

Microscope 2

Room: E1035

Upright motorized microscope (Leica DM 4000 B) dedicated to bright field, phase contrast (excepted for 5x objective), dark field and fluorescence imaging of fixed samples. Equipped with a Photometrics CoolSNAP HQ2 camera suitable for near infrared emitting fluorochromes.

| Illumination | Wavelength range (nm) | Contrast methods |
|-------------------|-----------------------|---|
| Arc lamp 120W | UV - IR | Fluorescence |
| Halogen lamp 100W | White | Bright field, Phase contrast, Dark field. |

| Fluorescence cubes | Excitation (nm) | Beam-splitter (nm) | Emission (nm) | Application |
|--------------------|------------------------|--------------------|------------------------|---|
| A4 | BP 360/40 | 400 | BP 470/40 | DAPI, Hoechst |
| L5 | BP 480/40 | 505 | BP 527/30 | FITC, Alexa 488, GFP |
| Y3 | BP 545/40 | 565 | BP 610/75 | Cy3, Alexa 555 |
| Y5 | BP 620/60 | 660 | BP 700/75 | Cy5, Alexa 633 |
| On demand : | | | | |
| D | BP 355 - 425 | 455 | LP 470 | Hoechst, Cascade Blue and a lot of others |
| CFP | CFP | BP 436/20 | 455 | BP 480/40 |
| CFP/YFP | BP 436/12 BP 500/20 | 445 515 | BP 467/37 BP 545/45 | CFP and/or YFP |
| GFP | BP 470/40 | 500 | BP 525/50 | GFP |
| YFP | BP 500/20 | 515 | BP 535/30 | YFP |
| Ds Red | NA | NA | NA | RFP |
| N2.1 | BP 515 - 560 | 580 | LP 590 | Alexa594, TRITC, Rhodamin B |
| TX2 | BP 560/40 | 595 | BP 645/75 | Alexa 568, Alexa 894, Texas Red |
| Qdot 655 | NA | NA | NA | Qdot 655 |
| I3 | BP 450 - 490 | 510 | LP 515 | FITC, GFP, Alexa 488, ... |

| Default objectives | Magnification | NA | Free Working Distance (mm) | Immersion Medium | Coverslip |
|---------------------------------|---------------|------|----------------------------|------------------|-----------|
| HC PL FLUOTAR 5x/0.15 | 5x | 0.15 | 12 | Air | - |
| N PLAN 10x/0.25 PH1 | 10x | 0.25 | 17.6 | Air | - |
| HC PL FLUOTAR 20x/0.5 PH2 | 20x | 0.50 | 1.15 | Air | 0.17 |
| N PLAN 40x/0.65 PH2 | 40x | 0.65 | 0.36 | Air | 0.17 |
| HCX PL APO 63x/1.40 OIL PH3 CS | 63x | 1.40 | 0.10 | Oil | 0.17 |
| HCX PL APO 100x/1.40 OIL PH3 CS | 100x | 1.40 | 0.09 | Oil | 0.17 |
| On demand : | | | | | |

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| Default additional magnifier - reducer | None |
| On demand : | 0.5x, 0.63x, ... |

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| Zoom | Leica Vario-TV |
| Range | 0.55x – 1.1x |

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| Default Camera | CoolSNAP HQ2 (Photometrics) |
| Digitizer | 14 bit |
| Resolution | 1392 x 1040 pixels |
| Pixel size | 6.45 x 6.45 μ m |
| Binning | 1, 2, 4, 8 |
| CCD temperature | -30°C (regulated) |
| Wavelength range above 20% Quantum Efficiency | 350-850 nm |
| Image type | 16 bit monochrome |

| Acquisition Softwares | Microscope control | Suitable cameras | Binning |
|--|---|--|------------|
| CoolSnap | No | Photometrics Color-mosaic cameras | No |
| RImage | No | Photometrics Monochrome and Color-mosaic cameras (bugs) | Yes |
| Micro-Manager : Needs a monochrome camera for multi-channel fluorescence acquisition. | Filter wheel, shutters, Condenser, Condenser wheel, Transmission lamp | Wide choice of Monochrome cameras; Automated Multi Dimensional Acquisition | 1, 2, 4, 8 |

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| Visualization, analyzis and processing softwares | IrfanView, ImageJ Fiji |
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| Operating system | Windows 7 32-bit |
| CPU | 2x AMD Athlon 64x2 Dual Core Processor 3800+ |
| RAM | 4 GB |
| Graphic Card | 128MB ATI Radeon X3100 + 128MB ATI Radeon X3100 Secondary |