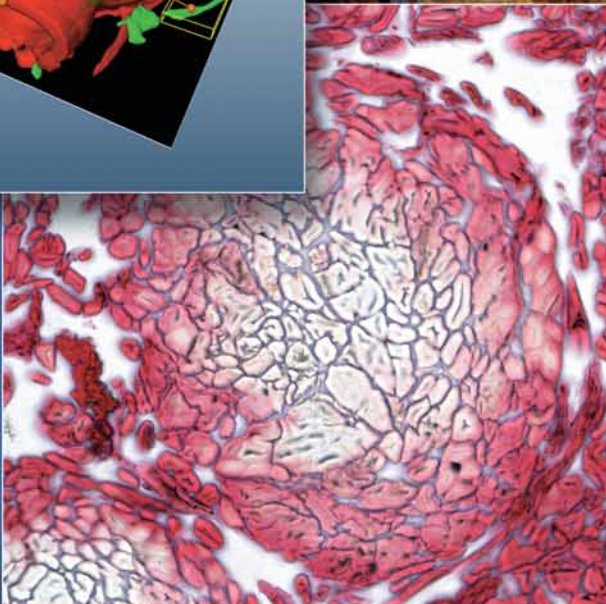
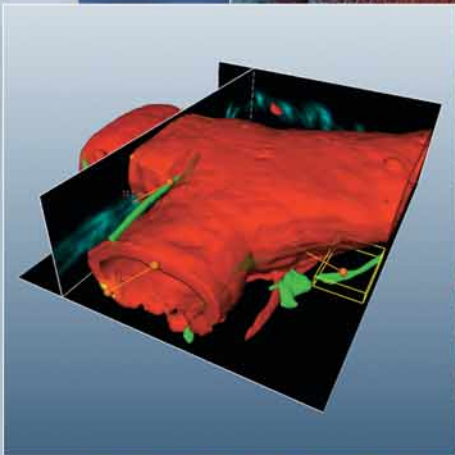
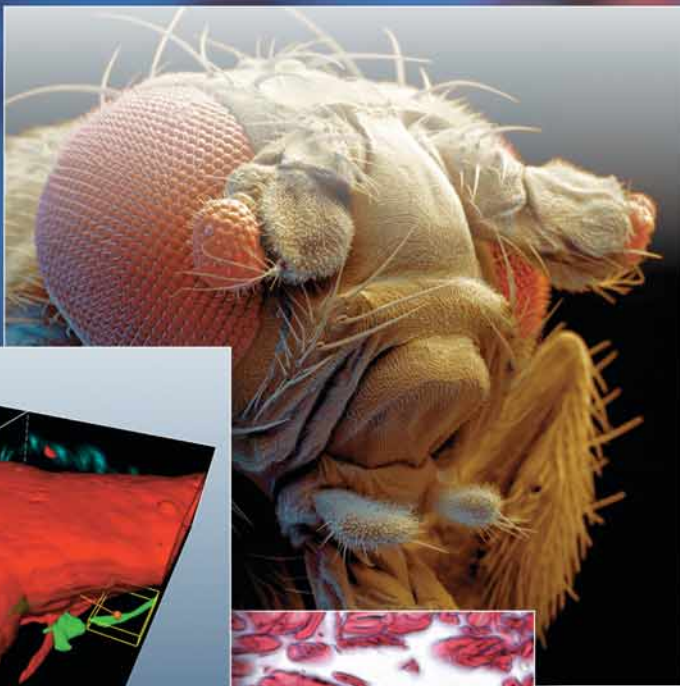


