

Insect Specimen Imaging



Using the Auto Montage Equipment
at the McGuire Center

Sections

- 1. Overview of Focus Stacking
- 2. Tutorial on How to Use the Equipment
- 3. Common Errors to Avoid
- 4. Photos of Cool Insects?

Magnification



Depth of Field



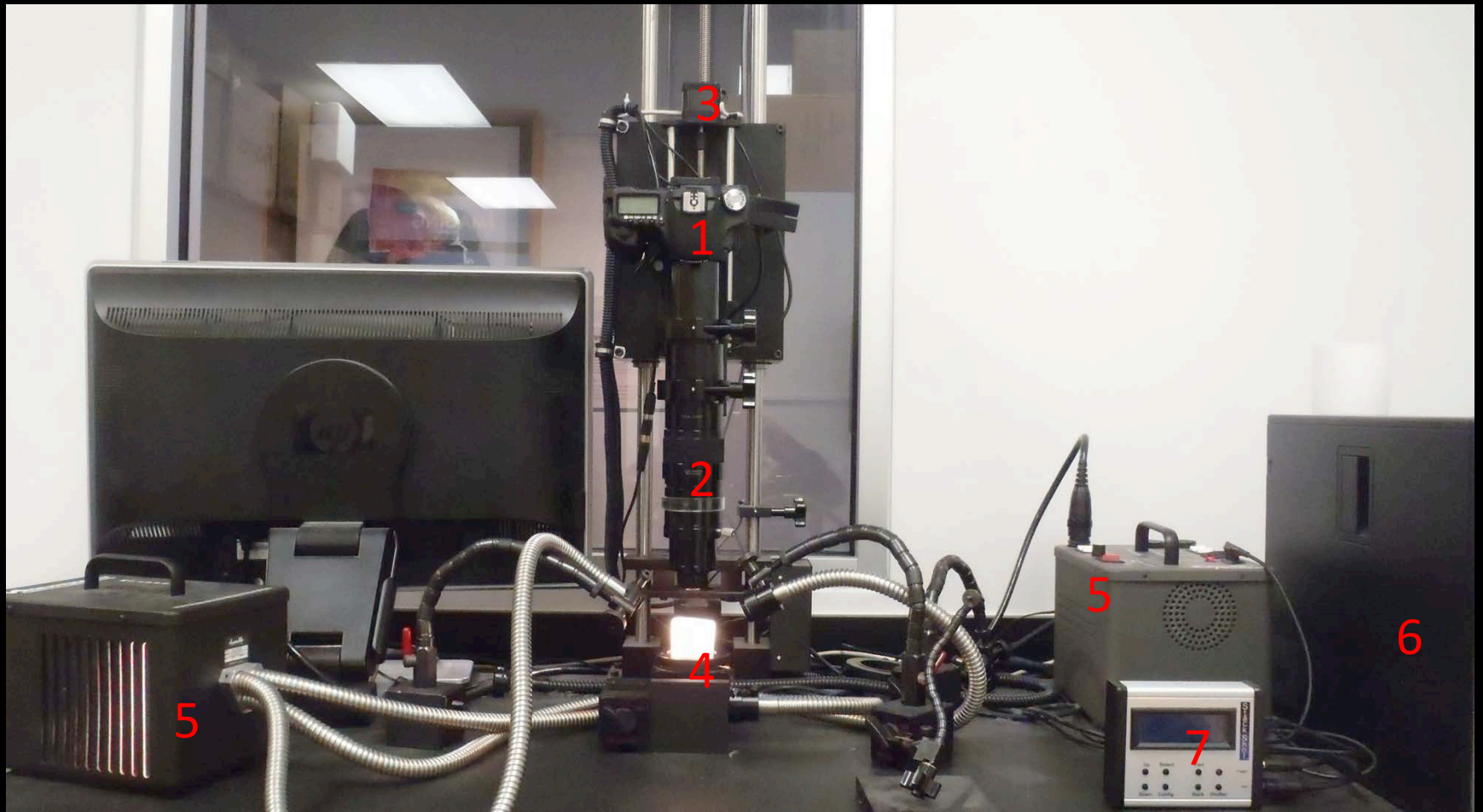
Focus Stacking



Equipment



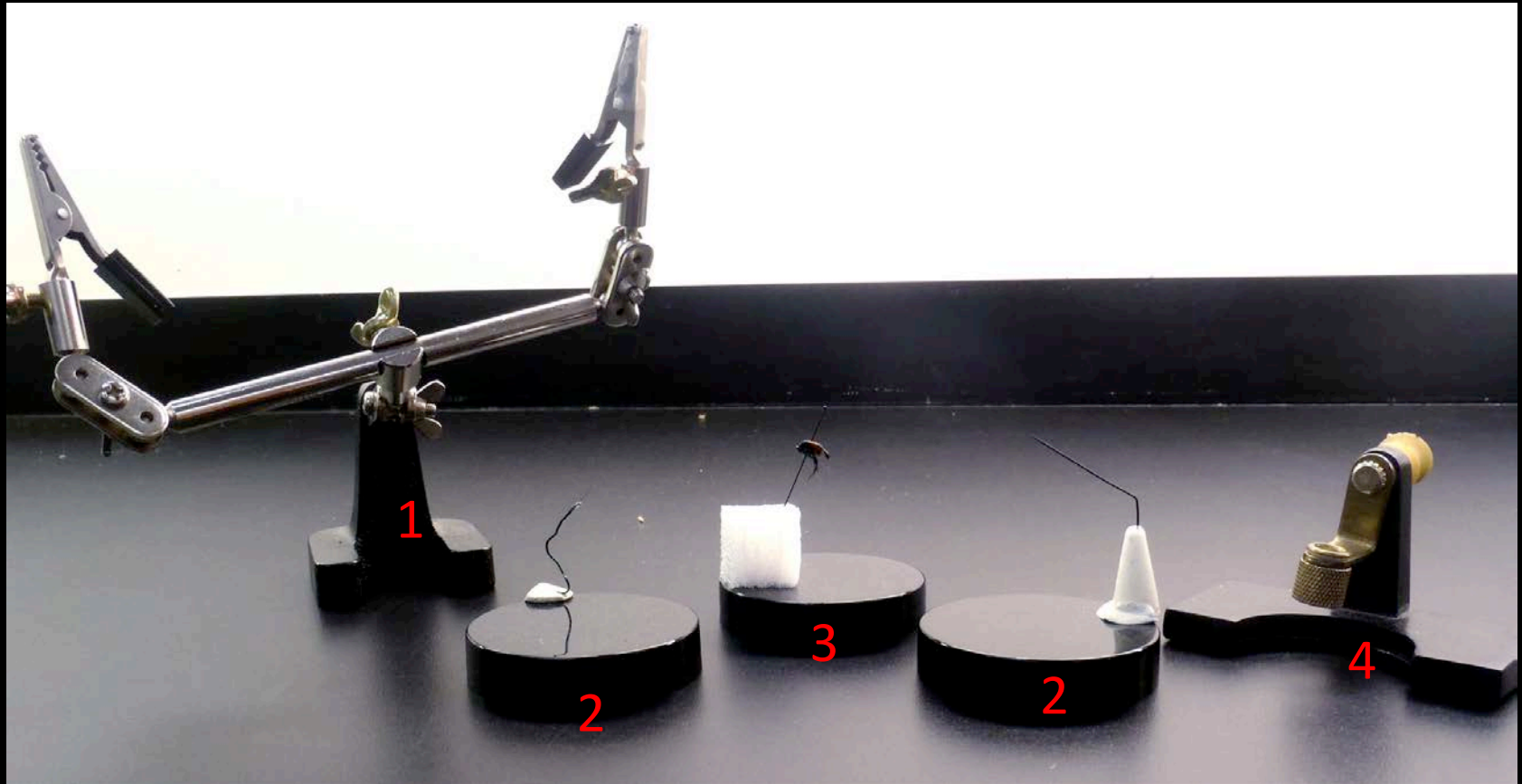
McGuire Center Setup



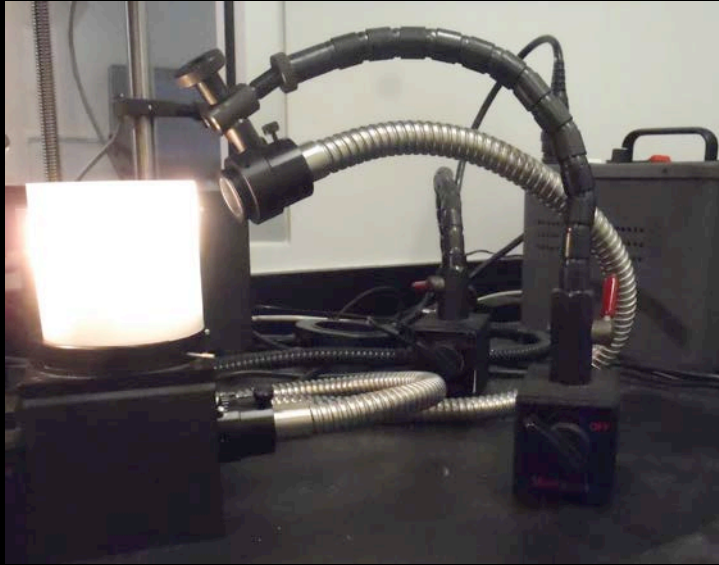
Specimen Preparation



