



Photography 101 for 'Biological Collections Digitization in the Pacific'

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Shopping List

- Copy stand
- Camera
- Lens
- Cables
 - AC adapter
 - Long USB cable
- Computer
- Software
 - Camera control software
 - Image management software
- Lights OR Photo-eBox Plus
- Miscellaneous

Copy Stand

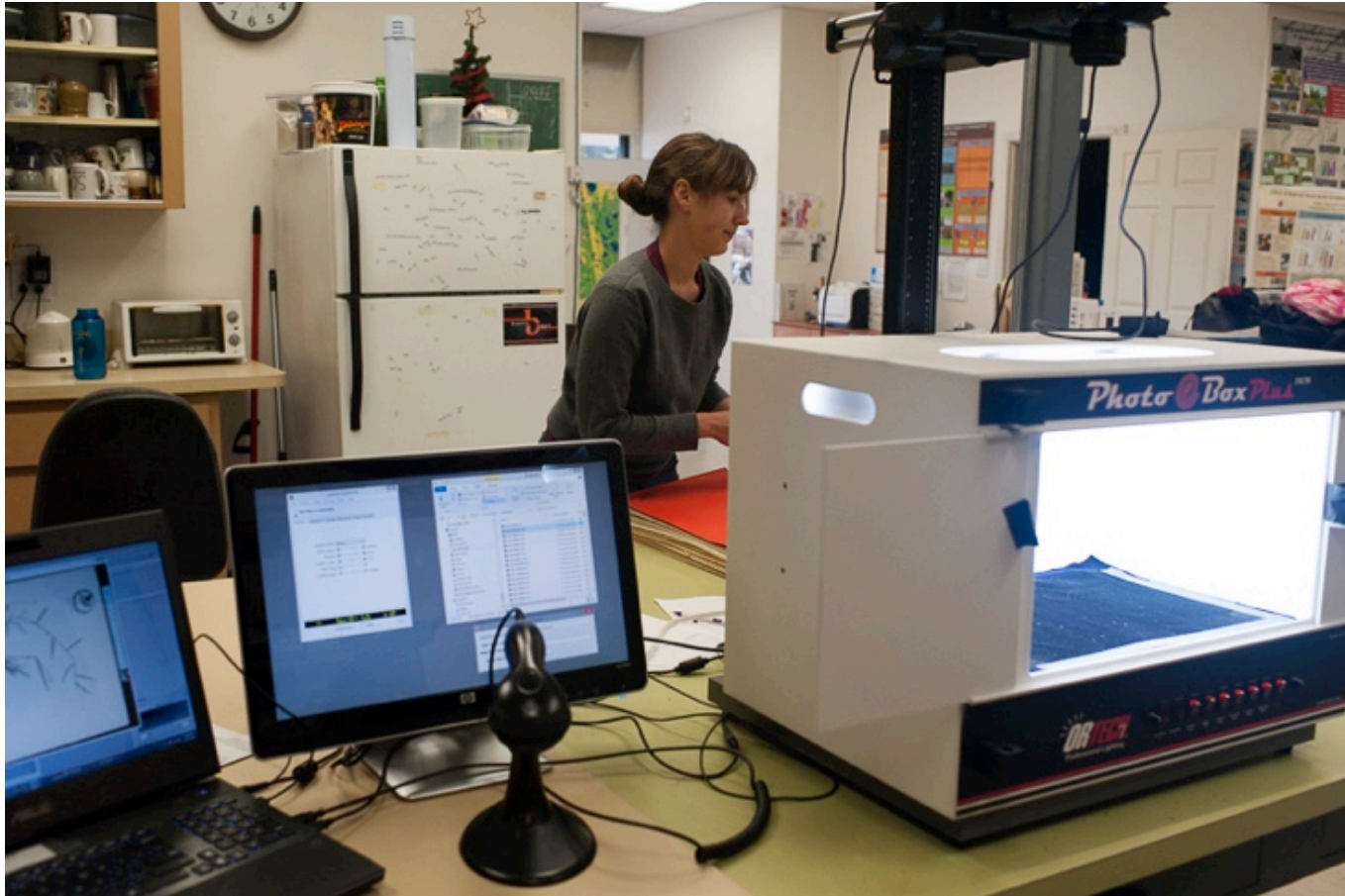
Kaiser 205512 RSX



Photo eBox Plus



Photo eBox Plus – in action



Camera

Canon - Nikon

Full frame, at least 18MP



full frame vs. cropped frame



The Subway, Zion National Park, Utah (by Guy Tal).

