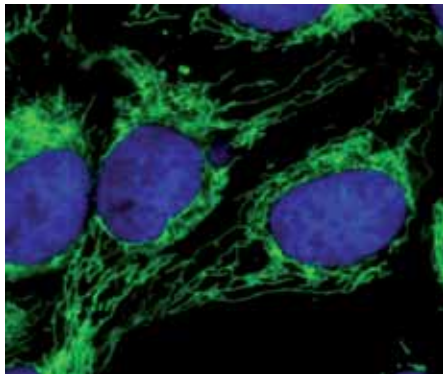


HS-VisiScope

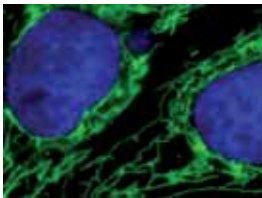
Video streaming Microscopy

High Speed Microscope Imaging System

This new generation of sCMOS imaging sensors is the first to combine all requirements for an ideal imaging device. Its 5,5 megapixel array allows observation of large fields of view at maximum resolution (6,5 μm pixel size) and high speeds of up to 100 frames per second at an extremely low read noise level while still maintaining a high dynamic range of 24.000:1. Taken together, these features allow scientists to observe dynamic processes at unprecedented speed, resolution and sensitivity.



The two images show in comparison the field of view of a 5.5 Mpixel sensor vs. a standard 1.3 Mpixel sensor.



DualCam application with PCO Edge camera and CSU confocal.

Technical Specifications:

- » NEW sCMOS technology
- » Resolution 2560 x 2160 pixel
- » Pixel size 6,5 μm x 6,5 μm
- » Low noise of < 2.0 e- rms
- » Dynamic 24.000 : 1; 16 bit ADC
- » Quantum efficiency 57% @ peak
- » High speed 100 fps
- » Rolling shutter
- » Compact design

Typical Applications:

- » Spinning disk confocal
- » Intracellular vesicle tracking
- » Cell mechanics and motility
- » SMD single molecule detection
- » Live cell dynamics
- » Ion signaling
- » FRET imaging

High Speed Microscope Imaging System

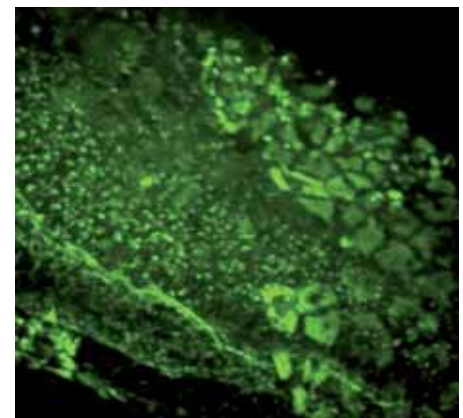
Handling the maximum data rate of 1.1 Gbyte/s is a challenge for any imaging software and PC. The new VisiView® 64 bit version allows researchers to stream images over minutes directly to the maximum available RAM of e.g. 48GB. VisiView® also supports simultaneous control of two sCMOS cameras for multi color fluorescence imaging. This function is perfectly suited for performing highly reliable ion measurements with emission ratio dyes or performing co-localisation studies.

HS-VisiScope

High Speed Microscope Imaging

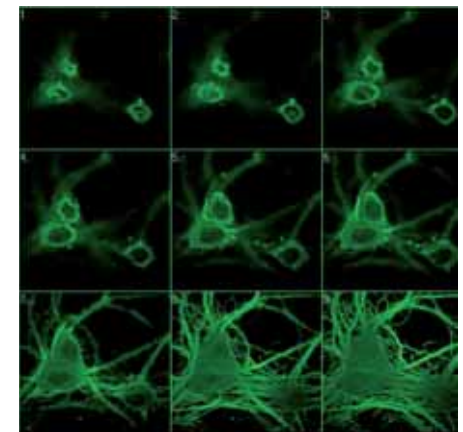
Cell Biology Applications

Cellular processes are highly dynamic reactions and the imaging system must be able to keep up with these processes. Applications such as observing the cytoskeleton, membrane transport or organelle dynamics, often require three-dimensional image series as well as maximum resolution for reliable analysis.



Physiology Applications

The fluorescence technique can be used to directly observe a variety of intracellular processes in real time. Ion signalling, membrane potential or membrane organization can be probed with suitable reporter dyes and changes can be recorded at a high temporal resolution.



Developmental Biology Applications

The development of an organism is a complex process of cellular signaling, growth and differentiation. It is important to examine cell division and migration during early development of the morphogenetic processes at constant environmental conditions as well as preventing cells from damage due to observation techniques.