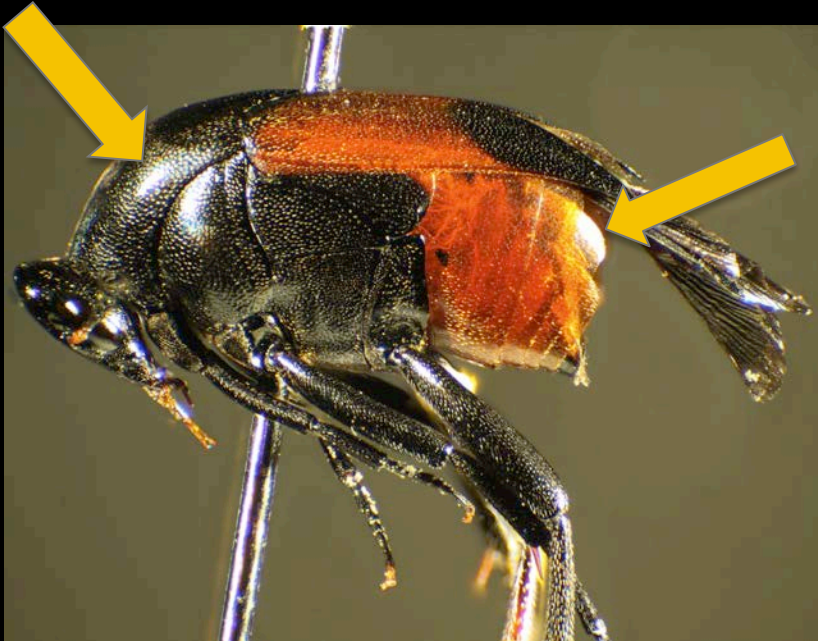
Positioning



Lighting



Direct vs. Diffused Lighting

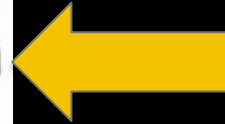


Step by Step

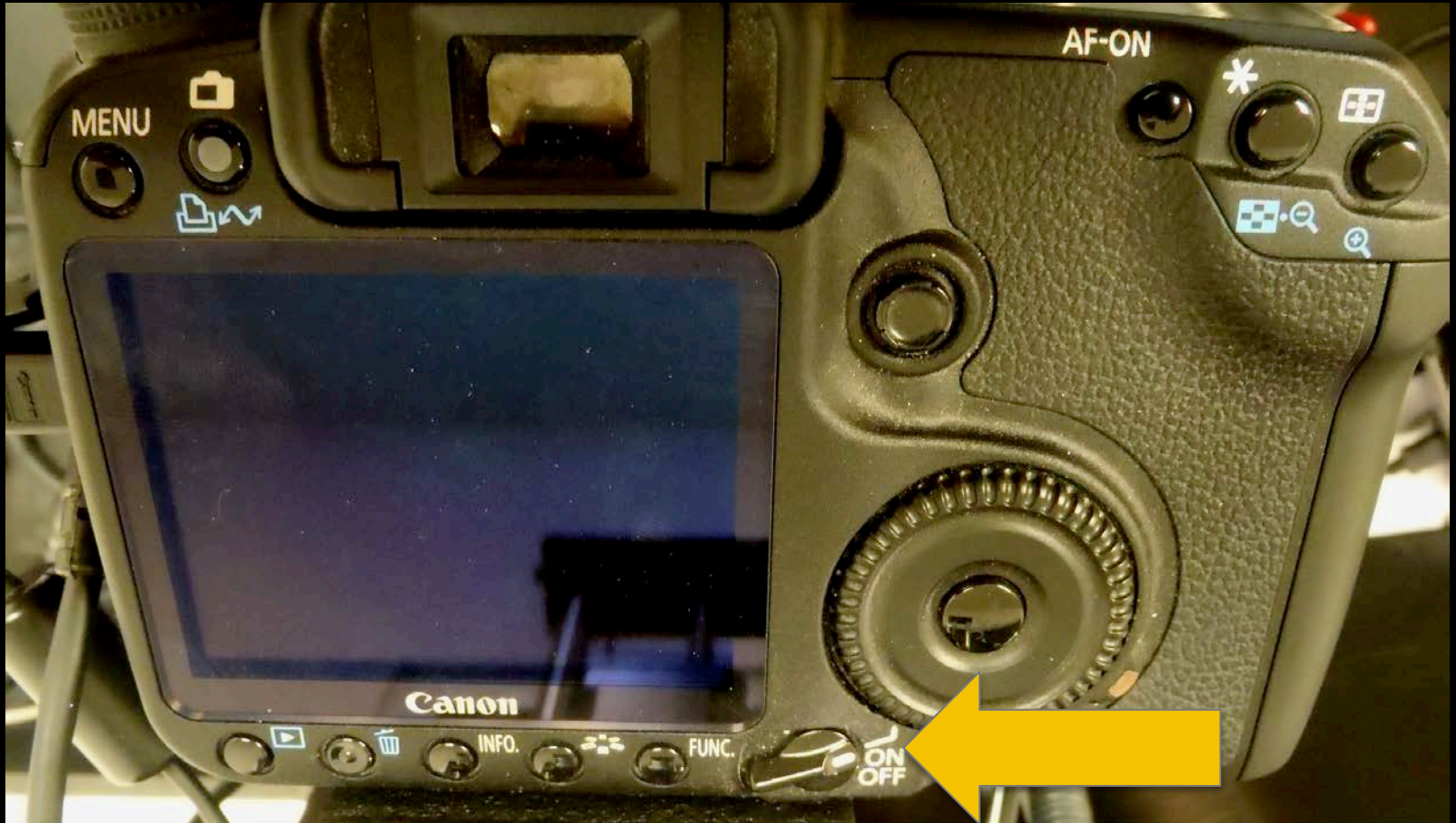
- 1.



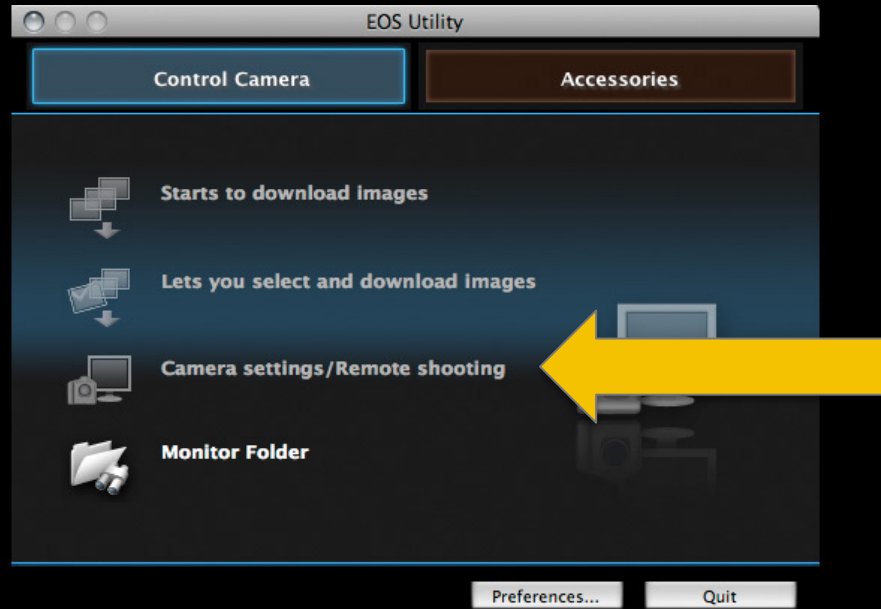
- 2.



- 3.