Lens

50 – 60 mm macro

Goal: Good 1:1 fidelity

Macrophotography lenses have extra close focusing ability



Cables

- AC Adapter – replaces dependence on battery
- Camera Control – tethering camera to computer, using LiveView

Key Photography Terms

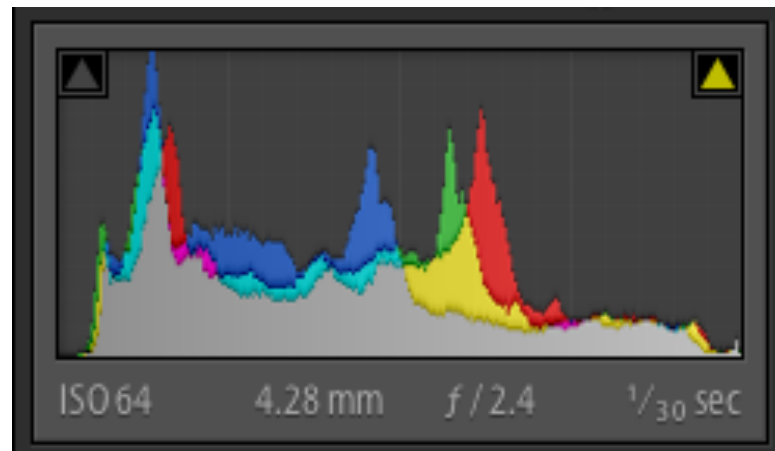
Image goals:

- Exposure – well-balanced
- White balance – accurate light, no color cast
- Focus - sharp

Exposure

Combination of ISO, speed and f-stop

Histogram



Camera Settings

- Put the camera in manual mode (not program, shutter speed, aperture, etc.)
- Set matrix metering (not spot)
- Place the lens in auto focus
- Exposure
 - f/stop between f/9 and f/11
 - ISO = 100
 - Shutter speed = 1/60 sec.
- White balance: auto, but depends on lights
- Set image quality to RAW
- Move the camera up and down on the copy stand until in LiveView the subject fills the frame and is in focus.

Miscellaneous Equipment (1)

- Spigots (spacers) and copy stand adapters
- Barcode reader
- External hard drive
- Hot-shoe bubble

Miscellaneous Equipment (2)

- Extra bulbs
- Ruler
- Color checker
- Lens cleaning supplies
- Roll of 1" gaffer tape
- Monitor color correction

Image Management Software

Adobe Lightroom

Camera Control Software Overview

- Canon
- Nikon
- Third Party

End of Presentation

Further slides give examples of using the two main camera control packages

Additionally, there is a wealth of knowledge here:

[https://www.idigbio.org/wiki/index.php/
Digitization_Resources#Imaging_Documents_and_Resources](https://www.idigbio.org/wiki/index.php/Digitization_Resources#Imaging_Documents_and_Resources)

See here

[https://www.idigbio.org/wiki/images/5/58/
Image_File_Format_Recommendations_and_Standards.pdf](https://www.idigbio.org/wiki/images/5/58/Image_File_Format_Recommendations_and_Standards.pdf)

