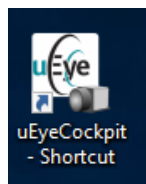


Leica Fluorescence scope – IDS camera operation

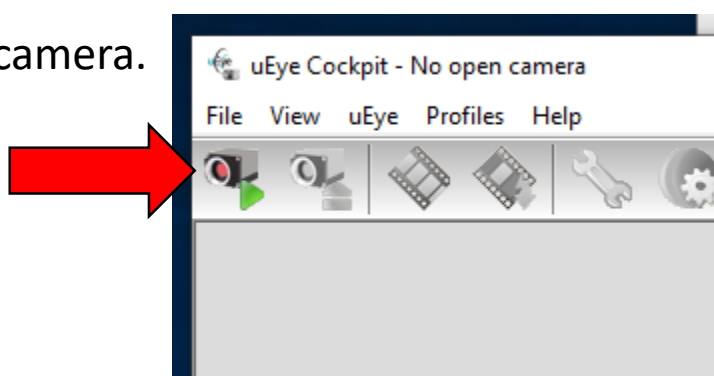
Room 310. UCL GOS Institute of Child health.

This software is difficult to use, Micro-manager software is far simpler

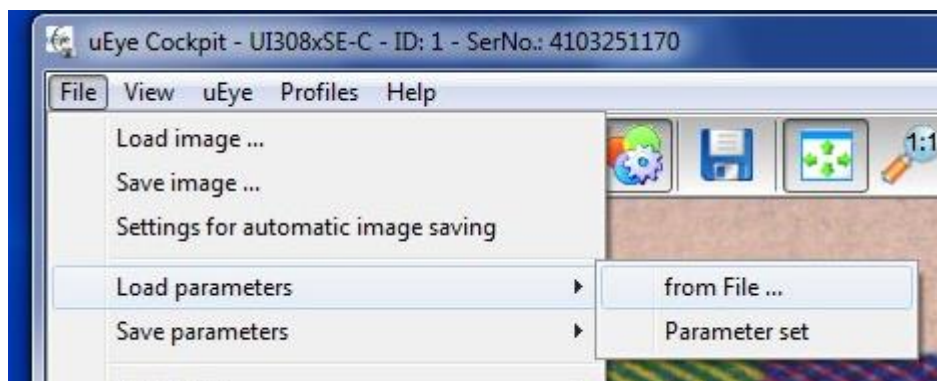
1) Start the uEye software.



2) Press to load the camera.



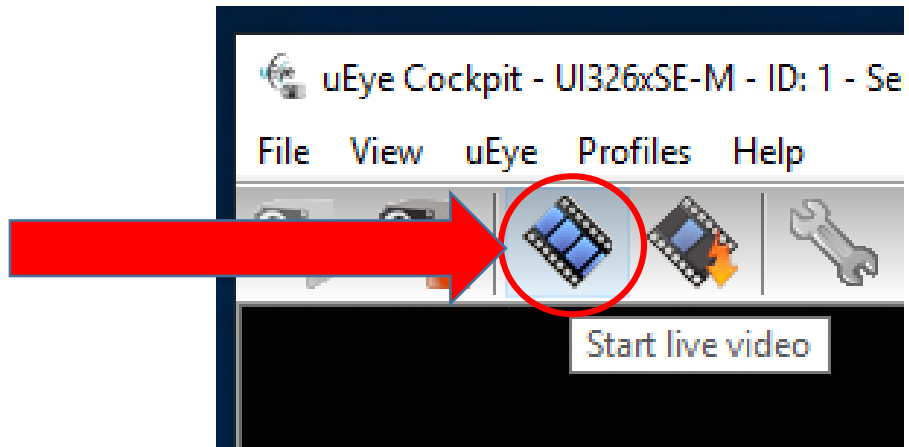
3) Load Parameters...



