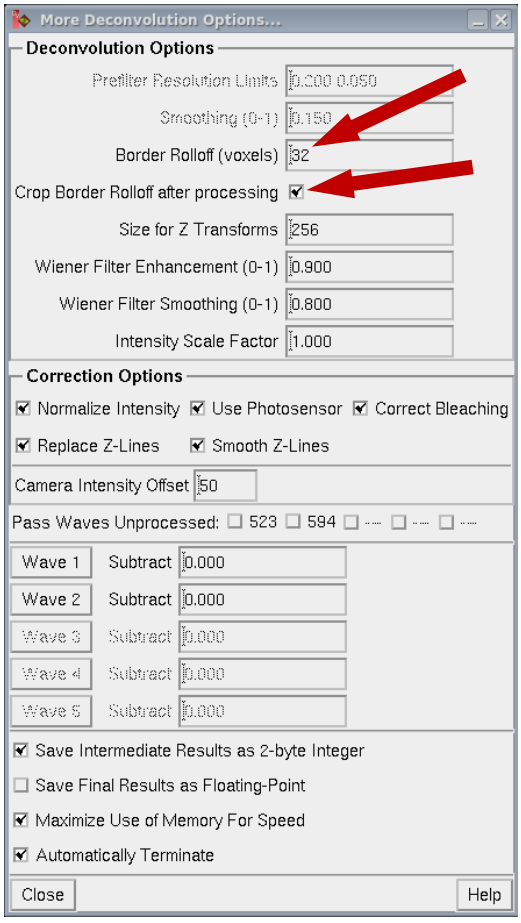
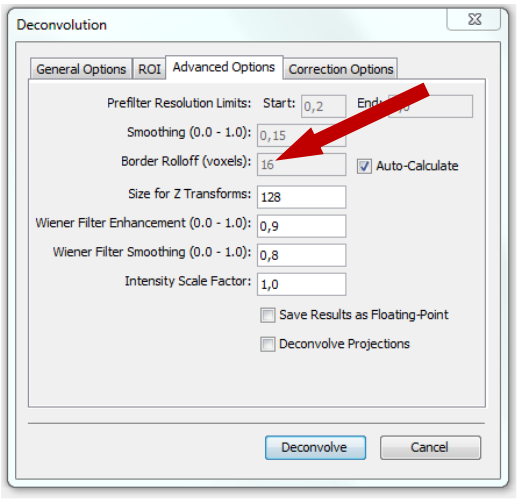
Deltavision/softWoRx Deconvolution - Border Rolloff

For deconvolution, the softWoRx suite by default sets a border rolloff (voxels at the edges, which are not deconvolved because of missing information from adjacent areas). The microscope version (Linux) by default crops the deconvolved area after processing, resulting in images which are smaller than the original (typically 960 x 960 pixels with an input image of 1024 x 1024 pixels). In the offline version on the 'Deconvolution' image processing computer (Windows 7), the 'crop' function is not implemented. The images remain at the original size and have blurred edges (of the size of the border rolloff).