for the iDigBio ‘fit for use’ imaging standards

See here

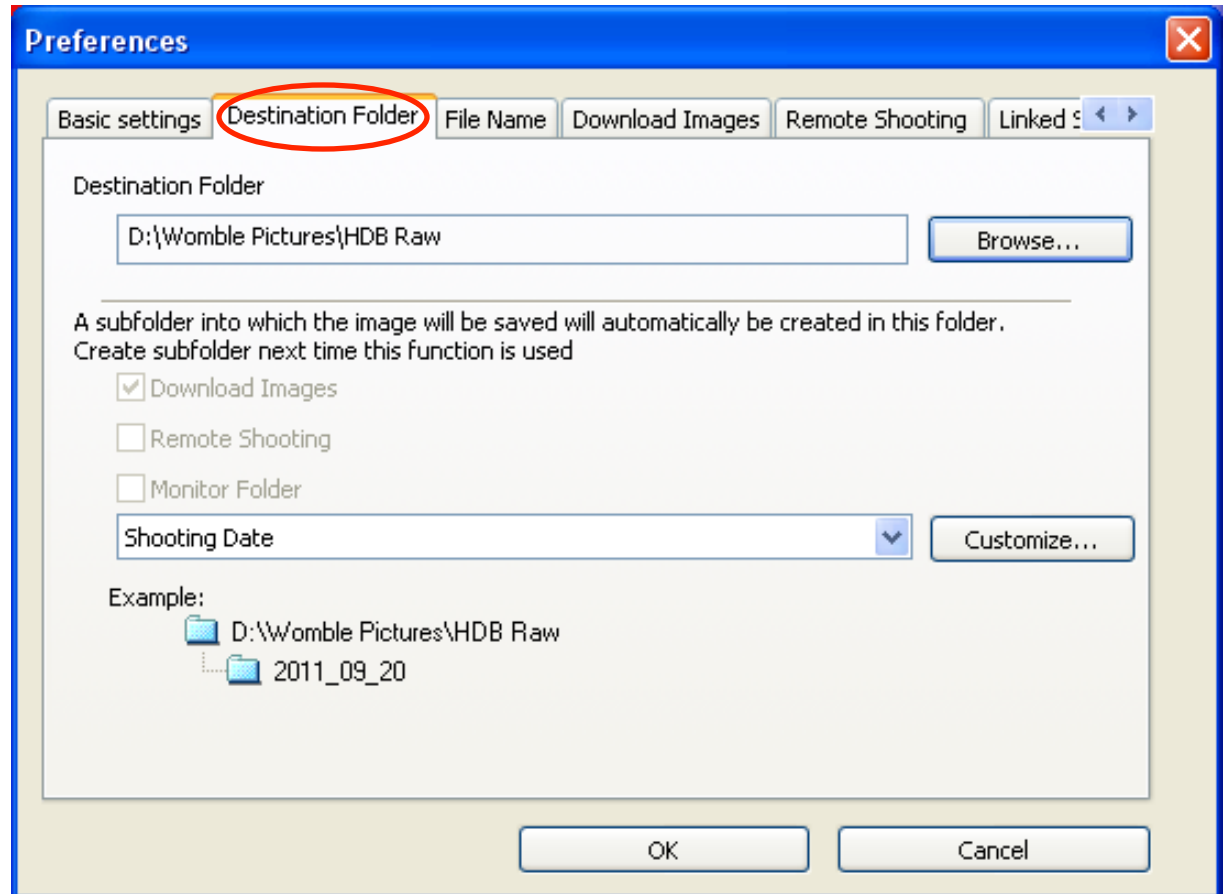
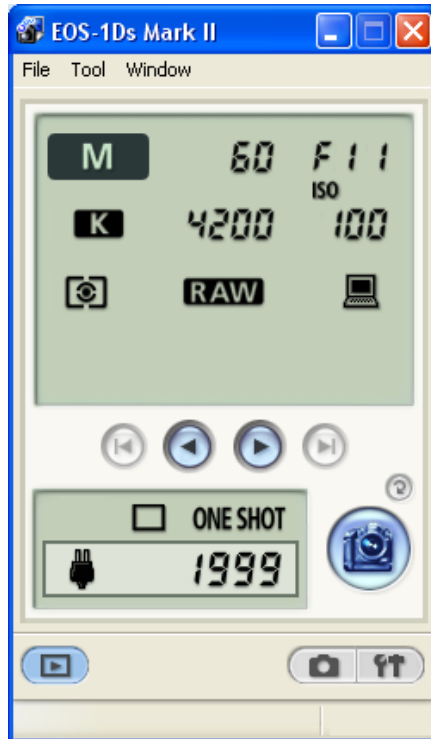
[https://www.idigbio.org/sites/default/files/workshop-presentations/
iDigBioImagingGeneralEquipmentRecommendations1_0.pdf](https://www.idigbio.org/sites/default/files/workshop-presentations/iDigBioImagingGeneralEquipmentRecommendations1_0.pdf)

for a shopping list of photo digitization equipment

Canon EOS Utility (for tethered shooting and control of the camera)



