Aligning meshes in Polyworks
align and creating a model
Align two different scans or more using one or three points
Align two or more scans

In this step you should always work with two scans at a time. When you finish from the first alignment group aligned scans together then import an other scan then align the imported scan with the grouped scans and do same process.
Align two or more scans

After closing the wizard, adjust the models to match each other in the two viewer. Zoom to the matched area then click 1|1 for one point alignment or n\|n for three or more point. After starting, the two models will move together.
1. Align both screen to same location and find same spot in the both scans
2. Then select n:n
Close the wizard then select four points from for both scans, each point should be at the same location in both scans. In addition, it is good to select the points from all around the scans. If you want to select point from other location hit the space bar then you can move the scans then hit the space bar again to select the points (more points better result). When you finish hit the Tab in the keyboard for the next step.
This is the two models when you zoom in
click on Align then best-fit Alignment & Comparison
In this model, 0.1 and less will be good.

In Statistics, if StdDev = 0.02 cm, that means good.
in comparison
change Maximum distance to 0.1
deviation type: points to images
error: Signed
then click show deviations
then click close when you finish
Align two different scans or more using global and reference control
Import

Global – From Text File
Make sure you select **Names+Points** from Template
If it doesn’t exist use Advanced button
Group the scans from the same position. This method works with riegl scanners.
Edit the reference points with the scan name to be like this example:

**ScanPos2.csv**
-21.769 -16.976 -1.467 *arbhz21_000000.pf*
-26.259 -12.413 -0.27 *arbhz21_000000.pf*
-34.411 -3.944 0.474 *arbhz21_000000.pf*
Clean this file first: remove header, commas and names from front of each point then add space between coordinates to be like this format:
X Y Z scan – name_pf

Cleaned file

Reflector2_Refernce.csv - Notepad

Cleaned file

Reflector2_Refernce_Cleaned.csv - Notepad
Import the cleaned file as **Image** – From Text File
Yellow is the global points and green is the reference before alignment
Use global only if you want to use only global to align the scans. In case there is not much enough points then you can use global points from the original scan location and the reference points that came from other scan after alignment then use them as reference to align them together.
Now everything should be Aligned
Reduce over labs between scans
Steps before you close IMAAlign

Select Extreme

Make sure you select both
click image then reduce overlap

Then you will get this window
change overlap reduction to best data (Extreme)
Then Click Start
After finish click close
then save the project and close the program
Creating Mesh
preston

I Want To...

- Open the IMAlign project
- Create a polygonal model
- Inspect the IMAlign project

Click create a polygonal model
change the output name to any name that you want then leave every thing as it is

Click start when every thing is OK
the window will be like this during the processing
After finishing this window will close then
IMEdit window will open