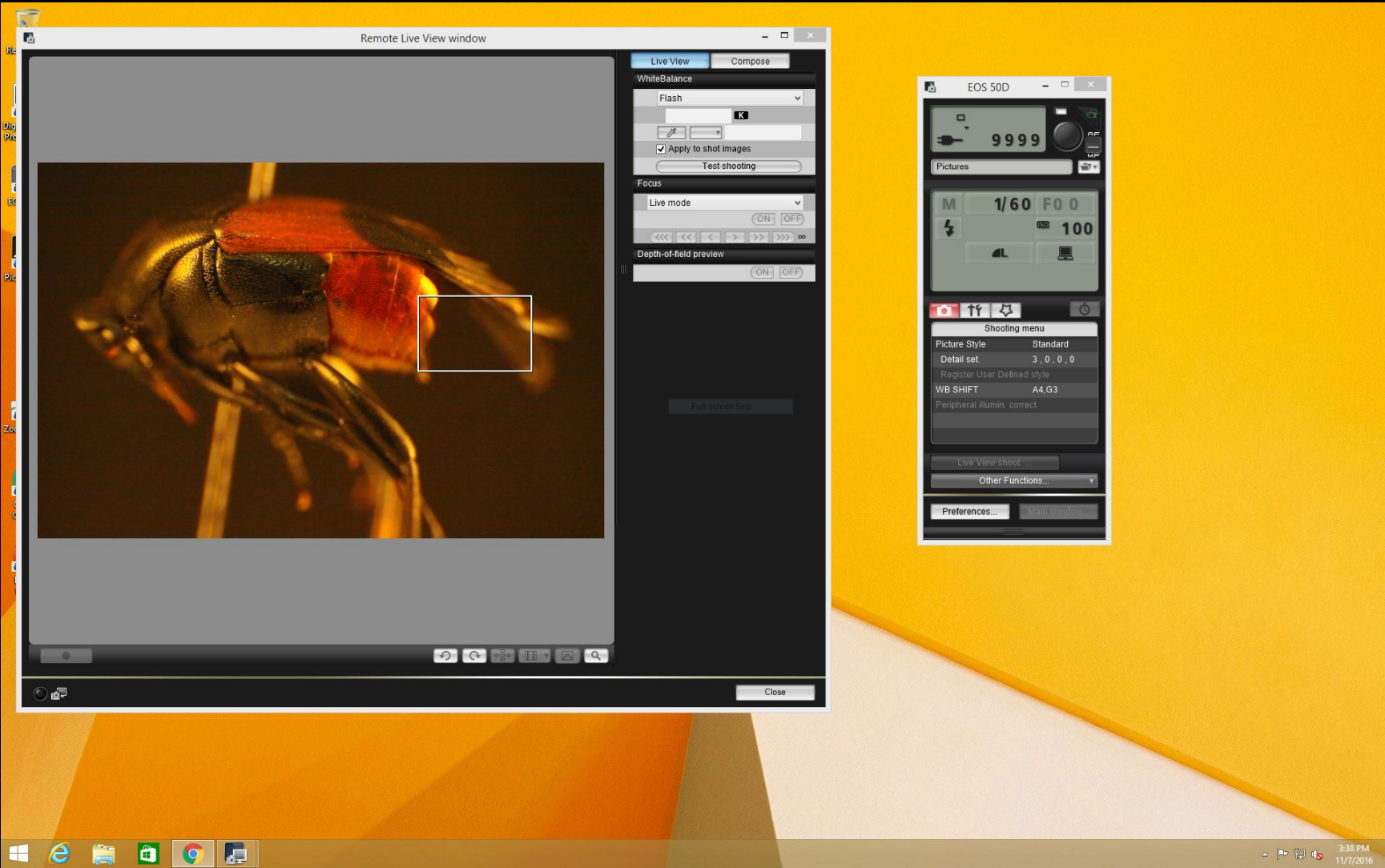


• 4.



• 5.





Remote Live View window

Live View Compose

WhiteBalance

Flash [K]
 Apply to shot images
Test shooting

Focus
Live mode [ON] [OFF]
Navigation arrows

Depth-of-field preview [ON] [OFF]

Full-screen Snap

Close

EOS 50D

9999
Pictures

M 1/60 F0.0
100

Shooting menu
Picture Style Standard
Detail set 3, 0, 0, 0
WB SHIFT A4, G3

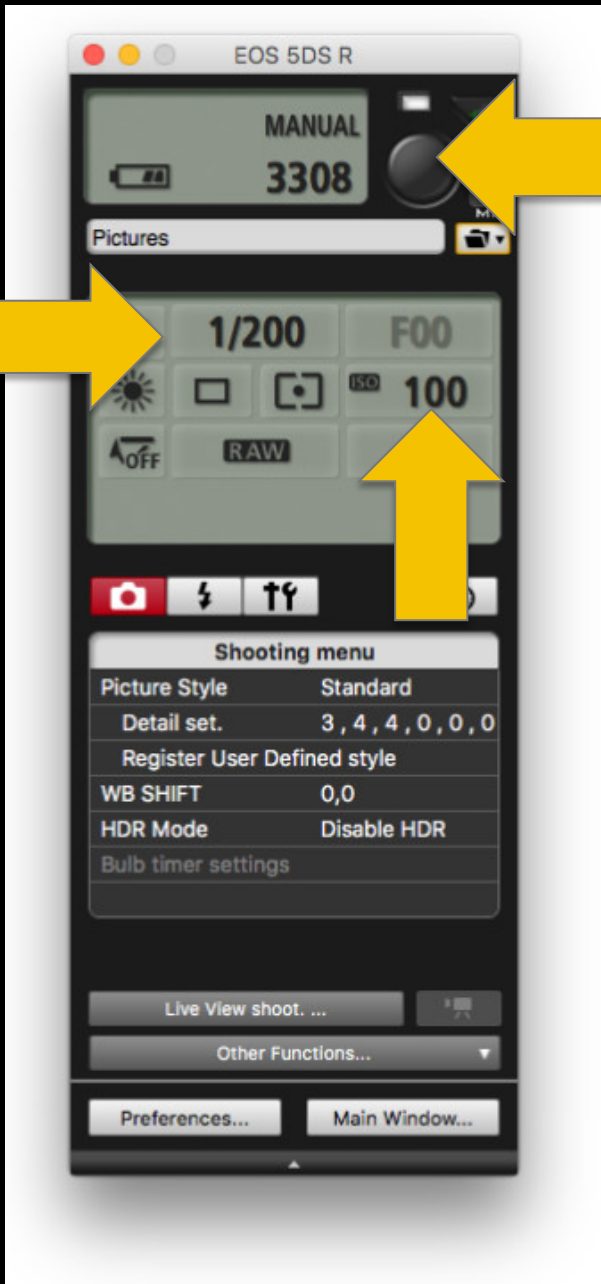
Live View shoot
Other Functions...
Preferences... Main Window...