Microscope/Linux

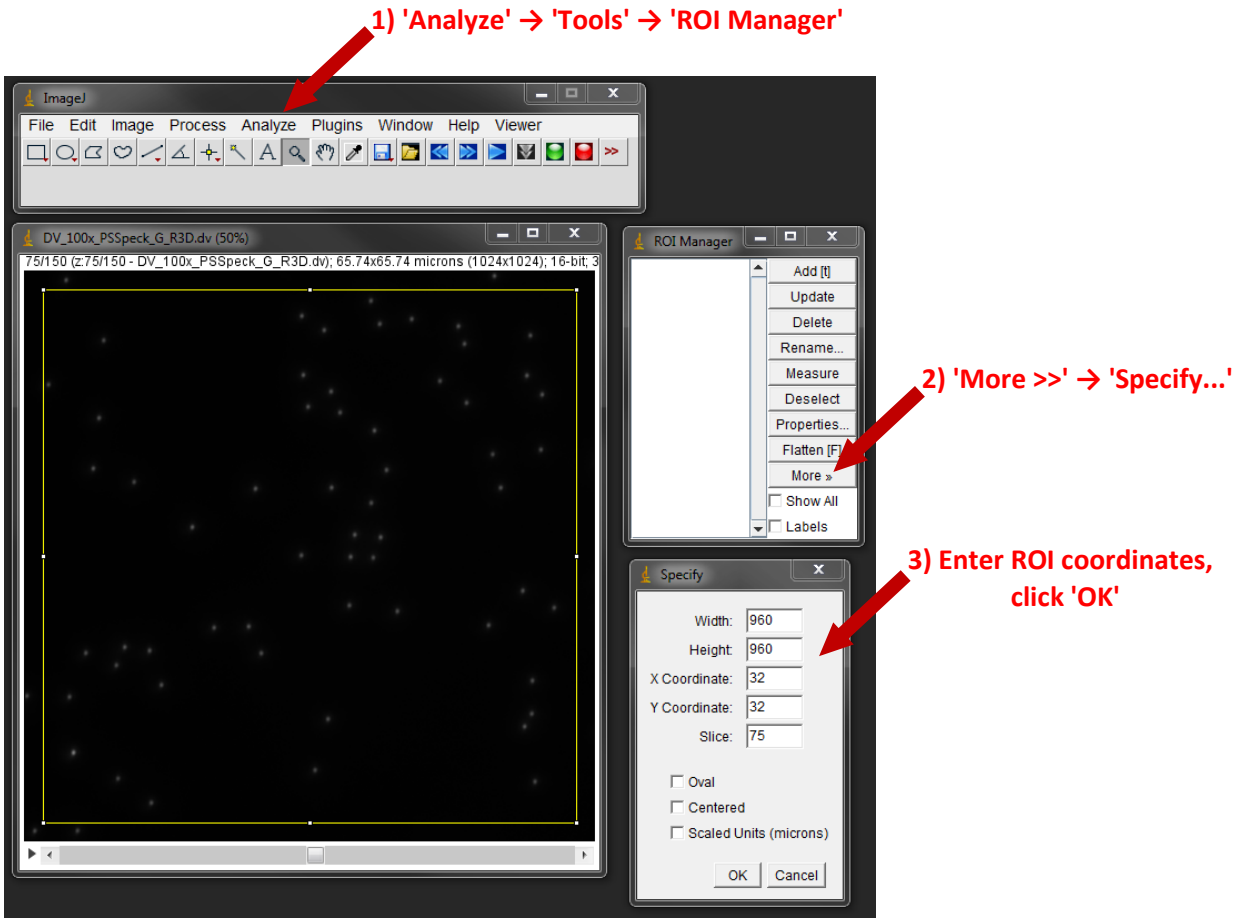


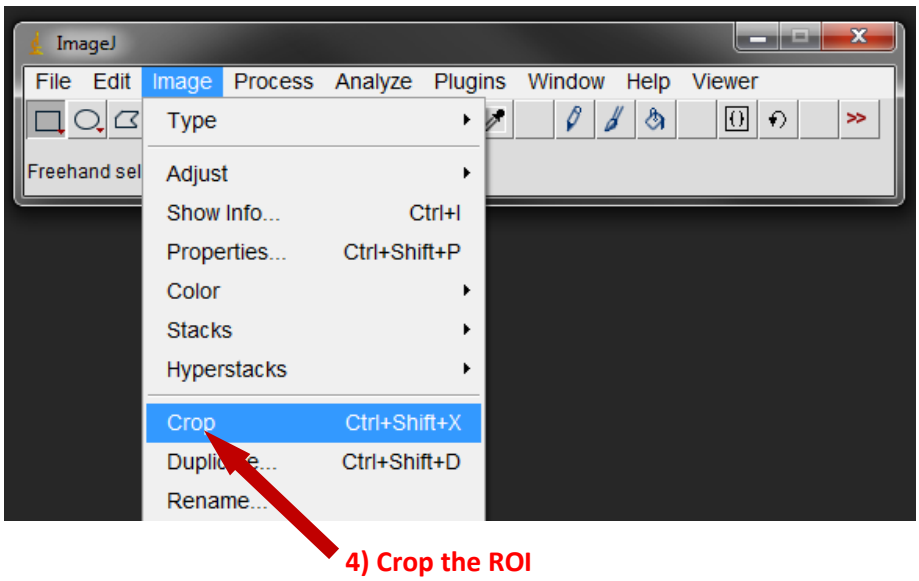
'Deconvolution'-PC/Windows



To crop the blurred edges manually, you can use ImageJ. Open your image and the ROI Manager (in the menu bar, click 'Analyze' → 'Tools' → 'ROI Manager'). In the ROI Manager, click 'More >>' and select 'Specify...'. In the window popping up, enter the size of the image minus two times the rolloff (960 x 960 if the image was 1024 x 1024 with a 32-voxel border rolloff). Specify the upper left corner of the ROI ('X Coordinate' = 32, 'Y Coordinate' = 32) and click 'OK'. In the menu bar, click 'Image' -> 'Crop'.

Upon request we can provide an ImageJ macro doing this job.


1) 'Analyze' → 'Tools' → 'ROI Manager'
ImageJ
File Edit Image Process Analyze Plugins Window Help Viewer
DV_100x_PSSpeck_G_R3D.dv (50%)
75/150 (z:75/150 - DV_100x_PSSpeck_G_R3D.dv); 65.74x65.74 microns (1024x1024); 16-bit; 3
ROI Manager
Add [t]
Update
Delete
Rename...
Measure
Deselect
Properties...
Flatten [F]
More »
Show All
Labels
2) 'More >>' → 'Specify...'
Specify
Width: 960
Height: 960
X Coordinate: 32
Y Coordinate: 32
Slice: 75
Oval
Centered
Scaled Units (microns)
OK
Cancel
3) Enter ROI coordinates, click 'OK'


ImageJ
File Edit Image Process Analyze Plugins Window Help Viewer
Freehand sel
Type
Adjust
Show Info... Ctrl+I
Properties... Ctrl+Shift+P
Color
Stacks
Hyperstacks
Crop Ctrl+Shift+X
Duplicate... Ctrl+Shift+D
Rename...
4) Crop the ROI