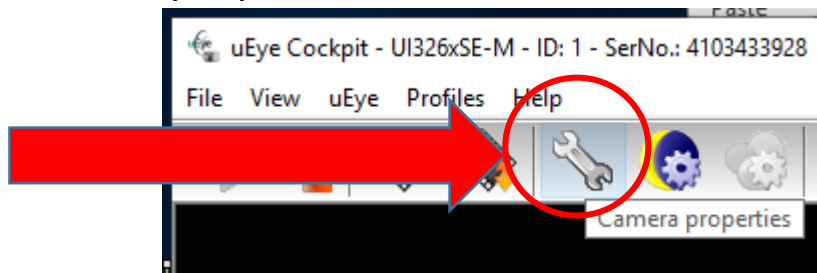
Settings are saved in Documents folder:

3260SE-12bitCameraSettings

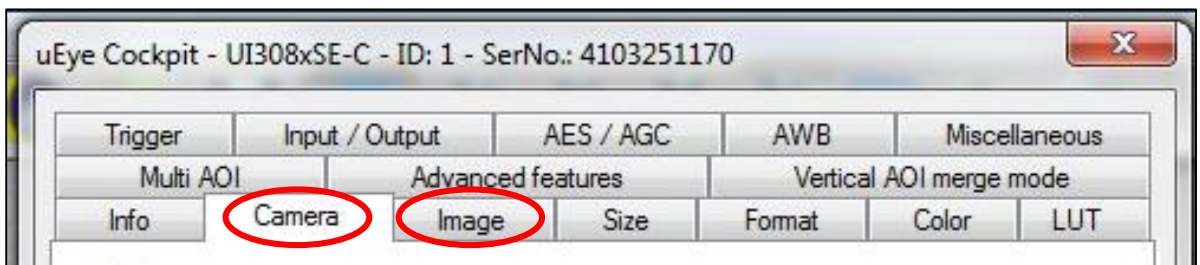
4) Start live video



5) Open the camera properties

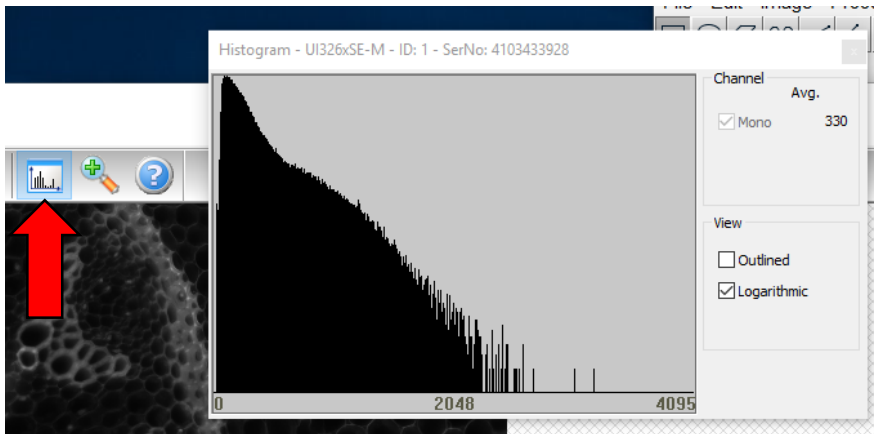


Camera Properties window



Adjust image brightness in the **Camera** (exposure time) & **Image** (gain) tabs. DO NOT CHANGE ANYTHING ELSE!

6) Use the histogram window to help optimise exposure time



7) First use the exposure time in the 'Camera tab'...

uEye Cockpit - UI308xSE-C - ID: 1 - SerNo.: 4103251170

Trigger	Input / Output	AES / AGC	AWB	Miscellaneous		
Multi AOI	Advanced features	Vertical AOI merge mode				
Info	Camera	Image	Size	Format	Color	LUT