EOS Utility



EOS Utility

Preferences

Basic settings | Destination Folder | **File Name** | Download Images | Remote Shooting | Linked S

☐ Save also on the camera's memory card

☐ Rotate image

File name when [Do not modify] is selected in the file name settings

File Prefix

IMG

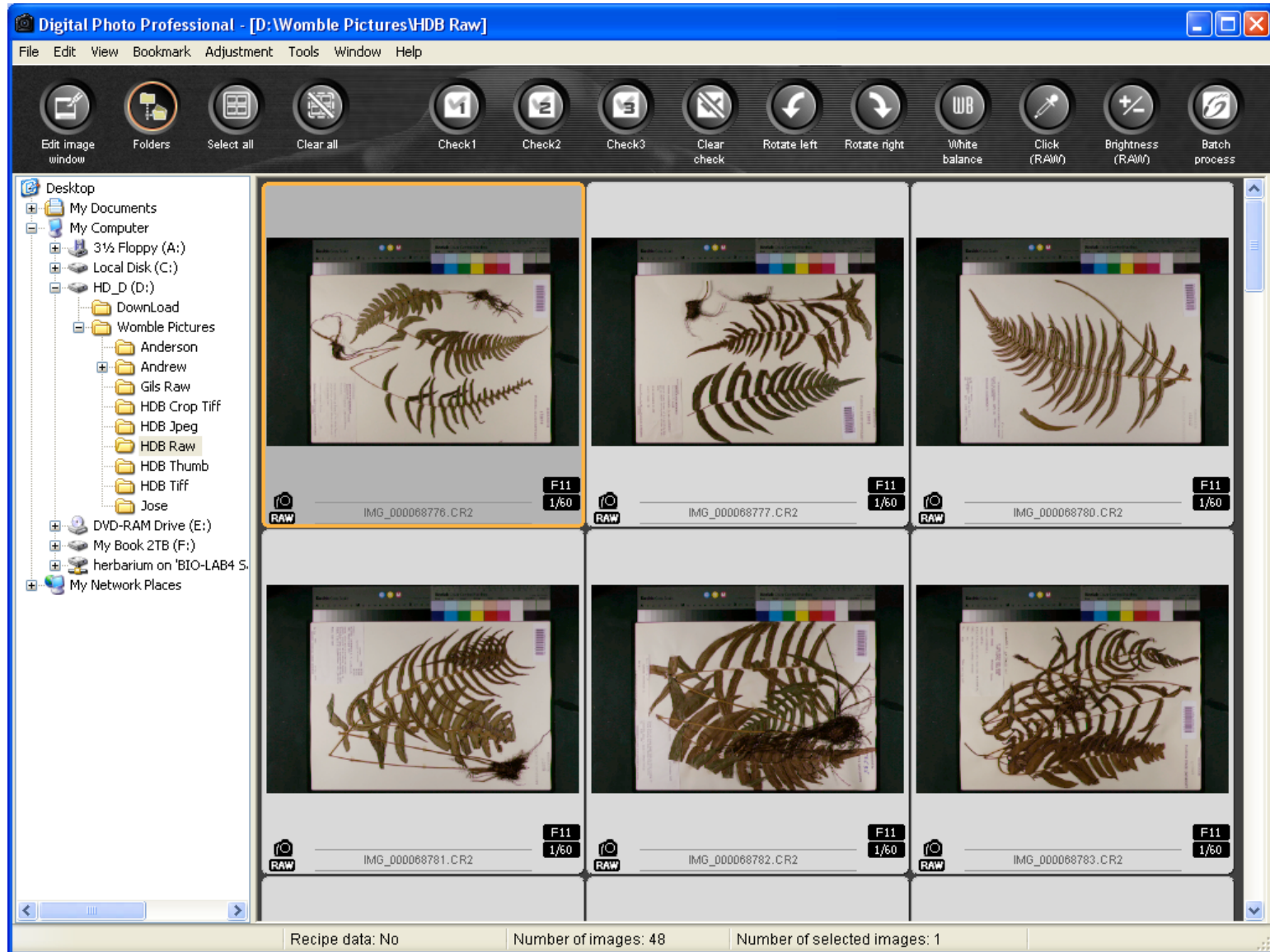
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Number of Digits 9

