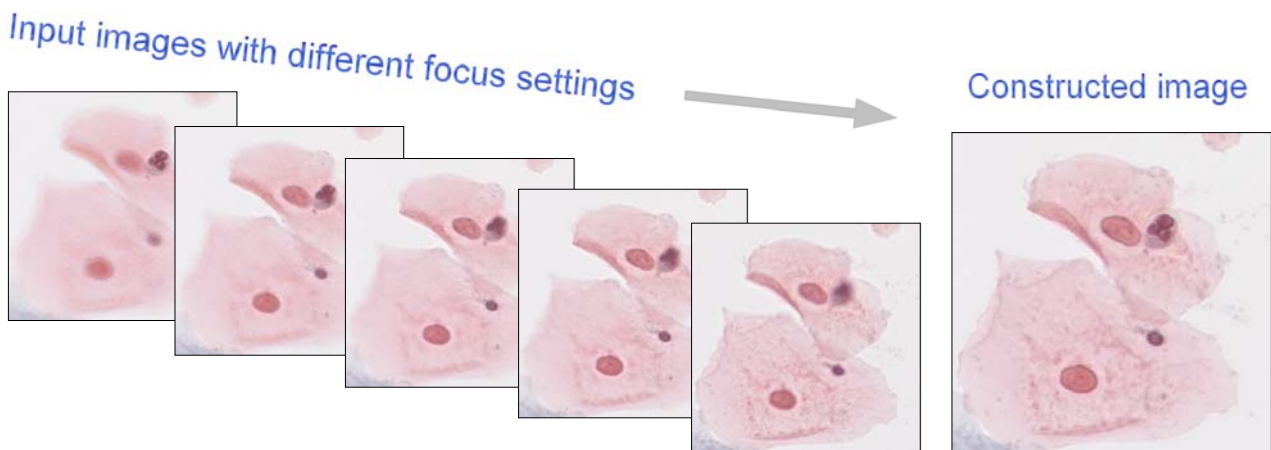


## Generate a Focused Image from Multiple Unfocused Images

Analyzing thick samples using an optical microscope is quite often a challenging process. As microscopes have a limited depth of field, it is almost impossible to acquire a focused image in one single acquisition frame using a regular camera. To overcome this limitation, the Aphelion Multifocus module automatically reconstructs a single focused image from multiple images acquired at different depths. Objects of interest in the resulting image are sharp and clear.

The Multifocus Module takes as input multiple images, each with a different Z or focus. There is no limit on the number of images in an input set, and the set may consist of color or black and white images. The Module constructs the final image by analyzing texture regions in each input image.



The module includes the following capabilities:

- Display of input images in the same window
- Fully automatic construction of the final image
- User control of process parameters include: kernel size of edge detection operator, number of edges, and an optional filter to clean the final image

### Main benefits of the module:

- Supports both black & white and color images
- Can be easily integrated into a stand-alone application
- Optimize image construction results by user's fine-tuning of a few parameters Use Multifocus with the Microscopy Tool, an Aphelion™ optional module for positioning an optical microscope stage