# ImagoAccess

## The Image and Document Management System

for Science and Teaching



# At a Glance

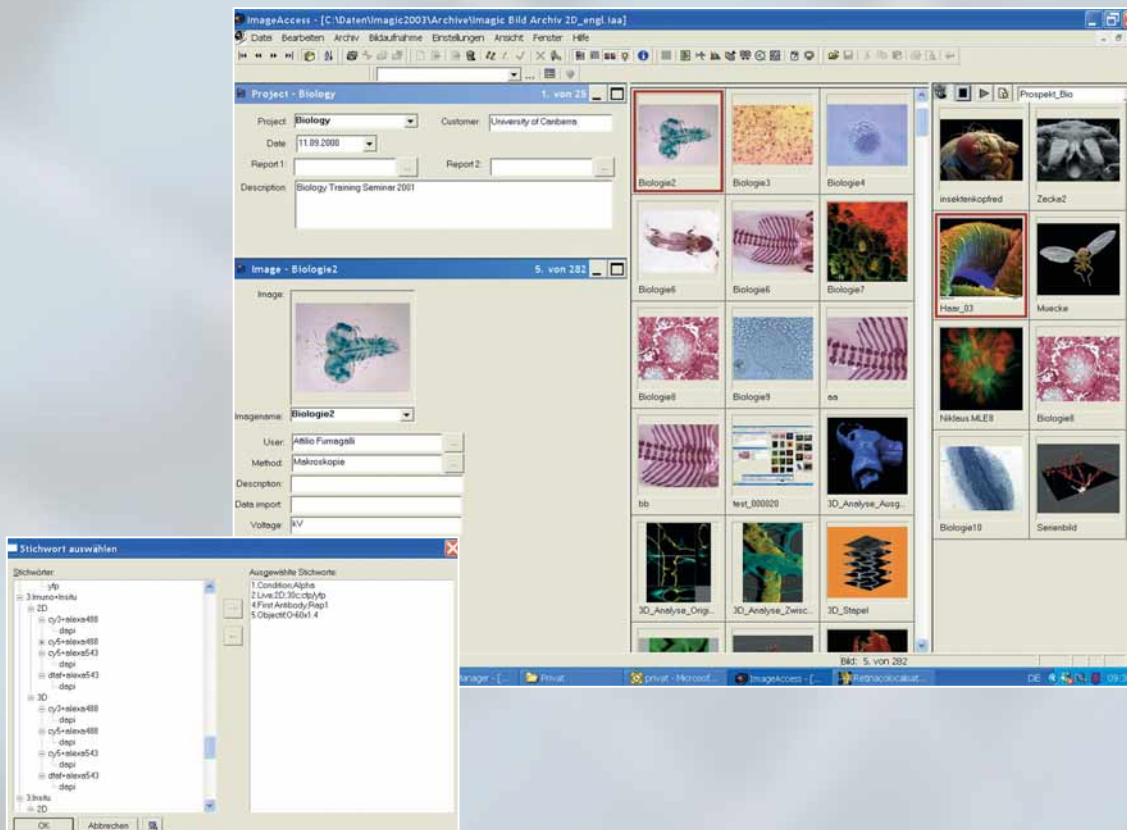
ImageAccess is an Image and Document Management System for acquisition, processing, analysis, handling, printing and presentation of image and text data as well as for all processes within microscopy.

ImageAccess leads you in simple steps from the image to the PowerPoint presentation, to the publication or to the speech without having to switch to other applications, or to copy, transform or move data between workstations. All data, images, documents and analysis results are available at once. Your PowerPoint documents are realised at a key stroke and data are stored in the most efficient way possible. Meta data such as image magnification, device parameters and additional image information are automatically recorded and can be used directly in presentations without the need to retype them

The modularity and flexibility of the ImageAccess system combined with the variety of functions makes it easy to tailor it to all image related tasks within a laboratory

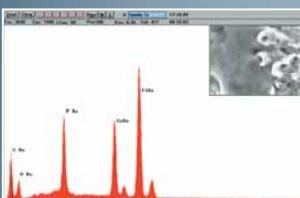
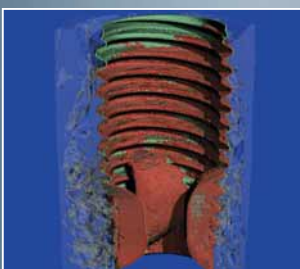
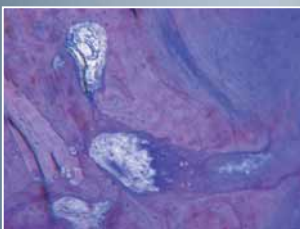
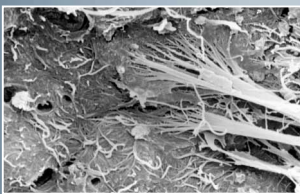
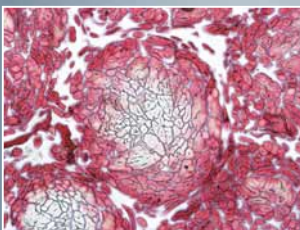
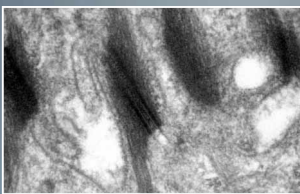
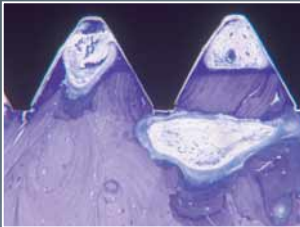
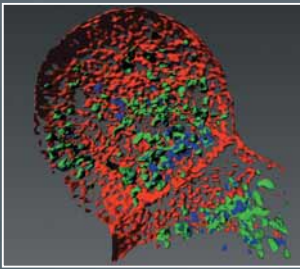
The ergonomic and consistent user interface, combined with the scalability from single workstations to complete network systems, make ImageAccess the universal tool in science and routine environments

