

## Wide-field imaging system 1 (August 2020)

- Metamorph acquisition system with 2 cameras:
  - Photometrics Coolsnap HQ2 (high sensitivity; 1392x1040 6.45  $\mu\text{m}$  pixels, 11 fps full frame, 14 bit).
  - Qimaging Retiga-4000R (large field of view; 2048x2048 7.4 $\mu\text{m}$  pixels, 4 fps full frame, 12 bit).
- Leica DM IRBE inverted epifluorescence microscope with phase-contrast and DIC available for some lenses.
- Sutter DG5 illumination system for fast wavelength switching.
- Now has [DV2 Multichannel imaging system](#) which allows simultaneous capture of CFP and YFP or GFP and mCherry. • Piezo focus device.
- LUDL filter wheels, shutters and motorized focus.
- Data removal to O:drive
- PPMS use is enabled but no other network access is possible. Do not use USB devices to remove data without checking with us as anti-virus software is not updated.
- Solent environmental control chamber allowing long-term temperature control and CO<sub>2</sub> enrichment.

### Lenses

Lens	Dry/ Oil	Phase contrast	DIC	Working distance (mm)	NA	Serial number	Pixel width at 1x binning in microns Photometrics camera	Pixel width at 1x binning in microns Qimaging camera
40x PL Fluotar	Oil	3	Yes	0.1	1.0	506016	0.16	0.186
63x HCX PL Apo	Oil	3	Yes	0.07	1.32	506082	0.1	0.118
100x HCX PL Apo	Oil	3	Yes	0.1	1.25	506106	0.064	0.074

**Note.** Other lenses are available on request

**Filter carousel 1**

Position	Example fluorophore	Excitation filter in cube	Excitation filter in DG5 (select in software)	Dichroic mirror	Emission filter in cube
1	DAPI FITC TRITC	none none none	380 485 550	triple	450/10 520/13 595/22
2	GFP	470/40	none	RKP 495	525/50
3	FURA-2	none	340 or 380	RKP 430	510/40
4	GFP/mCherry	470/40 571/35	none	double	none

**Filter carousel 2**

Position	Example fluorophore	Excitation filter in cube	Excitation filter in DG5 (select in software)	Dichroic mirror	Emission filter in cube
1	CFP	440/21	none	455	480/30
2	YFP	500/25	none	525	545/35
3	CFP/YFP FRET	none	none	455	none
4					

**DV2 optics**

Cube	Excitation	Dichroic	Emission filters
<b>CFP/YFP Chameleons cube</b>	<b>Select no filter in DG5 (to give white light). Select 440nm in excitation filter wheel. Use filter carousel 2 position 3 in microscope. Check DG5 filter and ex/em filter wheel setup in Metamorph.</b>	<b>505lp</b>	<b>480/30 535/30</b>
<b>Green/Red cube</b>	<b>Select no filter in DG5 (to give white light). Use filter carousel 1 position 4 in microscope Check DG5 filter and ex/em filter wheel setup in Metamorph</b>	<b>565lp</b>	<b>520/30 630/75</b>

***Excitation filter wheel***

<b>Position</b>	<b>Excitation filter</b>	<b>Fluorophore</b>
1	blank	
2	340/15	Fura-2
3	380/15	Fura-2
4	440/21	CFP
5	475/40	GFP
6	500/25	YFP

***Emission filter wheel***

<b>Position</b>	<b>Emission filter</b>	<b>Fluorophore</b>
1	blank	
2	Analyser for DIC	
3	605/70	RFP
4	480/40	CFP
5	520/40	GFP
6	540/40	YFP