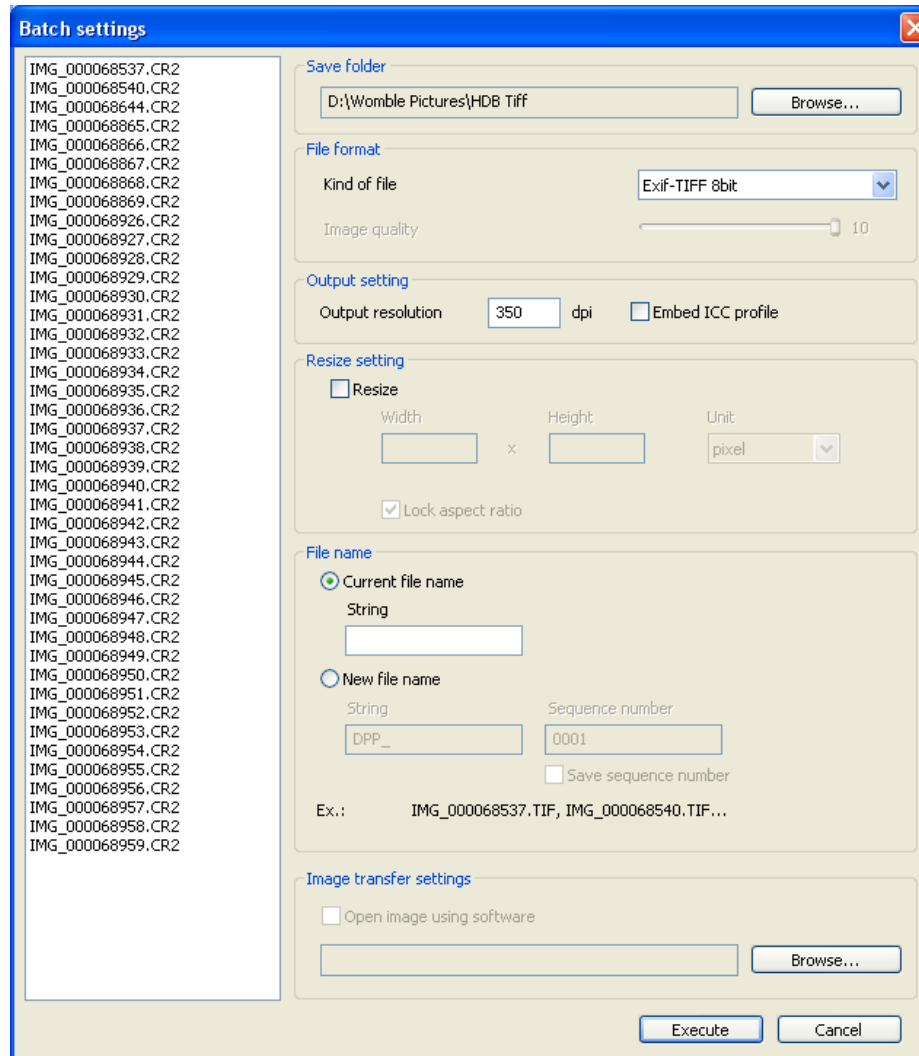
Start 68540

OK Cancel

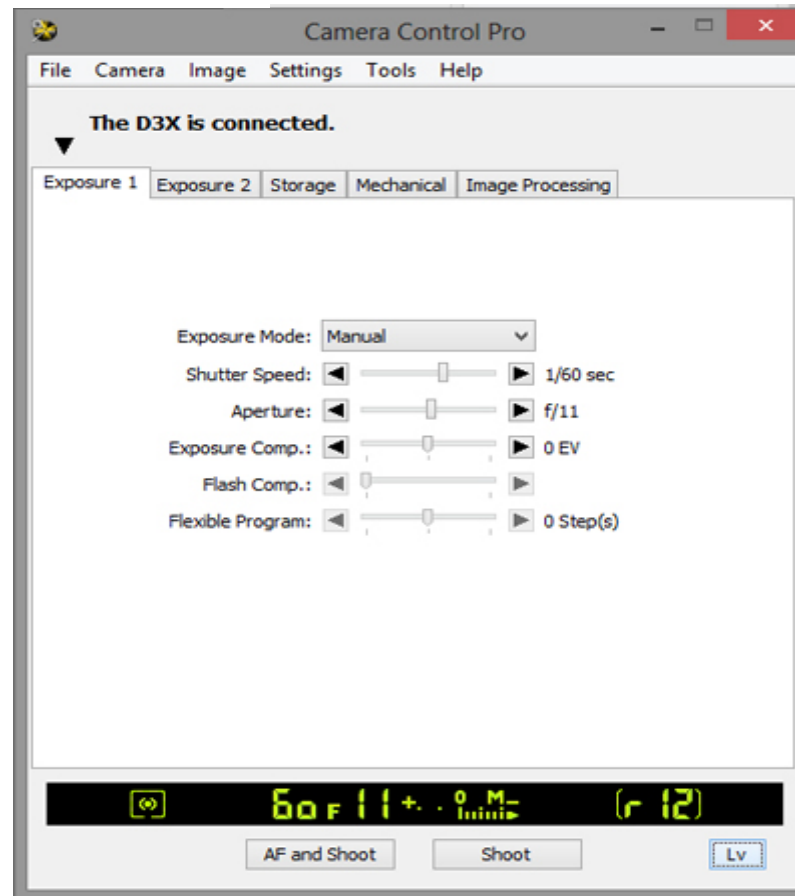
