



# Photography 101 For Small Herbaria Digitization

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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 BIO
- Miscellaneous

# Copy Stand

**Kaiser 205512 RSX**



# Photo eBox Plus



# 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



# Photography Terms

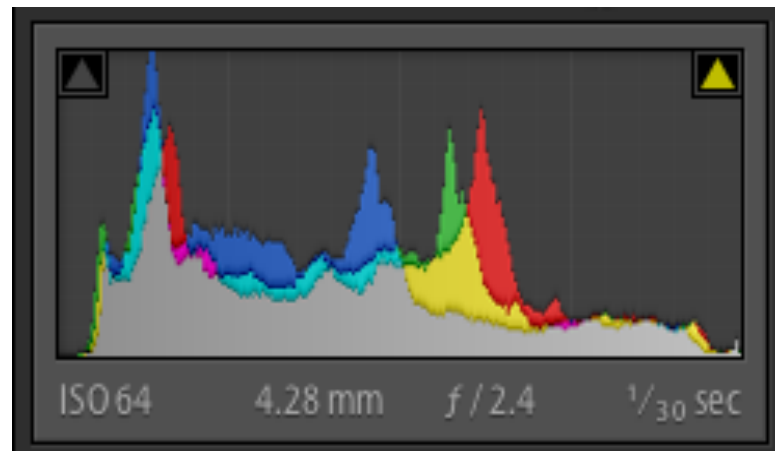
Image goals:

- 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
- External hard drive
- Hot-shoe bubble
- Barcode reader



## Miscellaneous Equipment (2)

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

# Image Management Software

Adobe Lightroom

*Kim will tell you more later*

# Camera Control Software Overview

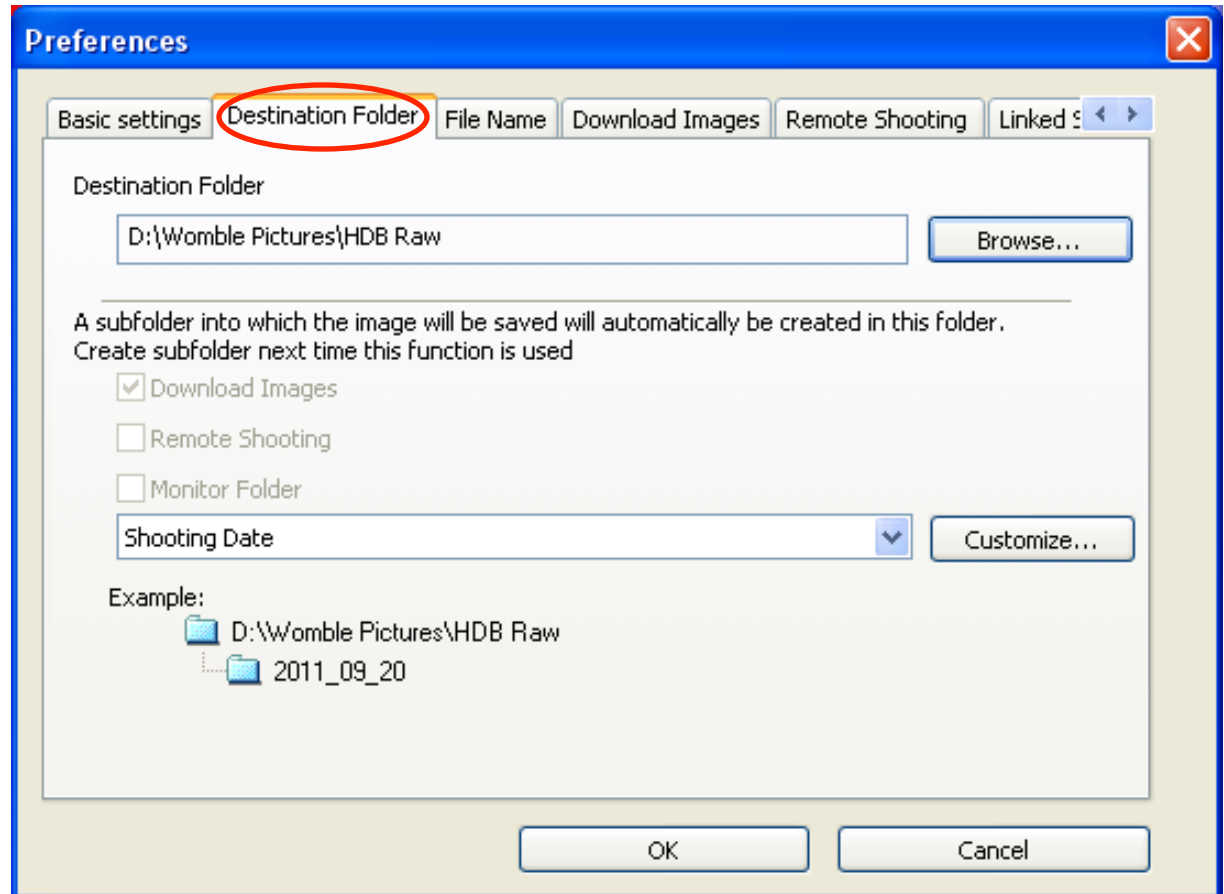
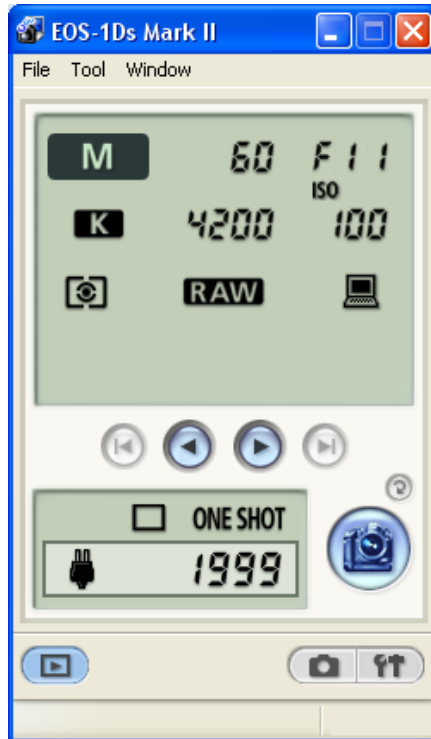
- Canon
- Nikon
- Third Party

