This tutorial contains navigation buttons that enable you to move throughout the tutorial.

Please use the navigation buttons and not the page up/page down or arrow keys to navigate through the tutorials.

This is the 'Next' button. It takes you to the next frame or stop point.

This is the 'Previous' button. It takes you to the previous frame or stop point.

This is the 'Go to frame' button. It takes you to a specified frame.

This is the 'Go to URL' button. It takes you to a website link.

Press the 'Next' button below to start this tutorial.
This tutorial will cover the updates to the 3D PCA panel. Changes include the ability to choose pre-processing options and the option to run PCA on the full 3D image set or to run PCA on the summed depth profile and then project the full data into the calculated model.

In the future the ability to calculate PCA from a random selection of voxels will be added.
Once in the 3D PCA panel, press the 'Prep 3D matrix' button. This simply reorganizes the data matrix for further processing.
Next choose the pre-processing option you want to use. Here we choose Poisson scaling and mean centering.

Remember you should always choose the pre-processing options based on the noise structure of your data and not just from a guess.
Next choose how you want to use PCA.

'Run PCA on 3D data' uses the entire 3D data set for the PCA calculations.

'Apply PCA from SDP' first sums the depth profile into a summed image, then runs PCA on the summed image and then applies the PCA model to the full 3D data set. This option can be useful if the 3D volume has consistent chemical variations throughout all layers. Otherwise it is best to use the full 3D data set.
The score image and loadings are displayed here.
You can use this slider to view the scores image for a different layer in the 3D image stack.
To view the 3D volume press the 'View in 3D' button.
The 3D volume is displayed here.
You can also view just the positive or just the negative scores by using these buttons.
That ends this tutorial. Press the button on the left to go back to the previous step. Press the button on the right to start the tutorial over.

Please see the other imagegui tutorials for detailed information on how to use each function in the imagegui.