Timing

Camera peak bandwidth: 237.0 MB/s

Camera average bandwidth: 0.0 MB/s

Sensor (max. bandwidth): 237.0 MP/s

Pixel clock: 80 MHz

Optimum

Extended

Frame rate (Freerun): 12.50

Hold

Max

Auto

Exposure time: 79.996

Hold

Max

Auto

Long-term

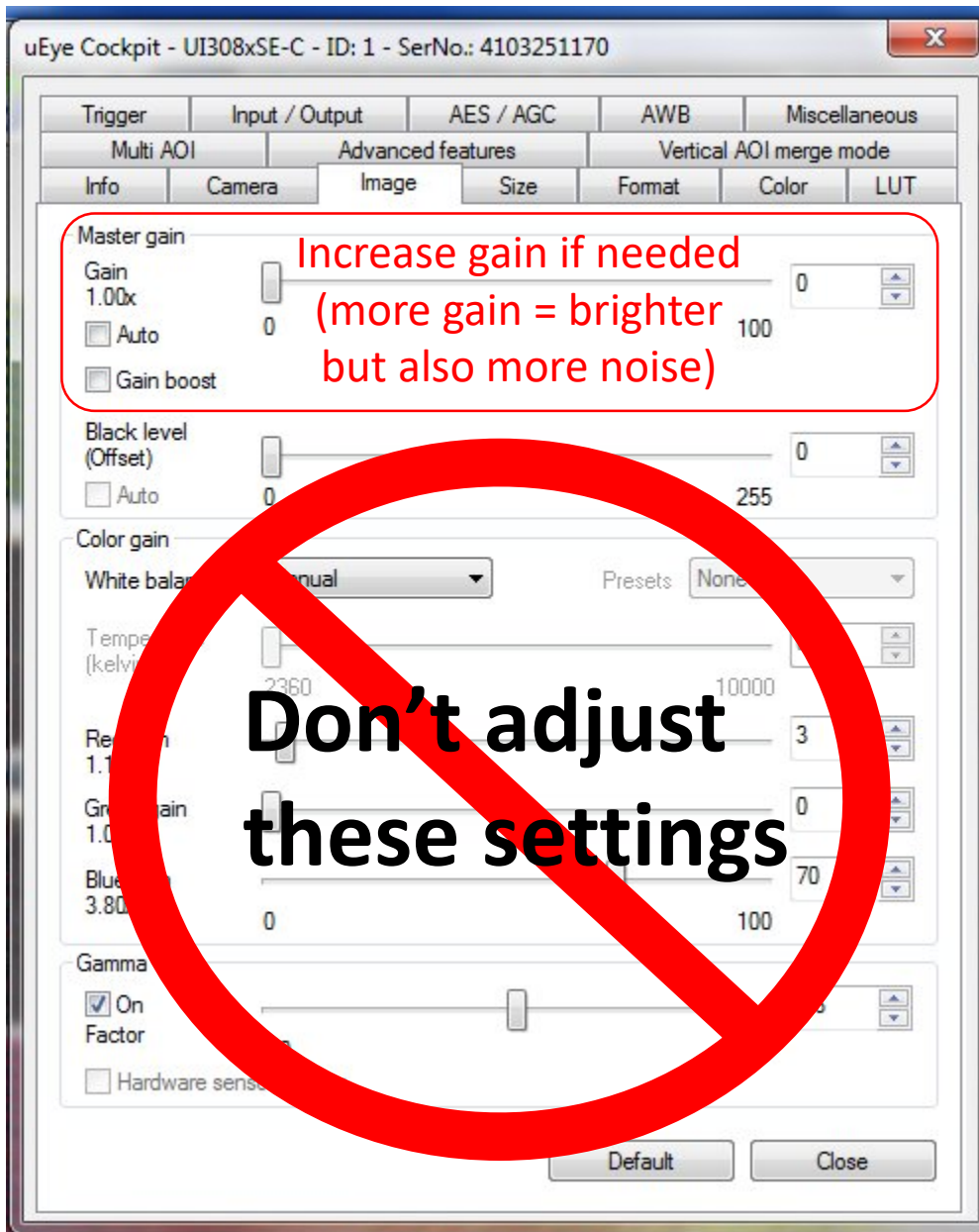
Fine increment

Default Close

Don't adjust these settings

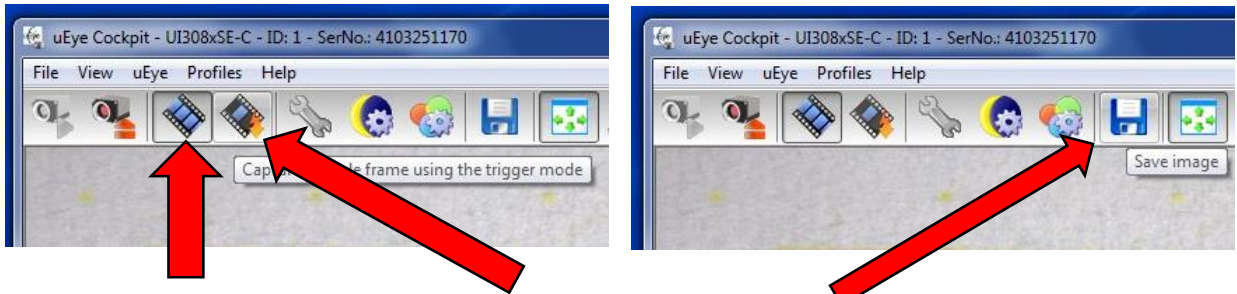
Change the exposure time. Select Long term for all exposures > 20ms.