## 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

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

File Prefix

IMG

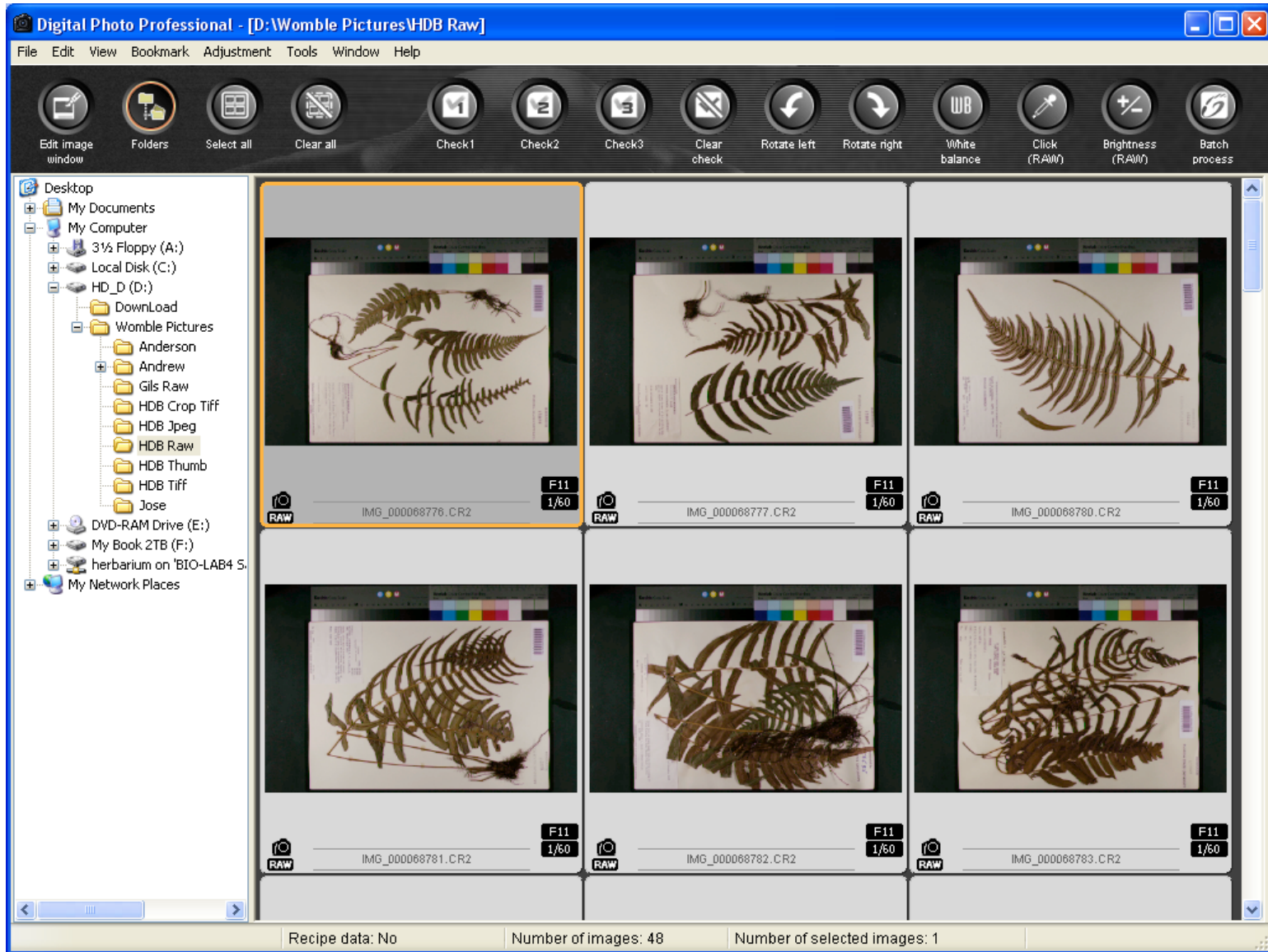
Assign Sequence No.

