

**In 1995 CHROMAPHOR Analysen-Technik was founded by Hugo Ostermann to make new optical and electronic technologies commercially available to researchers in the biological and medical field.**

The rate of innovation in light microscopy in the last decade can be compared to the computer industries. New hardware like solid state lasers and very fast and sensitive cameras allowed to built microscope that broke the barrier of resolution postulated by Ernst Abbe around 1873 as well as the detection of single molecules in living tissue.

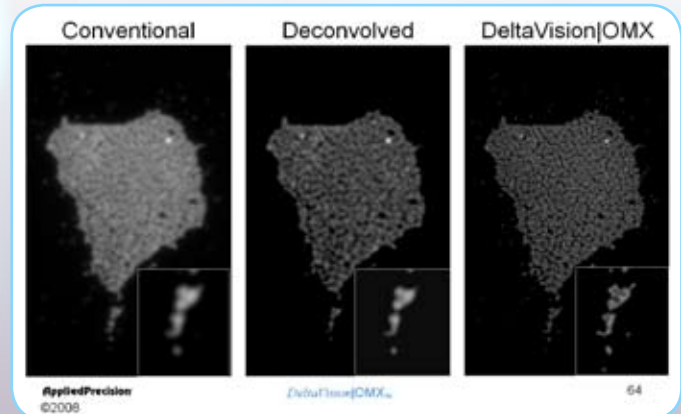
We started to sell automated stages and modern CCD-Cameras when photographic film was the only way of recording of images from a microscope. For the first



Hugo Ostermann

time, people could see live low level fluorescence images on a computer monitor too dim for the human eye that before took minutes of exposure time. Later modern illumination systems (laser or Galvo-driven Monochromators) and micro incubation systems helped to study living cells on a microscope stage for hour's even days.

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Increase in resolution in light microscopy shown on 100 nm fluorescent beads imaged with standard widefield microscopy, Deconvolution and the new DeltaVision|OMX™ 3D-SIM™ Super-Resolution Imaging microscope

Numerous start-up companies but also bigger established companies with specialized imaging systems choose CHROMAPHOR as their distributor.



### Today our efforts are focussed around:

- Development and System Integration of automated microscopes to allow fully automated time lapse recordings up to several days.
- Distribution of Applied Precision Inc in Germany, Austria and BE-NE-LUX for the DeltaVision|OMX™ 3D-SIM™ Structured Illumination Super-Resolution Microscopy DeltaVision® Core “THE Gold Standard” in Deconvolution based Live-Cell Microscopy
- Distribution of TILL Photonics Imaging systems for TIRF-FRAP-FRET and the iMIC microscope in Belgium and the Netherlands.

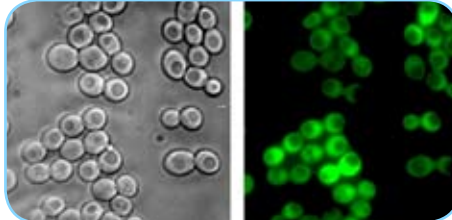
In this issue of „live cell imaging news“ we will highlight products that will take away tedious routine work from your lab and will save time you need for your research.

# „live cell imaging news“

## Microfluidic Cell Culture for yeast and Mammalian Cells

The CellASIC ONIX™ Dynamic Cell Culture Platform delivers unprecedented control for live cell imaging experiments.

Minimized reagent volume, long-term focus stability and fast fluid exchange are the key elements of this addition to the CHROMAPHOR product line. The system integrates with your existing microscope system to enable dynamic time-lapse experiments never before possible. Cutting edge microfluidics technology provides an improved cell culture microenvironment, exceptional quality for high magnification microscopy, and superior media switching capabilities.

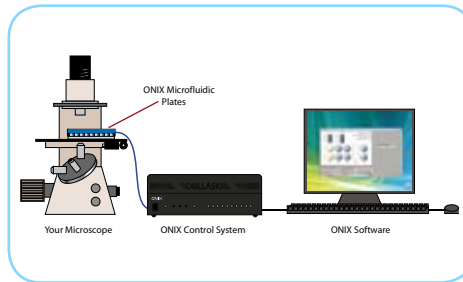


cerevisiae in the microfluidic device Courtesy of the Lim Lab, UCSF

See: [www.cellasic.com](http://www.cellasic.com)



CellASIC unique Microfluidic control unit



Typical setup for CellASIC system

## Live Cell Microscopy

### Environmental Control Systems

In applications where long term observation of live cells is necessary, Bioptechs offers a variety of highly developed yet off the shelf micro-environmental control products and technologies. Features include high N.A. compatibility, temperature control, perfusion control, CO2 control, compatibility with all modes of microscopy, Z axis stability and objective temperature control. Systems are available for



nearly any specimen type including: adherent cells cell suspension, tissue and artificial membranes.

More details under: [www.bioptechs.com](http://www.bioptechs.com)



FCS2



FCS3



Objective Heater



Delta T



Stable Z



EDU



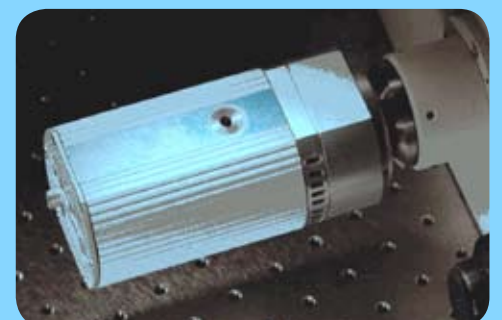
## Your next Microscope Camera from QIMAGING?

CHROMAPHOR offers the famous QImaging cameras which can be easily adapted to any microscope. QImaging designs, manufactures and markets high performance digital FireWire™ and USB 2.0 cameras for imaging in life science and industrial applications.