8) Also increase gain if needed in the 'Image tab'...



You can up the gain if you like, then all exposures are shorter. Try and keep gain as low as possible tho. More gain = more noise.

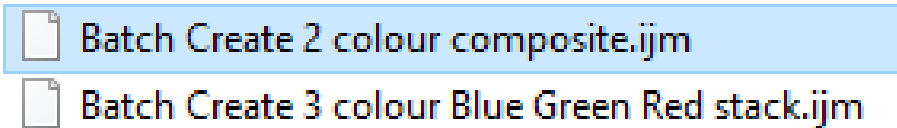
9) Capture and save an image



First Hit Live Video, then Capture, then Save (PNG file).

Use Fiji to assemble the individual images in to a multichannel image.

There are 2 macros on the desktop Macros folder:



Run the appropriate one in Fiji.

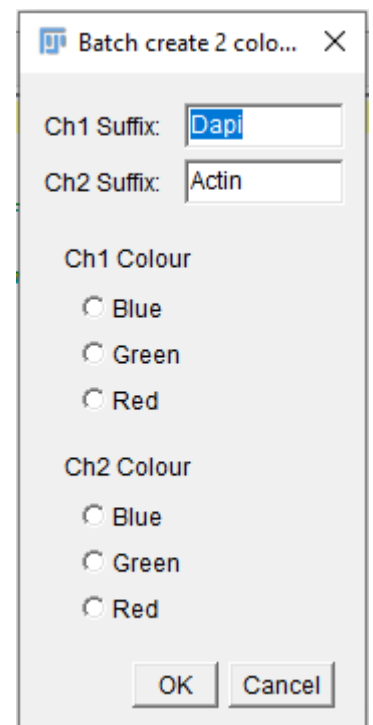
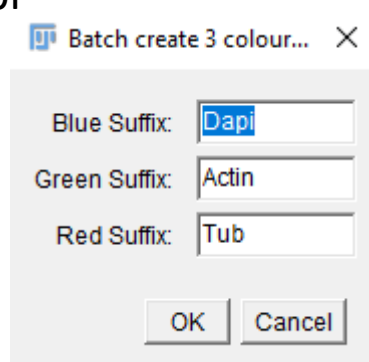
Name your files as follows to allow the macros to work:

ImageDescription-Mag-ChannelDescription

i.e. MyCellsControl-10x-Dapi

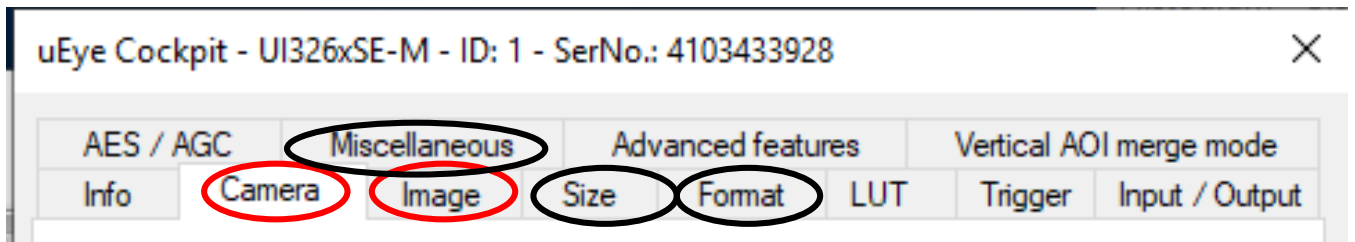
MyCellsControl10xActin

MyCellsControl 10x 594



For **3 colour** images are assumed to be Blue, then Green then Red. Add the correct suffix in the pop up window for your files.
For **2 colour** images you tell the macro the colours.

Camera Properties window - details



Camera (adjust only the exposure time)

Adjust exposure time – press ‘Long term’ for exposures greater than 20 ms. Typical exposure times (without gain) are 20ms for colour, 200ms to 2s for fluorescence.

Image (adjust only the gain)

Adjust the gain. Higher gain = brighter image but more noise. Increase the gain if your exposure times are too long.

Size (leave it alone!)

Decreasing pixel number shrinks the image size. Subsampling keeps image size but decreases pixel number.

Format (leave it alone!)

Image output type. Set to capture 12 bit images. These are saved as 16 bit.

Miscellaneous (leave it alone)

Hot pixel correction (advanced user)

Other tabs – move along, nothing to see here.