- 6.



• 7.



• 8.



- 9.



• 10.



• 11.



Remote Live View window

Digital Photo Professional - [C:\Users\jbremer\Pictures]

File Edit View Bookmark Adjustment Tools Window Help

Live View Compose

WhiteBalance

Flash

Folder: Collection (0)

Desktop

- Bremer, Jonathan Sloan
- Contacts
- Desktop
- Documents
- Downloads
- Favorites
- Links
- Music
- Pictures
- Saved Games
- Searches
- Videos
- This PC
- Libraries
- Network

IMG_2003.JPG IMG_2004.JPG IMG_2005.JPG IMG_2006.JPG

IMG_2007.JPG IMG_2008.JPG IMG_2009.JPG IMG_2010.JPG

IMG_2011.JPG IMG_2012.JPG IMG_2013.JPG IMG_2014.JPG

High quality Recipe data: Number of images: 50 Number of selected images: 0

EOS 50D

9999

Pictures

M 1/30 F0.0

100

Shooting menu

Picture Style Standard

Detail set 3, 0, 0, 0

Register User Defined style

WB SHIFT A4, G3

Peripheral illumin. correct

Live View shoot

Other Functions

Preferences... Main Window

• 12.

The image displays two software windows side-by-side. The left window is Helicon Focus 6.2.2 - Registered Pro unlimited, showing a large image of a beetle and a list of source images. The right window is Digital Photo Professional - [C:\Users\jbremer\Pictures], showing a grid of image thumbnails. A yellow arrow points from the source image list in Helicon Focus to the corresponding image in the DPPP grid. The Windows taskbar at the bottom shows the time as 3:47 PM on 11/7/2016.

Helicon Focus 6.2.2 - Registered Pro unlimited

File Edit View Help

Rendering Retouching Text/Scale Saving

Source images (50):

- IMG_0003.JPG 11/7/2016 4:46:25 PM
- IMG_0004.JPG 11/7/2016 4:46:28 PM
- IMG_0005.JPG 11/7/2016 4:46:31 PM
- IMG_0006.JPG 11/7/2016 4:46:34 PM
- IMG_0007.JPG 11/7/2016 4:46:37 PM
- IMG_0008.JPG 11/7/2016 4:46:40 PM
- IMG_0009.JPG 11/7/2016 4:46:43 PM
- IMG_0010.JPG 11/7/2016 4:46:47 PM
- IMG_0011.JPG 11/7/2016 4:46:51 PM

Rendering method:

- Method A (weighted average)
- Method B (depth map)
- Method C (pyramid)

Downscaling: Full resolution (100%)

Radius: 16

Smoothing: 2

Reset Render

Outputs

Good for intersecting objects and deep stacks 15.5%

Digital Photo Professional - [C:\Users\jbremer\Pictures]

File Edit View Bookmark Adjustment Tools Window Help

Compose

Folder Collection (0)

Bremer,Jonathan Sloan

- Desktop
- Documents
- Downloads
- Favorites
- Links
- Music
- Pictures
- Saved Games
- Searches
- Videos
- This PC
- Libraries
- Network