Number of Digits 9

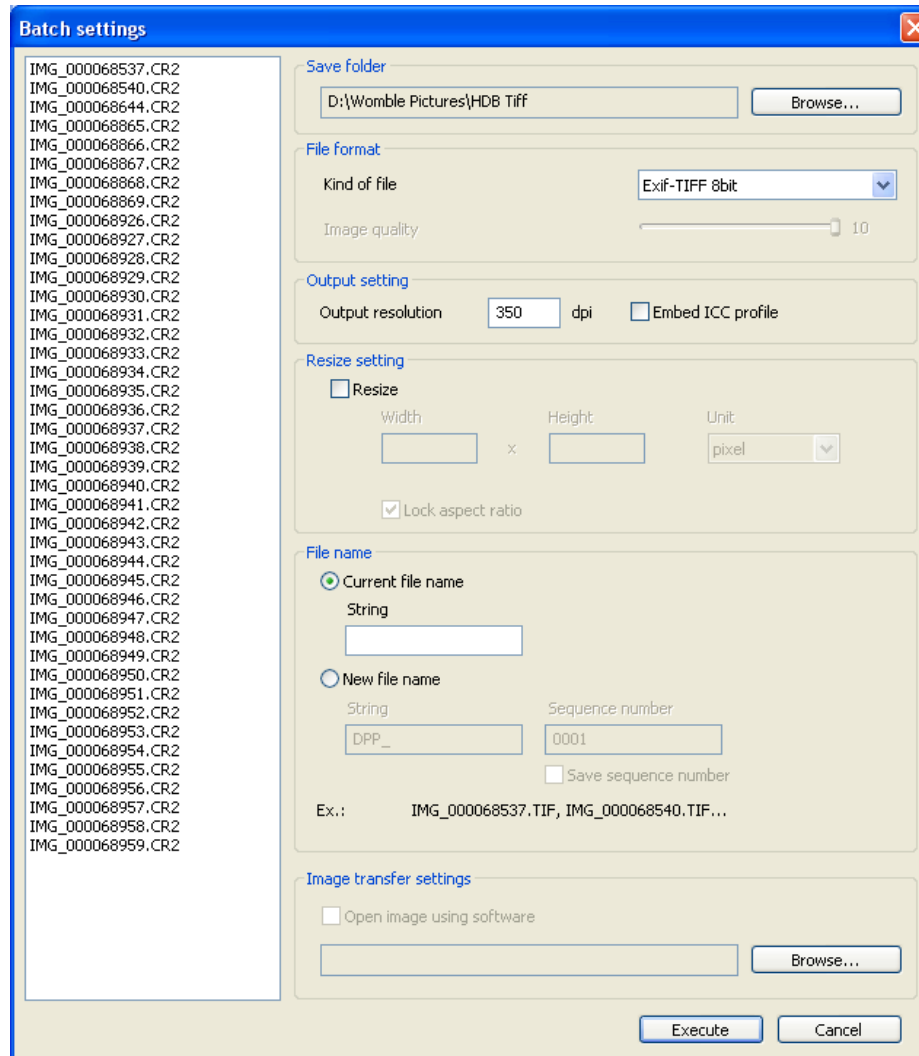
Start 68540

OK Cancel

# Canon Digital Photo Professional