The cost effective Web based navigator solution opens your image archive to Intranet and Internet environments for all colleagues and supervisors involved. A full set of security functions and a comprehensive user and access rights management, featuring optional user and group import, protect your images and related data



# Image Acquisition

Supporting a wide variety of image sources, like analogue and high resolution digital cameras, interfaces for electron microscopy, or special image formats in confocal microscopy or micro tomography, ImageAccess offers the most flexible solution for all lab environments in microscopy.



## Image Sources and System Solutions

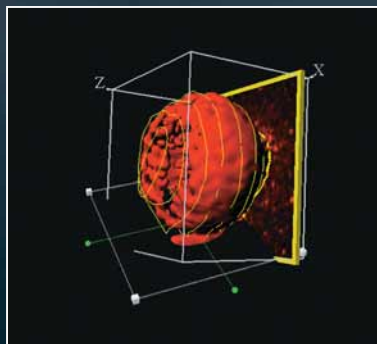
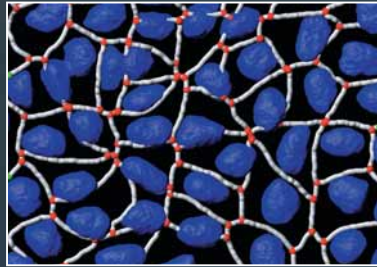
- Digital microscopy camera systems
- Digital cameras for micro photography
- Scanners for negatives, slides and X-ray films
- Light microscopes for transmitted and incident light, fluorescence imaging
- Confocal microscopes
- 2-photon microscopes
- Stereo microscopes
- Scanning electron microscopes
- Transmission microscopes
- Micro Probes
- Micro tomography devices
- Imaging plates



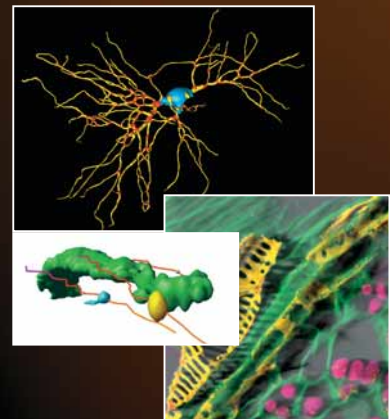
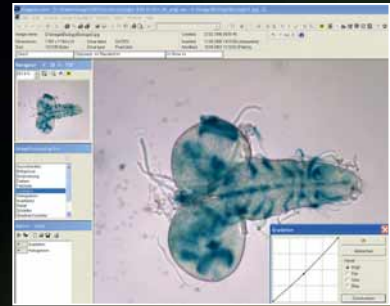
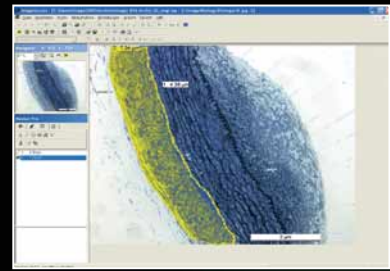
# Acquisition Functions

A key function in Digital Image Management Systems is the efficient and complete acquisition of images and related meta data in the daily routine environment. Specialized interfaces for device control and data exchange help minimising user interaction.

- Automated acquisition of large amounts of existing image and movie files
- Automatic calibration of acquired images
- Acquisition user interface look-alike for all sources
- Automatic file name generation based on archive contents and user specification
- Automatic image processing at acquisition time (shading correction, histogram equalisation, white balance, panorama image assembly, etc.)
- Z-stack image acquisition for MultiFocus and 3D Visualisation
- Time-lapse and MovieRecording, ImageOverlay, MultiFocus
- Import/export of file header data to/from archive fields (IPTC, EXIF, etc.)
- Support of 30 different 2D image file formats (TIF, JPG, JPG2000, etc.)
- Acquisition of 3D/4D datasets from confocal, 2-photon, SEM/TEM and 3D tomography devices and files, including meta data and calibration information