High quality Recipe data: No Number of images: 50 Number of selected images: 50

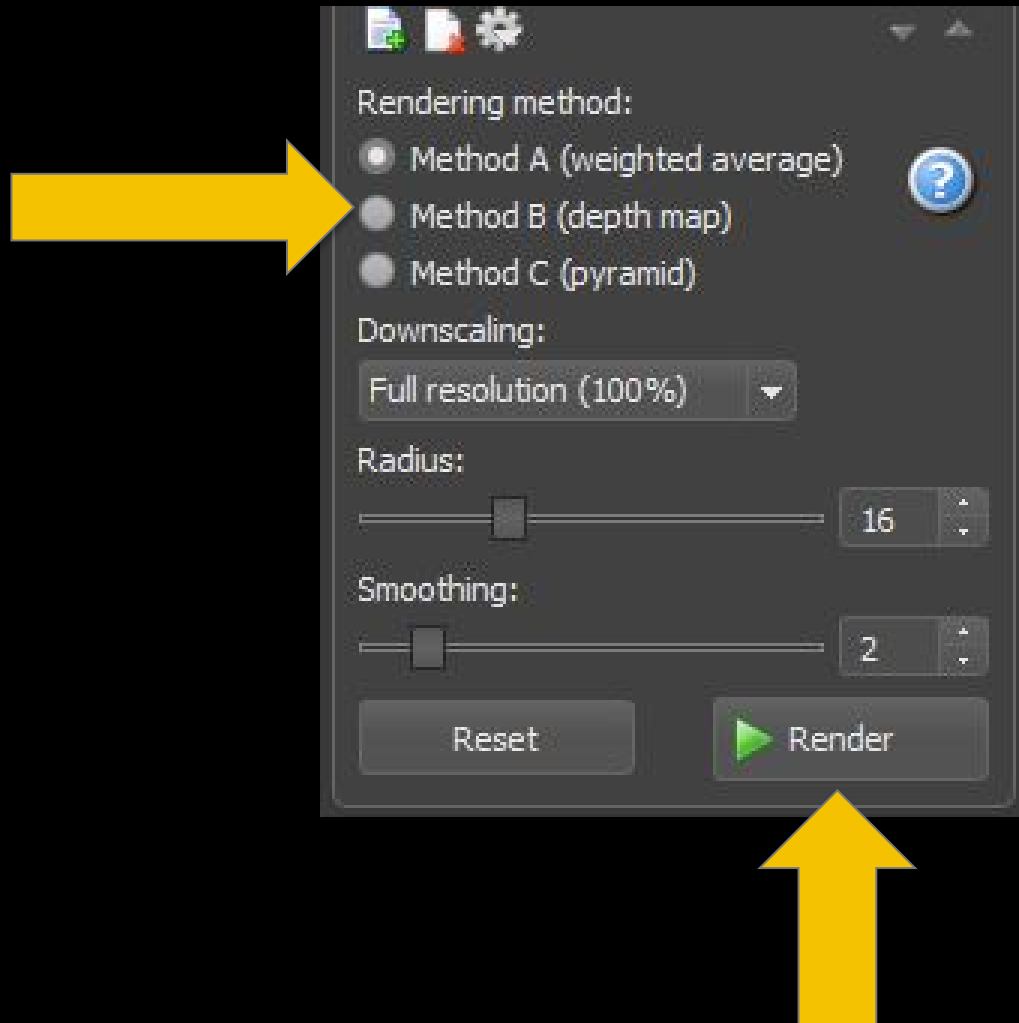
Close

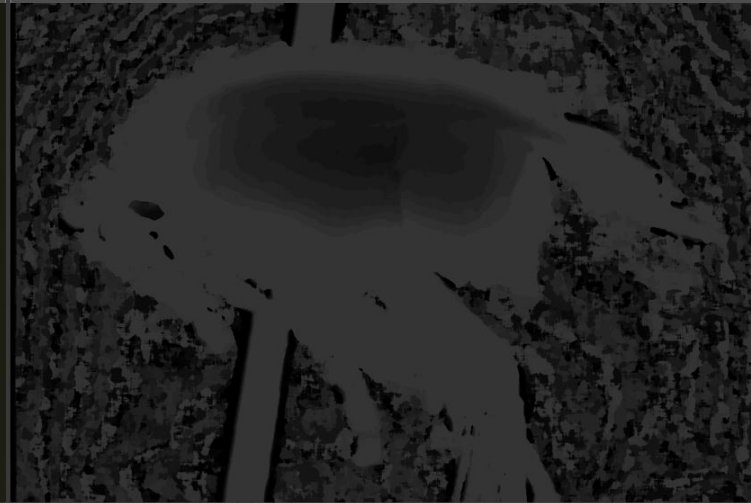
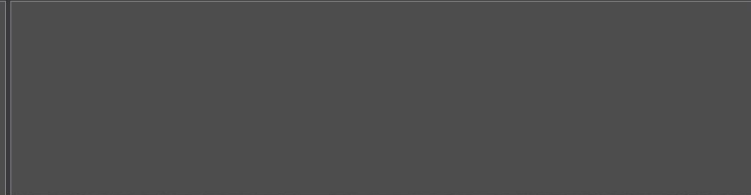
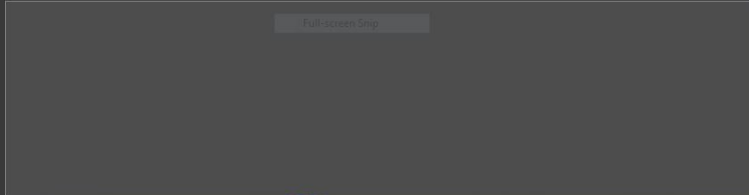
Full-screen Snip

EOS 50D 9999

3:47 PM 11/7/2016

- 13.





Focus parameters

- Source images (50):
- IMG_0005.JPG 11/7/2016 4:46:31 PM
 - IMG_0006.JPG 11/7/2016 4:46:35 PM
 - IMG_0007.JPG 11/7/2016 4:46:38 PM
 - IMG_0008.JPG 11/7/2016 4:46:41 PM
 - IMG_0009.JPG 11/7/2016 4:46:44 PM
 - IMG_0010.JPG 11/7/2016 4:46:47 PM
 - IMG_0011.JPG 11/7/2016 4:46:51 PM
 - IMG_0012.JPG 11/7/2016 4:46:54 PM
 - IMG_0013.JPG 11/7/2016 4:46:57 PM

Rendering method:

- Method A (weighted average)
- Method B (depth map)
- Method C (pyramid)

Downscaling:
Full resolution (100%)

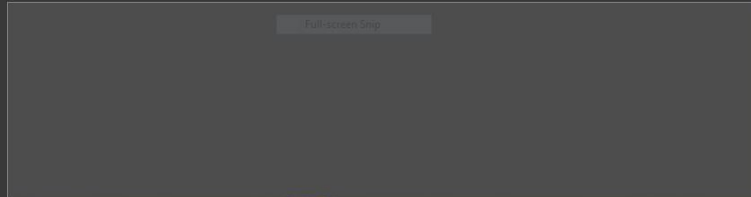
Radius: 16

Smoothing: 2

Reset Render

Outputs (1)

M=B, R=16, S=2



Focus parameters

- Source images (50):
- IMG_0044.JPG 11/7/2016 4:48:38 PM
 - IMG_0045.JPG 11/7/2016 4:48:41 PM
 - IMG_0046.JPG 11/7/2016 4:48:44 PM
 - IMG_0047.JPG 11/7/2016 4:48:48 PM
 - IMG_0048.JPG 11/7/2016 4:48:51 PM
 - IMG_0049.JPG 11/7/2016 4:48:54 PM
 - IMG_0050.JPG 11/7/2016 4:48:57 PM
 - IMG_0051.JPG 11/7/2016 4:49:01 PM
 - IMG_0052.JPG 11/7/2016 4:49:04 PM

