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 discuss how to use the new 3D PCA Tools. This function is in BETA.

So far you can run PCA using Poisson scaling. Other scaling options and options will be added in the next release.

Thank you for your patience in this process.

To access the panel, press the 'PCA Tools' button.
Press the 'Run PCA on 3D data' button.

The data is Poisson scaled and mean centered before PCA. The entire volume is treated as one data matrix.

It may take a few minutes to process the data.
Once the data has been processed, the scores and loadings will appear in the top two figures. The middle two figures will show the positive and negative scores displayed separately. The bottom two figures show a cross section of the scores cut through the X and Y axes.

You can move this slider to look at the scores slice by slice.
To view the scores in 3D, press the 'View in 3D' button.

Check which axes you want to rotate around:
- X
- Y
- Z

Number of degrees for rotation: [ ]

Change Colormap: Choose one...

Z scale factor: 1

Positive Scores

Layer number: 56

Negative Scores (.*-1)

[Graphs and charts showing data analysis]
The 3D scores volume render is shown here.
To view just the positive scores, press the 'View in 3D - Pos Scores' button.
This will show just the positive ion scores.
The same can be done to display just the negative ion scores.
To save a snapshot image of the 3D volume press the 'Save Snapshot' button.
Give the file a name, and press the 'Save' button.
The image will be saved to the specified file.
When viewing the 3D scores, you can change the colormap for the scores plots using this menu.
Here I have changed the colormap to red/green. Positive scores are displayed in red, negative scores in green.

Please note that the display of the 2D positive and negative ion scores in the middle figures on the left will not be correct.

I am working on a fix for this.
These controls can be used to make a 3D movie of the volume rotating around various axes.
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 zcorrectorgui tutorials for detailed information on how to use each function in the imagegui.