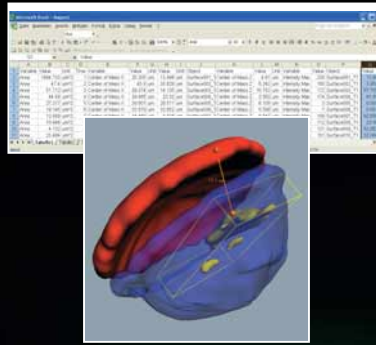
2) see Acknowledgement list



# Optional Modules

## Measurement and Annotation

A collection of the most commonly used functions for interactive measurement and annotation on the image overlay plane, combined with automatic calibration by microscope readout



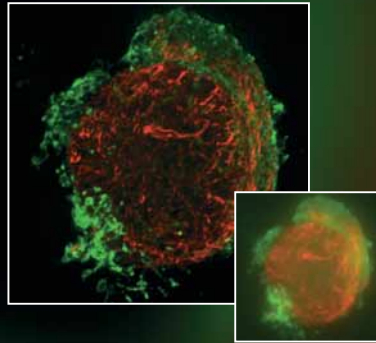
## Image Processing and Enhancement

A collection of the most commonly used functions for 2D image processing and enhancement for interactive or automated operation at acquisition time. Latest Deconvolution algorithms for highly enhanced resolution and brilliance for fluorescence images



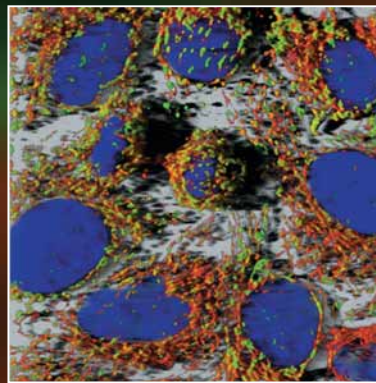
## Image Assembly

Interactive or automatic 2D panorama image generation, supporting motorized microscope X/Y stages



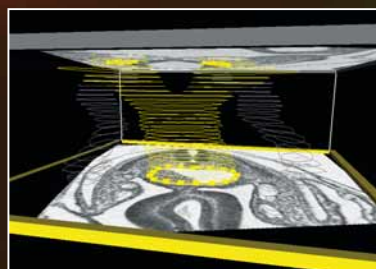
## 3D/4D Visualisation using IMARIS®

Multi dimensional image display based on device independent 3D/4D IMARIS® viewer. Real-time image handling, visualisation and analysis in 3D space using latest graphic board technologies



## IMARIS® Colocalisation, Filament tracer, Tracking

Set of specialised object analysis modules extending the basic image processing functionality, for colocalisation, filament tracing or tracking of 3D and 2D image data



## Automated Measurement/Analysis

Set of functions for automated 2D, 3D and 4D analysis. Additional functionality for tracking of objects in 3D space or 4D time series. (IMARIS® and IMARIS® Measurement Pro required)

## Image Manager

The universal organizer for image moving, copying, saving, extracting, encrypting and mailing, featuring manual or automated modes using image processing macros

## Deconvolution based Image Enhancement

Image processing algorithms based on deconvolution for maximum fluorescence image quality and sharpness

## Image Overlay

Easy-to-use module for manual and automatic multi fluorescence channel imaging. User defined assignment of channel colours and geometric corrections

## 3D Image Alignment

Automatic acquisition and geometric alignment of z-stack image series for MultiFokus and 3D processing

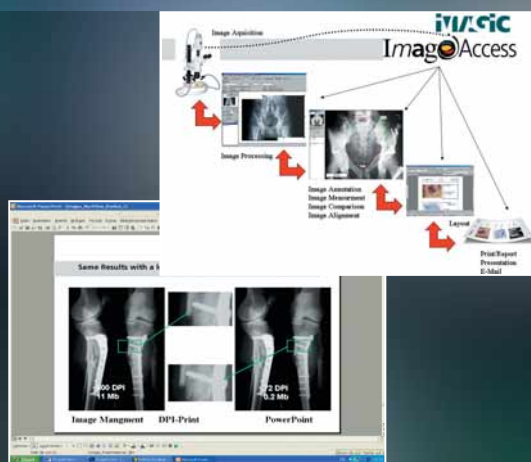
3) see Acknowledgement list

# From Acquisition to Perfect Presentation

Too much time is generally used for creating presentations, publications or reports. An intelligent interface between the Image Management System and the office application saves a lot of time and reduces the size of the generated documents. Clever search functions trace image data and text strings in MS-Word® reports or MS-PowerPoint® presentations to synchronise them with the image archive