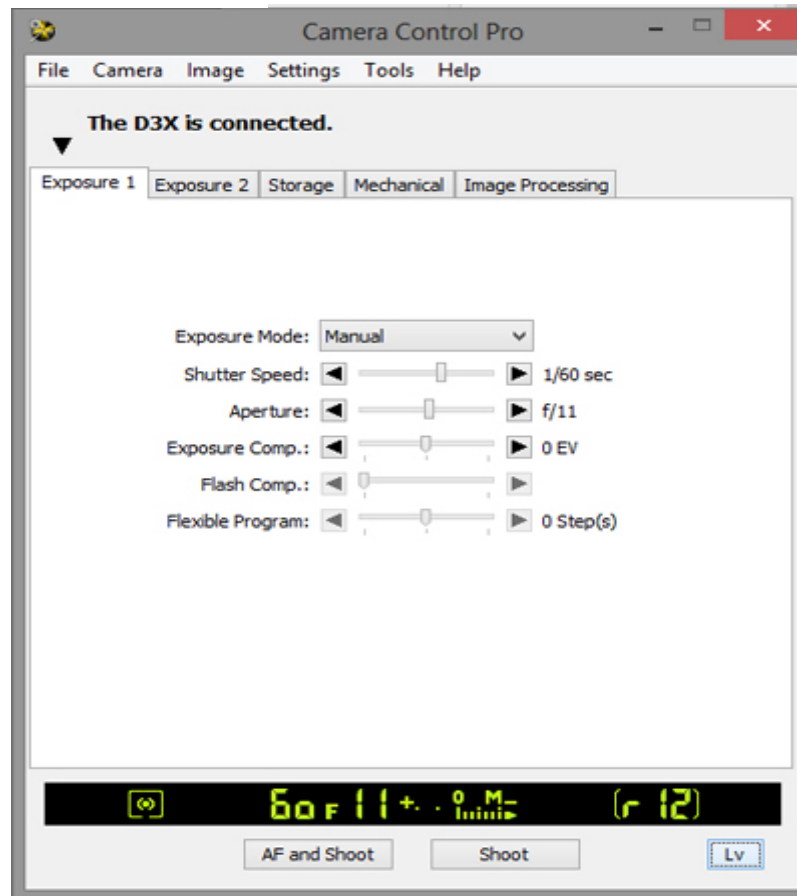


# Canon Digital Photo Professional

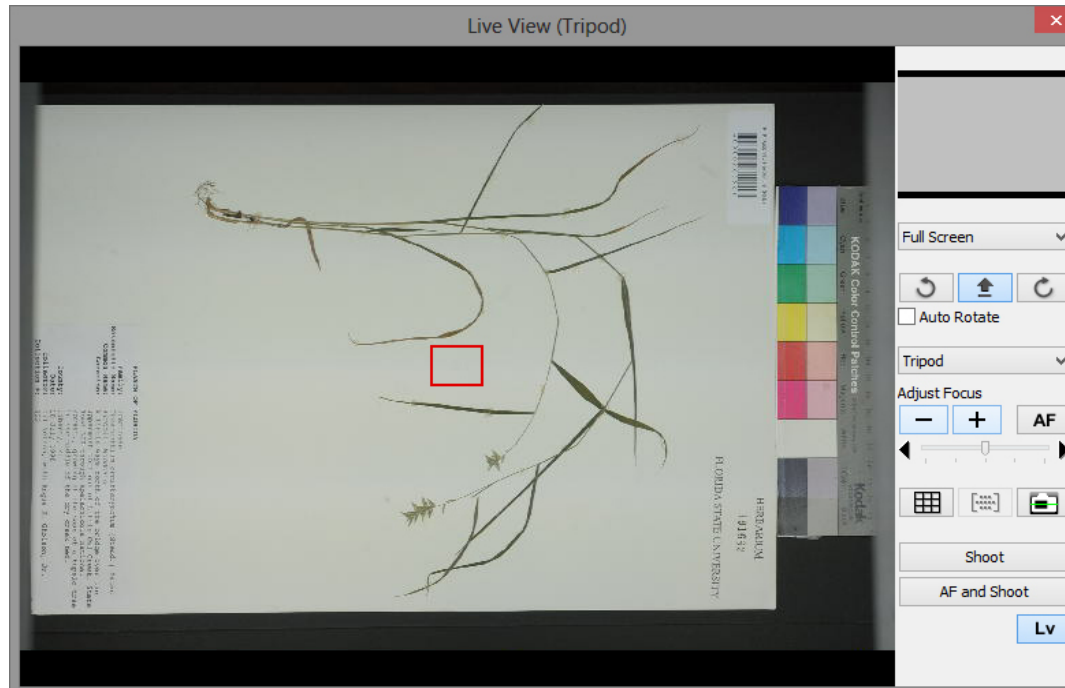