Rendering method:

- Method A (weighted average)
- Method B (depth map)
- Method C (pyramid)

Downscaling:
Full resolution (100%)

Radius: 16

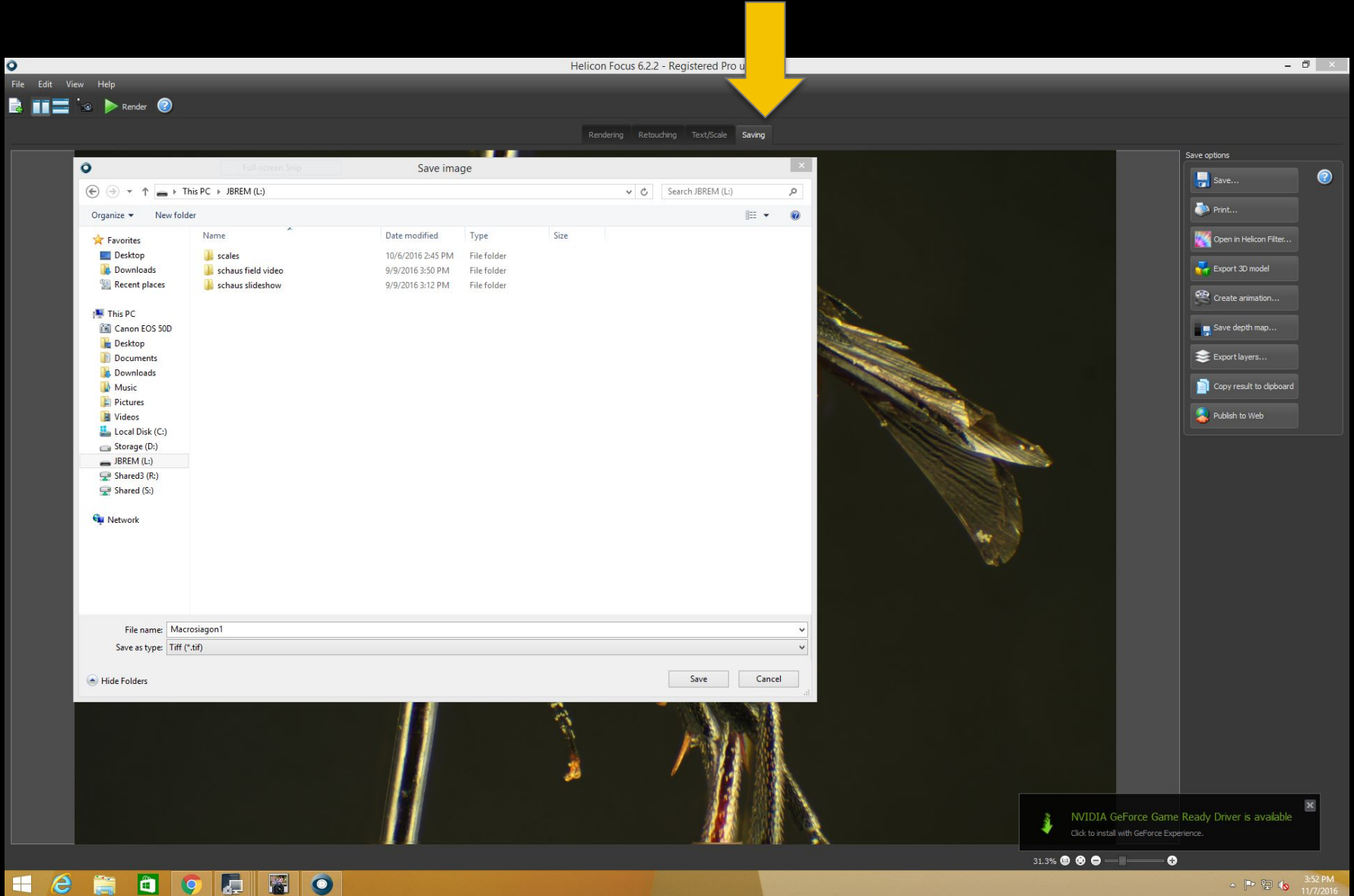
Smoothing: 2

Reset Render

Outputs (1)

M=5, R=16, S=2

• 14.