## Documentation in Word and PowerPoint

- Drag&drop of images and archive field data from the archive into Word reports, PowerPoint presentations, directly into document or via user defined page layouts
- AutoReport creates complete Word Documents or PowerPoint presentations from image series
- Zoom function displays magnified details of images in Word reports or PowerPoint presentations, including magnification or calibration info
- Reference image technique maximises print quality and minimises document size and handling time
- DirectLink feature synchronises images in Word reports and PowerPoint presentations with the image archive. Retraces images in archive and updates them in documents
- User defined image resolution for printing, email transfer or beamer presentation



## Image Backups and Archive Extracts

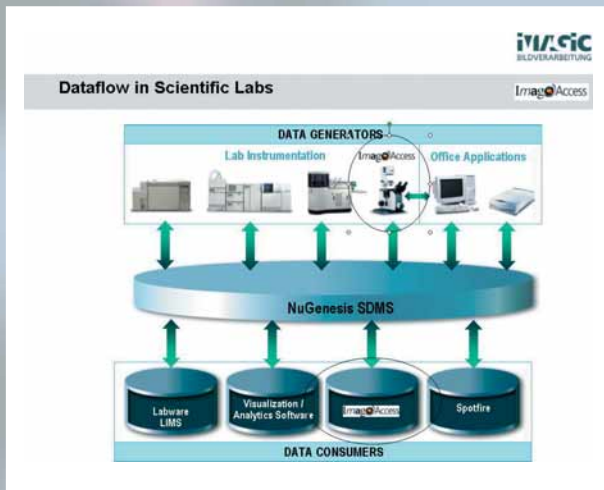
- Easy-to-use image and project data backup and storage to CD or DVD
- Access to selected images and data for presentations on Laptops using ArchiveExtractor feature

## User Functions

- Automation of complete image acquisition process featuring project-oriented file name generation, integrated macro-controlled image processing and centralized storage and calibration for all images acquired
- Automatic import of existing data structures and related images and meta data into image archives using programmable utility tools
- Multi-hierarchical archives with customer defined folder and archive field structures, dynamic user and content controlled form selection for individual configuration to customer specific environments
- Synchronized gallery and list views for fast data overview. Sorted lists with selectable archive fields. Configurable dynamic gallery shows project oriented data or complete image collections within the archive
- User defined annotation and function symbol attachment to gallery thumbnail images. Intelligent gallery image size and arrangement for fast searches, independent of original image sizes.
- Light box image collection for free arrangement of data for presentations, speeches, reports or slide shows.
- Original image viewer featuring quick zoom and navigator with fast context switching between functional modules like image processing or interactive measurement
- User defined hierarchical keyword catalogues for simplified field entry and consistent archive data. Import of application specific catalogues
- Powerful set of easy-to-use search functions makes data retrieving as simple as searching the internet
- Document management for any kind of data file types, featuring special support for office and Adobe documents and automatic activation of assigned application
- Support for most commonly used image file formats in microscopy, like Leica Multiple TIFF, Zeiss CLSM and ZVI, Olympus multiple TIFF, Biorad Pic, Metamorph STK, Bitplane IMARIS® IMS, Gatan DM2/3, JEOL TIFF, OME and many more
- Collection of image handling functions for administrative management, like centralizing distributed image file data on servers, image processing using predefined macros, email transfer with automatic data compression, export/import to/from XML files for data exchange with external archives
- Export of image and meta data into any image file formats, XML files containing archive folder and field structures , email attachments or archive extracts. Archive viewers free of cost for external client stations with access to centralized image data
- Platform independent navigator browser for image data viewing on Macintosh, Linux or Windows workstations, in LAN, Intranet and Internet environments

# Technical Highlights

- LAN, Intranet and Internet access to images and meta data via platform independent navigator browser
- High scalability within user network, available as single client or up to complete imaging solutions
- Support for SQL Server and Oracle
- Complete User and Access Rights Management with optional LDAP import
- Large collection of synchronisation interfaces to external applications (LIMS, etc.)



## Acknowledgement list

- 1) Courtesy of Prof. Peter Schüpbach, Zürich, Prof. Lukas Landmann, Anatomy, University of Basel
- 2) Courtesy of Maja Günthert, Biopharmacy, ETH Zurich. MDCK nuclei are visualized by an iso-surface and the tight junctions are represented by a filament using IMARIS® and its module FilamentTracer
- 3) Courtesy of Dr. Urs Ziegler, Anatomy, University of Zurich

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