Waipapa Taumata Rau University of Auckland

Zeiss Axio Imager.M2 upright microscope



Introduction

The Axio Imager.M2 is an upright fluorescence microscope. It can also be used for brightfield, darkfield, polarised light and phase contrast imaging.

Cameras

- *Photometrics Prime sCMOS monochrome*
- *Jenoptik Prokyon sCMOS colour*

Applications

- *Brightfield microscopy*
- *Phase contrast microscopy*
- *Differential interference contrast microscopy*
- *Fluorescence microscopy*
- *Polarised light microscopy*
- *Darkfield microscopy*

Software

- *MetaMorph Premier version 7.10 including the following application modules; Angiogenesis Tube Formation • Cell Cycle • Cell Health • Cell Scoring • Multi Wavelength Cell Scoring • Count Nuclei • Neurite Outgrowth • Multi Dimensional Motion Analysis*
- *Jenoptik Gryphax (colour camera only)*

Specifications

- *Motorised microscope stand: focus (z stage), shutters, objective turret and filter wheel + condenser*
- *XCite light source for fluorescence imaging, white LED for transmitted light imaging*
- *Filter sets: Semrock zero pixel shift filters: DAPI BP, DAPI LP, FITC, GFP LP, TRITC, Texas Red, BV480 (CFP), Cy5, Cy7*
- *Objectives: 5x/0.16 NA, 10x/0.25 NA (phase contrast), 10x/0.30 NA (DIC), 20x/0.45 NA, 20x/0.8 NA, 40x/0.75 NA (dry/air lenses), 40x/1.3 NA, 63x/1.4 NA, 100X/1.3 NA (oil immersion lenses), 10x/0.3 NA, 40x/0.75 NA, 63x/0.9 NA (water immersion lenses)*
- *Specialised condenser for high resolution darkfield microscopy (oil immersion)*

Contact person

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Nikon TE2000E inverted fluorescence microscope



Introduction

The Nikon TE2000E inverted microscope is a flexible system that can be used for a wide range of samples. It has fluorescence and several transmitted light capabilities including phase contrast, Hoffman modulation contrast and differential interference contrast.

Cameras

- *Nikon Digital Sight DS-Ri2 CMOS sensor colour camera*
- *Photometrics Evolve EMCCD camera (monochrome)*
- *Basler ace USB3 Camera acA1920-155um, Mono, 1920 x 1200 pixels - for high-speed imaging*

Applications

- *Brightfield microscopy*
- *Phase contrast microscopy*
- *Hoffman modulation contrast microscopy*
- *Differential interference contrast microscopy*

- *Fluorescence microscopy*
- *Time-lapse live cell/tissue imaging*
- *Fluxion BioFlux 200 available for use with the microscope. Enables application of shear stress to cells*

Software

- *NIS Elements AR (Advanced Research) - includes 6D (6 dimensional imaging), EDF (Extended depth of focus) modules*
- *Free NIS Elements Viewer for Windows or Mac downloadable from here*

Specifications

- *Motorised microscope stand: focus (z stage), shutters, objective turret and filter wheel + Prior Proscan II motorised XY stage*
- *Ludl shutters for fluorescence and transmitted light*
- *Ludl motorised exciter filter wheel - filters for Fura2, CFP/YFP FRET setup, ND filters (80%, 63%, 50%, 25%)*
- *Intensilight light source for fluorescence imaging, halogen lamp for transmitted light imaging*
- *Filter sets: Semrock zero pixel shift filters: DAPI, FITC, GFP, Texas Red, Cy5, Fura2, CFP/YFP FRET set-up*
- *Objectives: brightfield/fluorescence (4x/0.2 NA), phase contrast/fluorescence (10x/0.3 NA, 20x/0.45 NA, 40x/0.6 NA), Hoffmann modulation contrast (20x/0.25 NA, 40x/0.4 NA), brightfield/fluorescence/DIC (40x/1.3 NA oil immersion & 60x/1.25NA oil immersion), 20x/0.75 NA multi-immersion, 60x/1.27 NA water immersion (coverslip adjustment), 60x/0.7 NA ELWD dry*

Environmental control for live imaging

- *Solent incubation system – full enclosure with heating and 5% carbon dioxide in air*
- *Workhead for 35mm Petri dishes*
- *Workhead for multi-well dishes*
- *Workhead for ibidi chamber slides*

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