Canon Digital Photo Professional



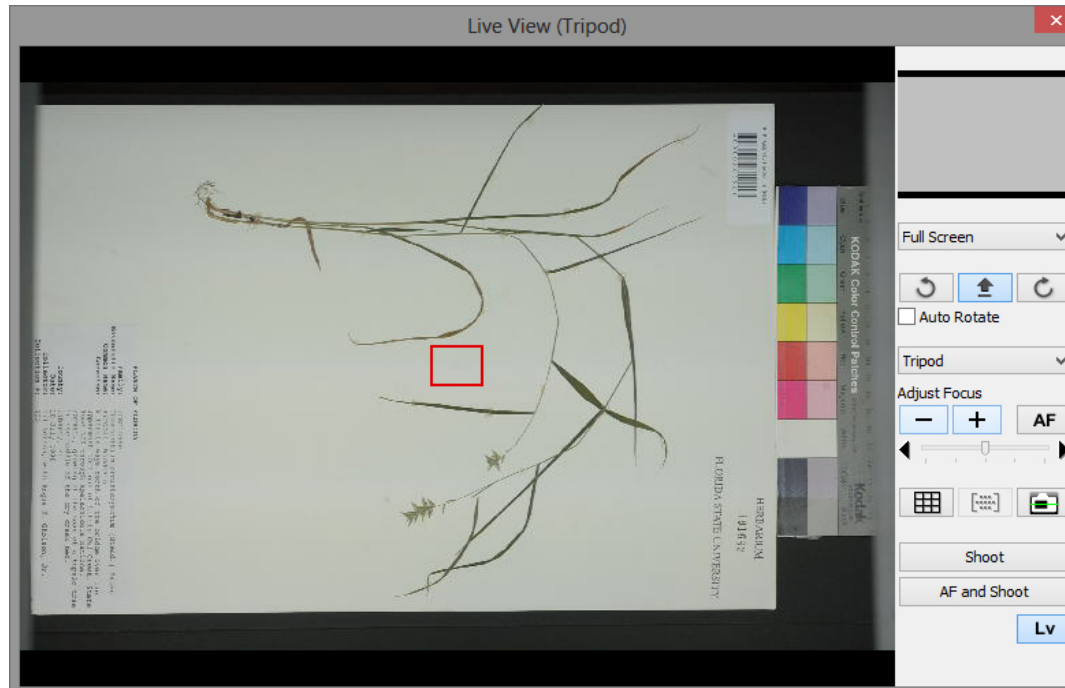
Canon Digital Photo Professional



