

# Focus Stacking

## Taking the Photos

1. Set the lens to manual focus
2. Set white balance to say daylight (ie not Auto White Balance. Although this is not really a problem but you may need to make sure all of the stacked images are at the same colour temperature in say Adobe Lightroom)
3. Set Aperture Priority or Manual exposure
4. Set the aperture of the lens to f2.8 (or largest you have) if you want a diffuse background or f8 if on a plain (white) background
5. Using Live View can be helpful
6. Use Tripod

## *Methods of focus change*

### Moving the camera relative to the subject

1. Focus Rail
2. Moving body towards (or away from subject) – set camera on rapid multitrigger

### Adjusting the focus of the lens

1. Take a series of shots on tripod and between each shot, move the focus of the lens a small amount
2. There are some cameras now on the market (Like the Olympus OMD EM1 mirror-less camera) where you can set focus bracketing / focus stacking in camera. You choose the number of images you want to take and then just press the shutter. A series of high speed images are then taken by the camera in a very short space of time. Between each shot the camera adjusts the focus of the lens electronically.

## Processing the images

1. Import the images into Adobe Lightroom and Select all the images in the stack
2. Switch to the Develop Module and develop one image i.e. Exposure, noise reduction, clarity (maybe). Do not crop at this stage
3. Make sure all images are selected and sync the changes from the first image to all of them
4. Make sure all still selected and Right click any one of the images
5. Do 'Edit in' from the menu and select Open images as layers in Photoshop
6. Photoshop opens with each image as a separate layer.
7. Click the top layer and the shift click the bottom layer to select all the layers
8. Under the Edit Menu select 'Auto-Align Layers'
9. This will bring up this dialog box. Select Auto Projection as a starting point
10. All the images will now be aligned
11. From the Edit menu select 'Auto-Blend Layers'
12. Select Stack Images

– Processing will take a long while - you could make a cup of tea!!

The resulting image will be large, depending upon the number of images you started out with. So you may need to flatten image before progressing with any other adjustments you may wish to do. The file may even be too large to save

13. You may have to clone out defects in the final image

## Other Software

Helicon and Zerene Stacker are the two most commonly used programmes – search for details on Google