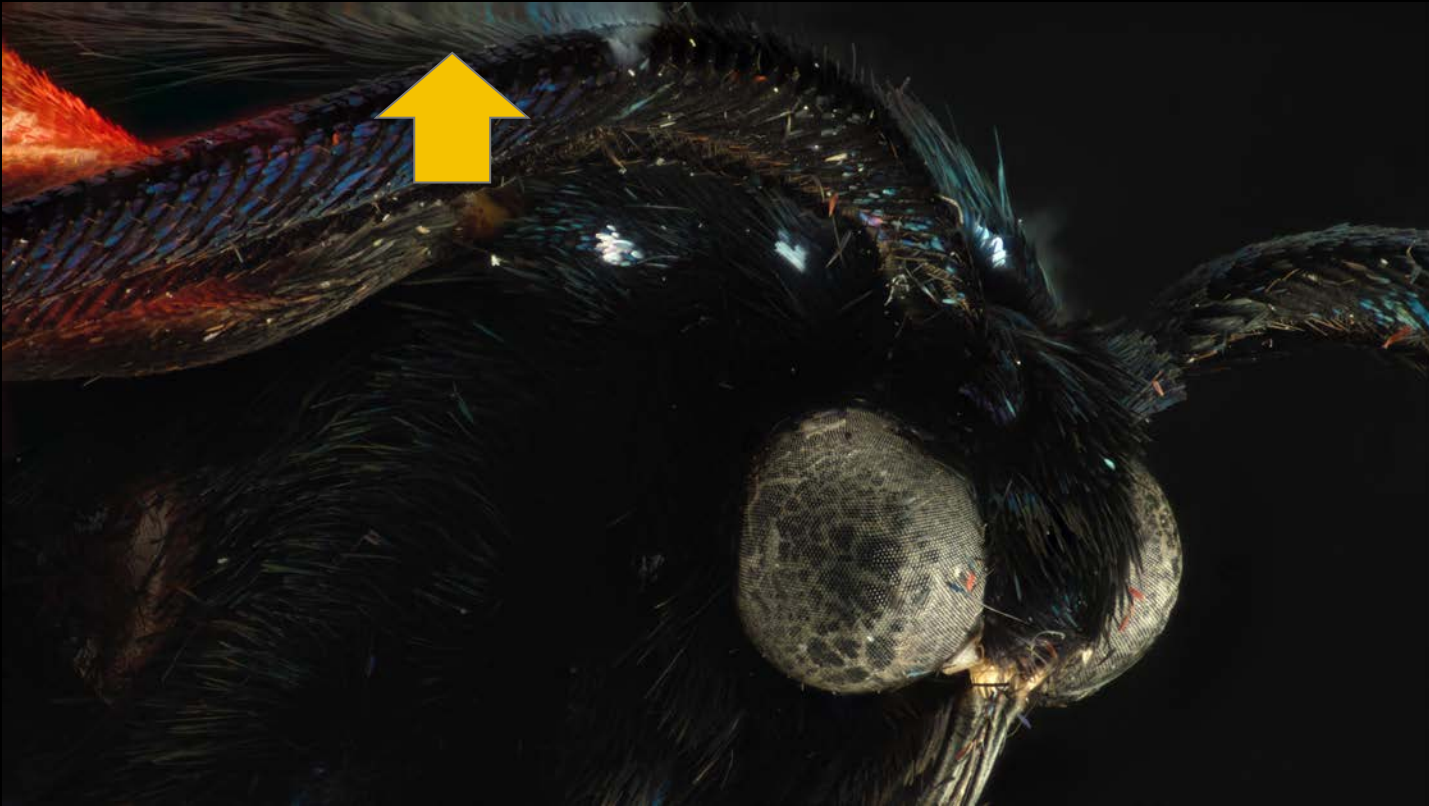
Common Errors

- Using too few steps when building a stack



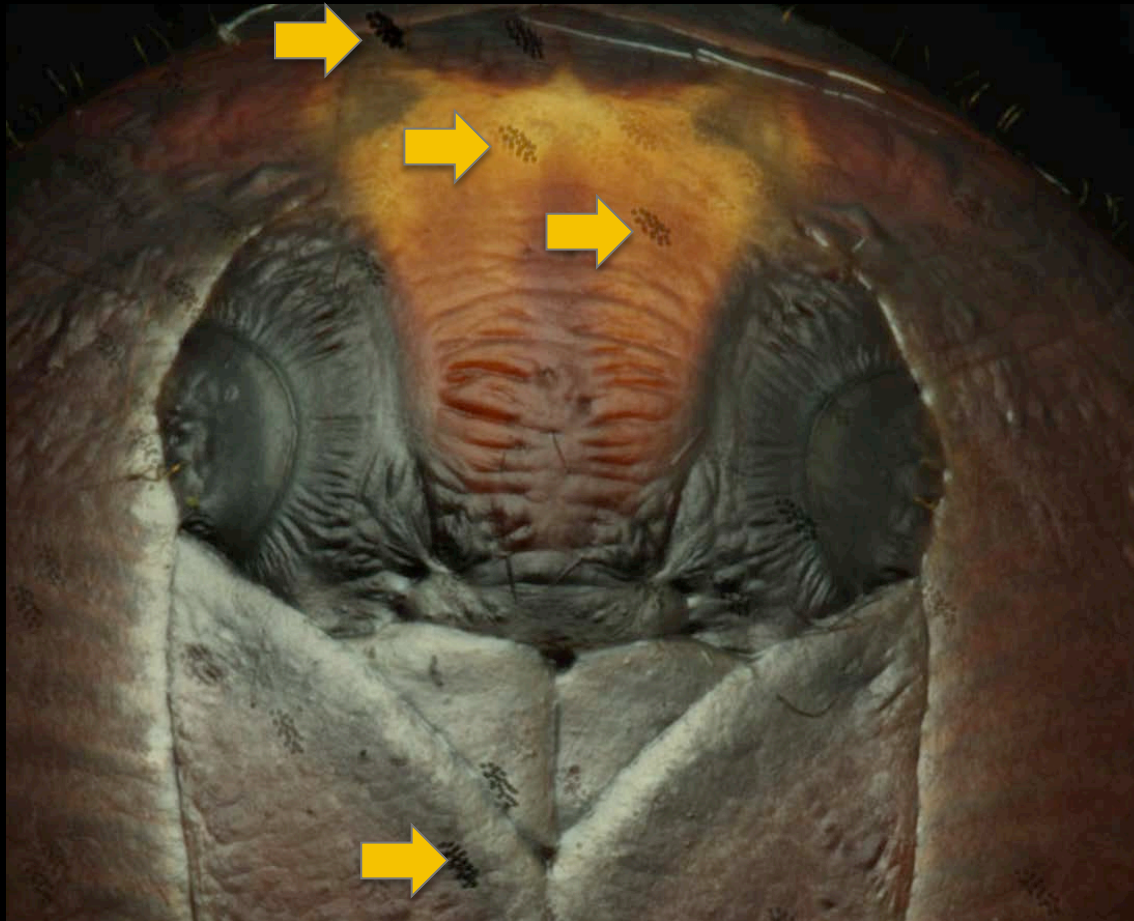
Common Errors

- Blurry Edges



Common Errors

- Dirty sensor/lens



Common Errors

- Reflective pins, etc.









Questions?

