

What's New in Fovea Pro 4

Principal components analysis (PCA) and the ability to **process multi-channel** images have been added to Fovea Pro. PCA finds the proportions of the various channel signals that produce the images with greatest significant contrast, which provides important new tools for distinguishing structures that may be present in the original image, and also provides new opportunities for image processing.

Feature measurement produces greatly enhanced graphics for regression and distribution plots, which can be saved in an **html-based log file** for subsequent use in reports, etc. All of the **graphic reports** generated by the various measurement routines can be saved to this log file, in addition to saving labeled numeric data to a text file suitable for importing into Excel or a statistics program.

Interactive feature selection and color-coding can be performed using any of the measurement parameters (size, shape, intensity or color, and position).

A **new manual** and extensively **revised tutorial** with step-by-step worked examples provides a very accessible, self-guided course in image analysis.

Interactive previews with enhanced controls allowing image zooming, numeric entry of values, slider adjustment, and increment/decrement buttons are provided for image processing functions.

Also new with this release, **image processing routines** that perform multiple related functions, such as edge or texture extraction algorithms, have been **grouped into single plugins with preview displays** that provide easy comparisons to select optimal results.

To better support 16-bit images, **interactive thresholding** routines now provide **greater precision** (more than 256 integer values) and allow selection of preview colors, direct readout of image brightness values, and offer advanced automatic selection algorithms. Histograms are now shown with increased precision and continuously expandable vertical scale.

Automatic contrast adjustment routines have been improved, especially for color images.

Stereological routines for intercept measurements and point sampled intercepts **now support vertical section protocols**.

There is now implementation of the **stereological disector** for direct counting of features per unit volume, which is particularly suitable for use with confocal microscope images.

Multiple image storage memories are available for use in automatic processing using actions.

Scripts that facilitate workflow and simplify Fourier space processing are provided.

On the PC, temporary files and preferences can now be saved in any user-specified location. This facilitates using a second fast, local hard disk for temporary storage, or installing the software on a PC in which the user does not have administrator privileges for the boot volume. This is not an issue on the Mac where each user has his own workspace for temporary files and preferences.