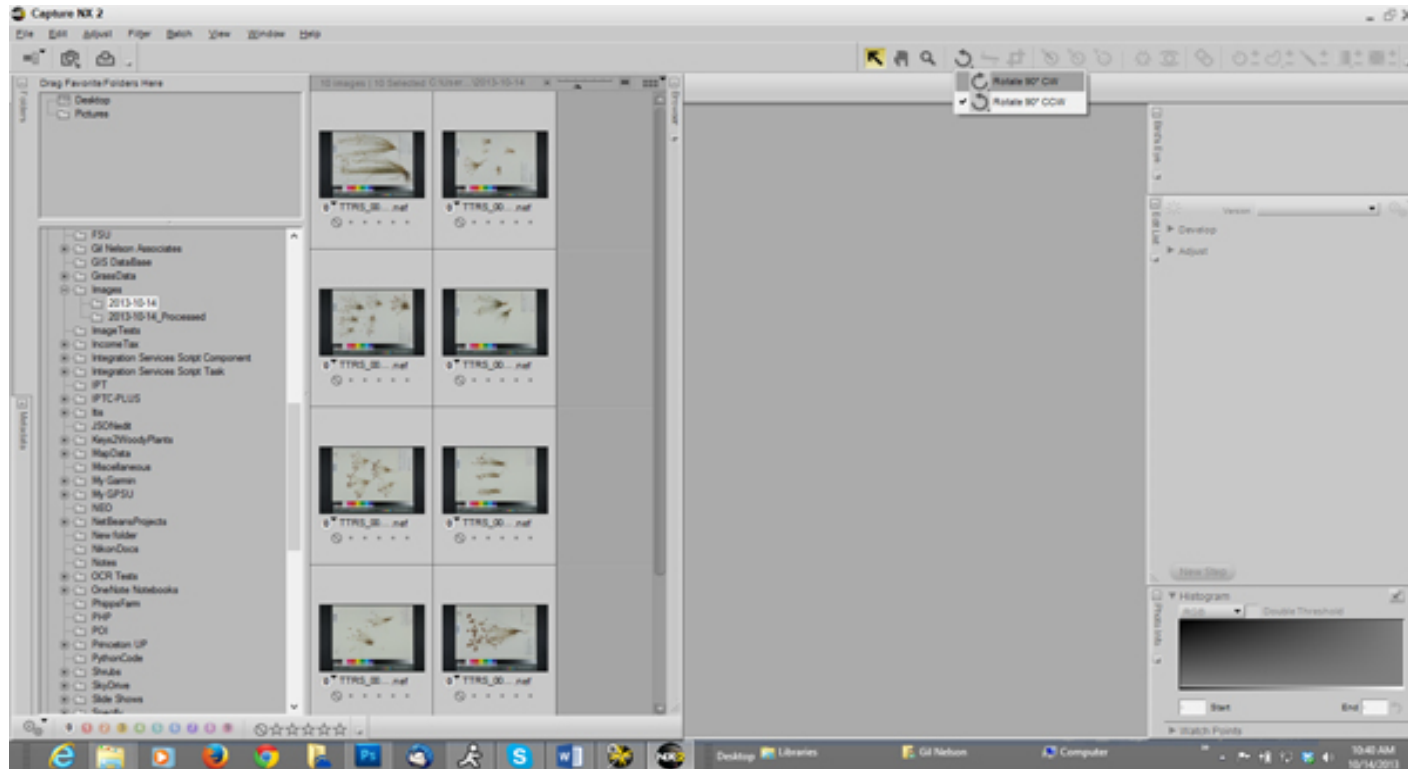
Nikon Camera Control Pro 2



Nikon Camera Control Pro 2 Live View