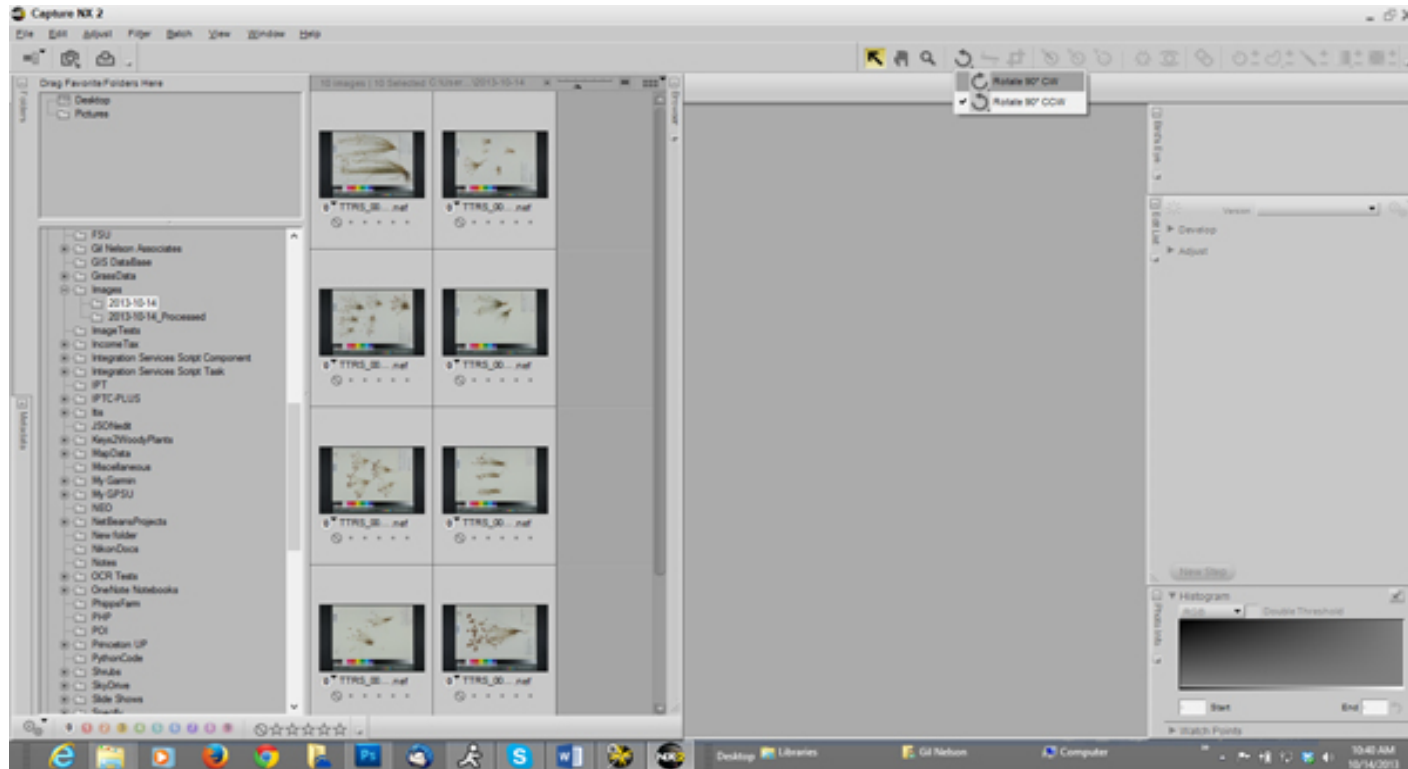
# Nikon Camera Control Pro 2



# Nikon Camera Control Pro 2 Live View



# Nikon