

## Technical Information

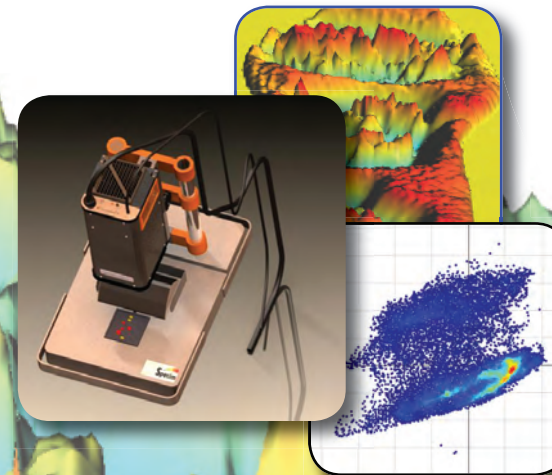
- ▶ Platform independent - runs on Windows® XP, Windows® Vista, Linux and Mac operating systems
- ▶ 32bit and 64bit OS support
- ▶ Support for multiple CPU cores
- ▶ Support for hyperspectral images with >1 Megapixel spatial resolution (64bit OS), <0.2 Megapixel spatial resolution (32 bit OS)
- ▶ 30-day trial version available for download at [www.umbio.com](http://www.umbio.com)

## System Requirements

- ▶ Supported operating systems
  - MS Windows® XP/Vista, 32 & 64bit
  - Linux, 32 & 64bit
  - Mac OS X 10.4, 32bit
- ▶ Intel or AMD dual-core CPU  
(quad-core CPU recommended)
- ▶ Minimum system memory requirements
  - 2 GB RAM, 32bit OS
  - 4 GB RAM, 64bit OS (8 GB recommended)
- ▶ Java Runtime Environment, JRE 1.6 installed
- ▶ OpenGL 1.5 compliant AGP/PCI Express graphics card
- ▶ 4 GB free hard drive space
- ▶ 1280 x 1024 screen resolution  
(1680 x 1050 or greater recommended)

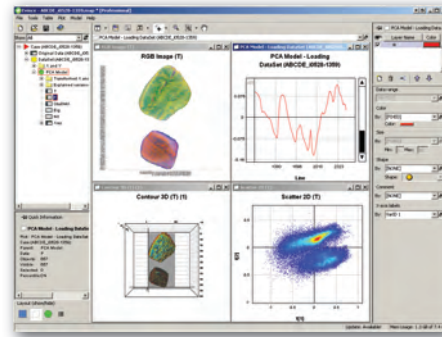


*The Complete Software Solution for  
Hyperspectral Image Analysis*



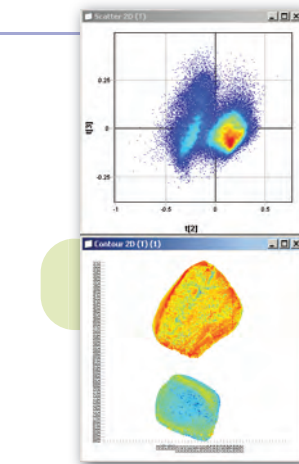
## Image Evince<sup>+</sup> - The Concept

Evince Image is a software for exploration of hyperspectral image data. It has a graphical user interface, which allows import of most common image formats. With powerful analysis techniques, the user can efficiently extract relevant information from the image cube. A wide range of visualizations is available, both for raw and processed data. A visible interaction between data and graphics, as well as a streamlined workflow, makes the exploration fast and effective!



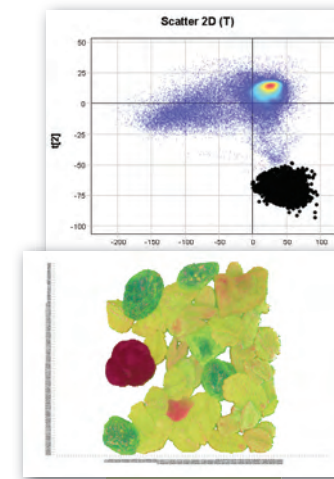
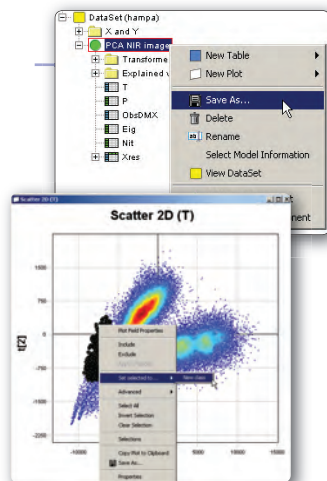
## Main Functionality

- ▶ Full exploration of hyperspectral image data and spectral analysis of each pixel
- ▶ Compression of hyperspectral image data with techniques such as PCA and PLS into multivariate models
- ▶ Visualizations available for raw spectra, pre-processed spectra, entire measured channels and modeled image data
- ▶ Classification and quantification of image content
- ▶ Segmentation of image content, for example background removal
- ▶ Detection of important wavelength ranges



## User Interface Features

- ▶ Import of a large variety of image formats including Envi, Mat, SPF, JPG, TIF, PNG etc.
- ▶ Straightforward graphical user interface with immediate access to all important functionality
- ▶ Visible interaction between spectral data, model components and data tables
- ▶ Scripting functionality facilitates the processing of routine tasks
- ▶ Easy export of data matrices, visualizations, tables & calibration models
- ▶ Instant updating of multivariate models and visualizations
- ▶ Easy access to all raw and modeled data
- ▶ Drag and drop approach for creating visualizations and tables



## Visualizations

- RGB IMAGE** Utilize the RGB image for viewing raw image data, PCA scores or response matrices.
- SCATTER 2D** Find image areas of interest. The density coloring is useful for discovering main features in the image.
- LINE PLOT** Analyze the loadings of your multivariate model. Discover important spectral bands, which have high impact on the model.
- HISTOGRAM** Use the histogram for viewing the distribution of a vector or matrix.

## Data Processing

- ▶ Automatic unfolding of 3D image data
- ▶ Principal Component Analysis, PCA
- ▶ Partial Least Squares regression, PLS
- ▶ Partial Least Squares Discriminant Analysis, PLS-DA
- ▶ Spectral Angle Mapper, SAM
- ▶ Spectral pre-processing
  - Multiplicative Signal Correction
  - Savitzky-Golay
  - 1st and 2nd order Differentiation
  - Standard Normal Variate
- ▶ Prediction table for
  - Classification
  - Quantification
- ▶ Classify unknown image data using saved calibrations models

- SPECTRAL PLOT** View the spectra of selected points in score plots or RGB images. Both raw spectra and transformed spectra can be shown in this way.
- SCATTER 3D** Find pixels of similar spectral properties while working in three dimensions. It is fully rotatable in real-time.
- CONTOUR 3D** View any two-dimensional data in three dimensions using the Contour 3D plot. It is fully rotatable in real-time.
- MODEL PLOTS** Create a series of useful plots for image analysis in a snap. The pre-defined model plots offers quick access to your image data.