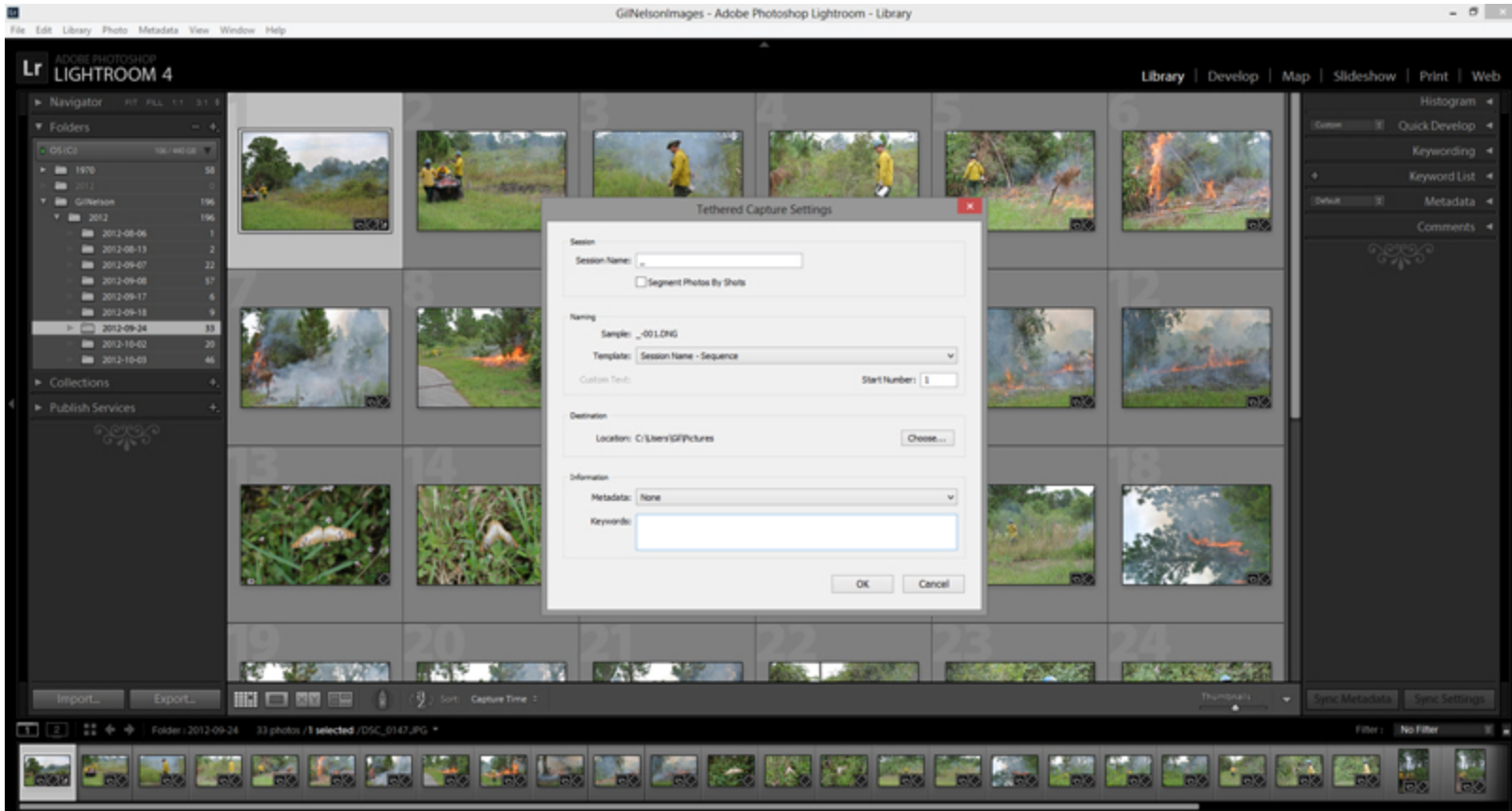
Nikon Capture NX2



Lightroom



Lightroom Tethered Shooting



What about PhotoShop?