Capture NX2

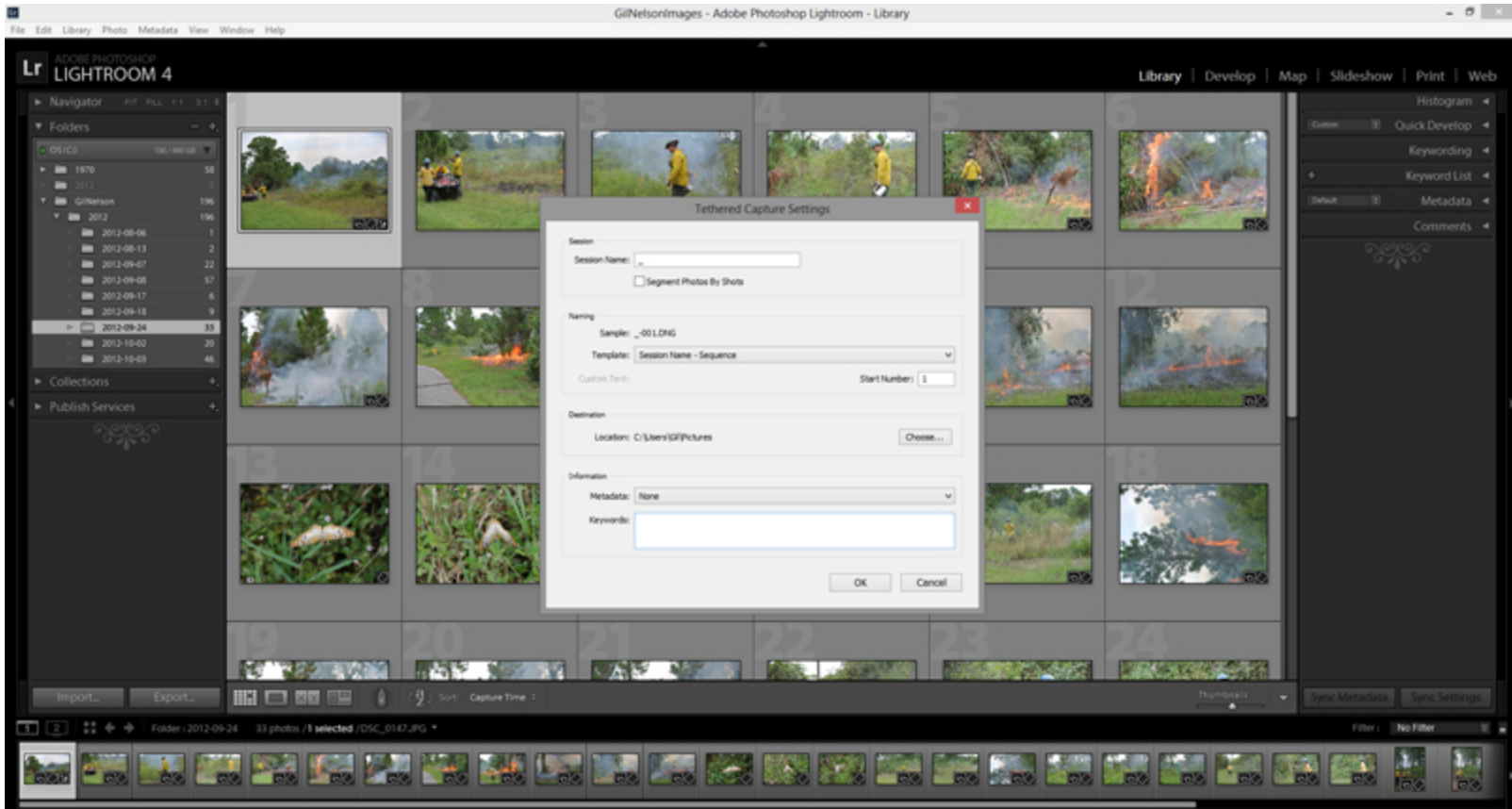


# Lightroom





# Lightroom Tethered Shooting



What about PhotoShop?