THE UNIVERSITY OF QUEENSLAND
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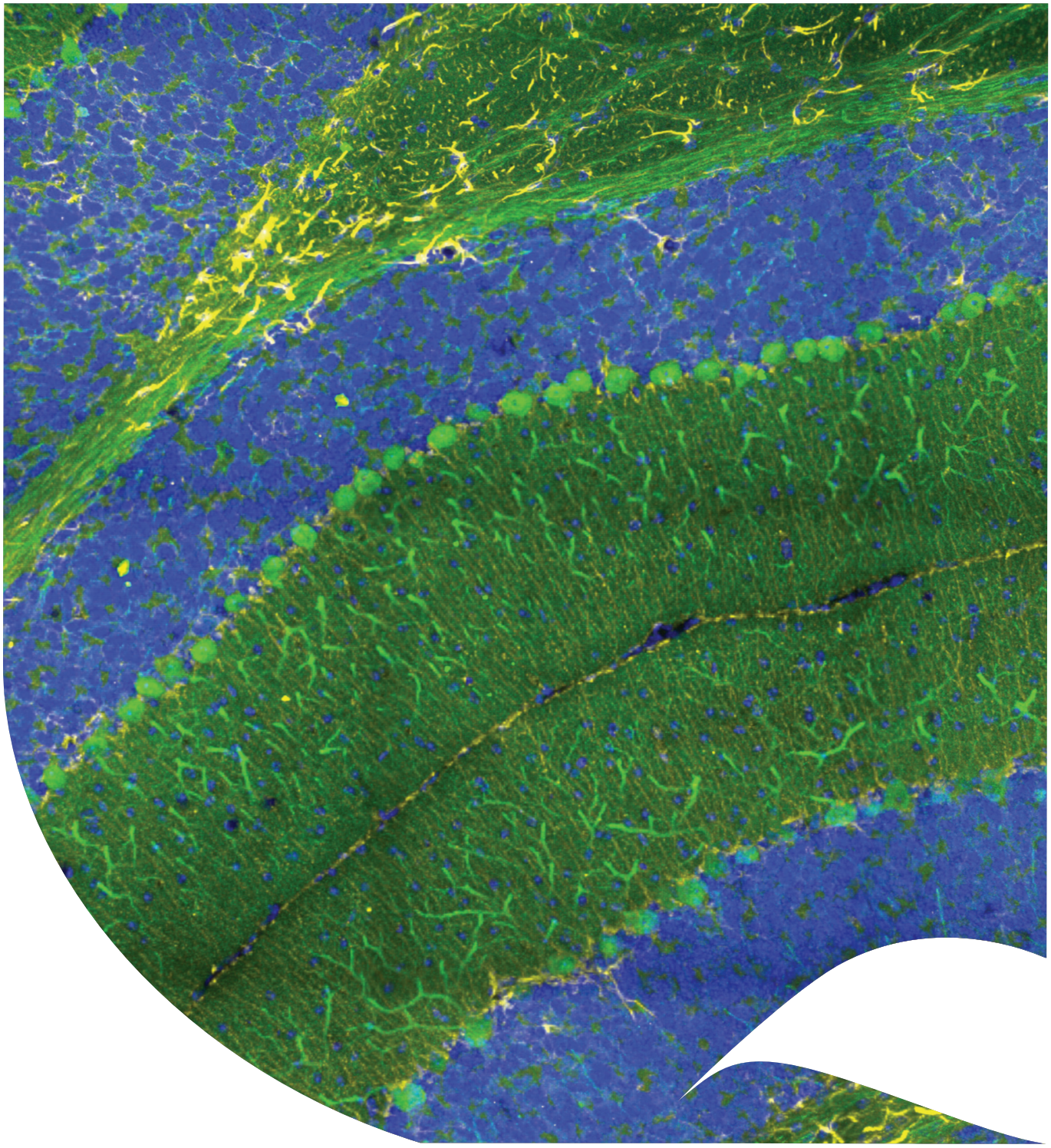
CREATE CHANGE

Biomedical Sciences

Core Research Facility – Microscopy and Image Analysis



Confocal Microscopes

Diskovery Spinning Disk

High speed multi-channel fluorescent imaging, with live cell and super resolution TIRF and STORM capabilities. The instrument can also act as a high content imager for screening applications.

Leica SP8 Point Scanning

Leica SP8 modules, perfect for multi colour imaging, spectral unmixing and scanning, 3D imaging of sections, 96 well plate imaging, live cell imaging, FRET and FRAP.

Zeiss LSM 900 Airyscan 2

Super resolution inverted confocal microscope with 4 laser lines and 2 GaAsP PMTs, and an Airyscan 2 detector array with improved signal-to-noise and resolution compared to conventional confocal detectors, perfect for observation of both fixed and living organisms.

High Throughput Slide Scanning

Zeiss AxioScan Z1 Scanner

100 automated slide scanning capabilities in both 7 colour fluorescence and brightfield modes. On the fly data analyses, such as cell counting and fluorescent intensity comparisons. Cloud data storage available.

Aperio Brightfield Scanner

Used to digitalise traditional histochemically stained tissues mounted on microscope slides. 20x and 40x magnifications with 120-slide capacity.

Manual Fluorescent Microscopes

Olympus and Leica instruments for image capture at multipe resolutions and fluorescent colours. General instruments used to catalog staining and fluorescent intensities.

Automated Specialised Microscopes

Leica High Content Fluorescent Imager

High speed multi-channel fluorescent imaging with rapid stage movement, enabling whole 96-well plates to be imaged. Deconvolution software enables the creation of confocal quality images and increased resolving power.

Nikon Stereology Fluorescent instrument

Installed Stereoinvestigator and Neurolucida software enables accurate cell counting and neuron tracing of brightfield and fluorescently stained samples.

Fluorescent Nikon Optogenetics and Electrophysiology Rig

The Andor Mosaic and the Andor 888 EMCCD camera allows exact ROIs to be drawn around cells for FRET, FRAP, Ca++ measurement and photoconversion.

Zeiss Laser Capture and Dissection

Suitable for laser microdissection, sample capture, and analysis for DNA, RNA, and protein isolation from archive material or live cells.

Leica Fluorescent Stereomicroscope

Suitable for fluorescent and brightfield imaging and the recording of instructional videos for teaching and training. Used to create macro-images of whole animals.

Imaging and Analysis

Dedicated Cloud based Super computer for software function. Software available include: Imaris, NIS elements, ZEN, Neurolucida 360, Stereoinvestigator and Neurolucida, Huygens Deconvolution, Amira Image Analysis, and TissueMaker for 3D Image Rendering.

UQ's School of Biomedical Sciences

The School of Biomedical Sciences Core Research Facility - Microscopy and Image Analysis contains a multitude of advanced microscopes for live, fixed cell, and tissue imaging. An inhouse super computer is also available for data analysis and 3D image reconstruction using various software packages.

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