All QImaging CCD cameras come with a free and easy to use image capture program with high performance preview and capture functions for use on Windows® and Mac® based systems. QCapture allows for computer control of all camera functions for preview, capture and save.

QCapture offers advanced functions such as binning and region of interest (ROI) and a live histogram for optimizing dynamic range. Drivers for 3rd Party Software as LabView™, Image-Pro Plus or ImageJ.

More details under: [www.qimaging.com/index.php](http://www.qimaging.com/index.php)



QImaging Exi Blueie Fast Fluorescence Microscopy Camera with 14 Bit Resolution





## Image-Pro Plus Version 7.0

*Don't miss out on these excellent upgrade opportunities!*

Media Cybernetics has released Image-Pro Plus 7.0. This exciting new version release includes enhancements that speed up your acquisition and analysis tasks. New Image-Pro bundles and limited-time upgrade opportunities will be available.

*Microscope & Stage Automation now Included*

Image-Pro Plus includes microscope and stage automation tools which were previously available as add-ons. Control your microscope stage in any X, Y, or Z direction. Control motorized filter wheels, shutters, filter sliders, and lamp settings.

More details under:  
[www.mediacy.com](http://www.mediacy.com)



## „heliophor” pumped phosphor light engine

CHROMAPHOR has started to market a novel design excitation light source for fluorescence microscopy and photometry systems.



Each of the 6 channels can be switched within microseconds with pre-set intensities without the need of a mechanical shutter. Up to nine different modules with distinct spectral bands are available and interchangeable. Each module has a band-pass-filter which can be changed by the user to adapt for different bandwidth. A light guide is used to couple the light into the microscopy which prevents any vibration. Easy control by a programmable hand switch or TTL pulses.

### User Exchangeable Modules

- Up to 6 modules can be installed per system – ideal for core facilities
- Easy field installation/exchange of modules by user – easily reconfigure system for different experimental protocols
- 9 wavelengths to choose from – covers nearly all commonly used fluorochromes
- Each module comes with a limited lifetime warranty – peace of mind and lower overall cost of ownership

More information under: [www.89north.com](http://www.89north.com)



heliophor setup



spectra viewer



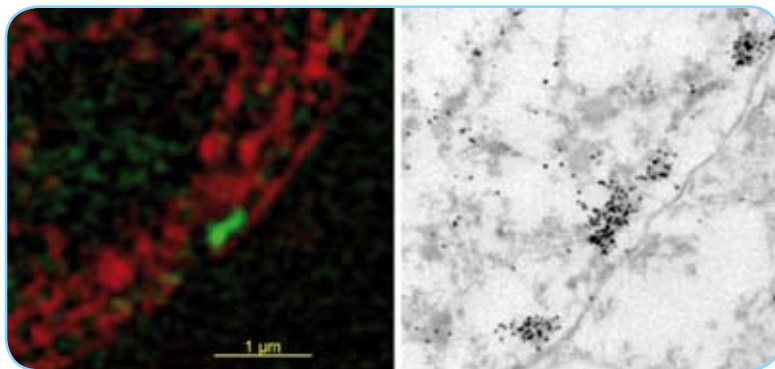
# „live cell imaging news“

## DeltaVision OMX®

### 3D-SIM™ Structured Illumination Super-Resolution Imaging

Applied Precision is pleased to introduce the DeltaVision OMX®, a groundbreaking imaging system that surpasses super-resolution imaging with more wavelengths and greater imaging depth. DeltaVision OMX® is based on the OMX prototype created by Dr. John Sedat's group at UCSF in collaboration with Drs David Agard, Mats Gustafsson and others.

DeltaVision OMX® is specifically designed to push the limits of both the spatial and temporal resolution of microscopy.



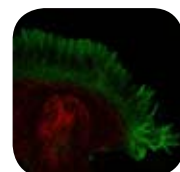
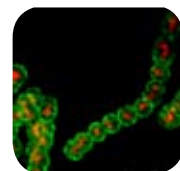
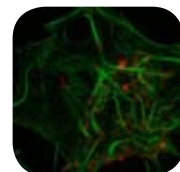
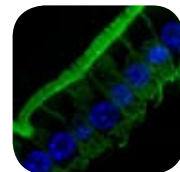
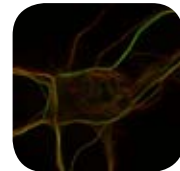
Comparison of a DeltaVision OMX® super resolution image and an immunogold TEM micrograph. (PCNA localization in CHO cell nuclei. Used with permission from Andrew Belmont, University of Illinois, Urbana-Champaign.)



DeltaVision OMX® uses full simultaneous, laserbased, wide-field imaging capable of up to 65 frames-per-second in each of up to four channels. DeltaVision OMX® uses true structured illumination to double the resolution of the optical microscopy to ~100 nm laterally and ~200 nm axially. DeltaVision OMX® is exclusively licensed to Applied Precision from UCSF.

More details under:

[www.api.com/deltavision-omx.asp](http://www.api.com/deltavision-omx.asp)



## DeltaVision Elite and personalDV

*Chromaphor introduces Applied Precision's newest innovation in the DeltaVision family of live-cell microscopy imaging systems.*

Designed for the budget-minded facility with limited space, personalDV can provide all your live-cell research needs in a single, integrated benchtop design. Applied Precision's proprietary illumination design features a new 7 Channel Solid State Illumination system (SSI) which is 3 time brighter than a Xenon Lamp and doesn't need a mechanical shutter. The new Emission filter wheel holds 10

filters without the need for a change between Standard and Live Cell dyes.

More details under: [www.api.com/personaldv.asp](http://www.api.com/personaldv.asp)



DeltaVision Elite Life Cell Imaging System



Personal DeltaVision Restoration Microscopy System

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