

The Cairn Research MultiScope is a next-generation imaging platform that captures high-throughput data without moving the sample. It is designed around standard multi-well plates for compatibility with existing protocols and to minimise consumable costs.

The system uses customisable LED illumination and precision optics to image multiple samples in rapid succession, limited only by the camera's frame rate. This motion-free approach delivers stable focus and long-term consistency over extended imaging sessions, lasting from hours to days, making it ideal for live-cell, tracking, organoid, and developmental studies.

With brightfield imaging as standard, and optional fluorescence, environmental control, and a range of magnifications, the MultiScope adapts seamlessly to your workflow, combining Cairn's optical precision with scalable performance.



Application Usage:

- Drug discovery and toxicity screening: Multi-well assays of cardiomyocytes, neuronal cultures, and organoids.
- Developmental biology: Longitudinal imaging of zebrafish, organoids, and embryos.
- Cell motility and behaviour tracking: *C. elegans*, microalgae, and larval motion analysis.
- Fluorescence studies: Cellular signalling, gene expression, and calcium dynamics.
- Quantitative phase or brightfield imaging: Label-free monitoring of live samples.

Features and Benefits:

- Non-mechanical, random-access imaging without having to move the sample for stable, continuous acquisition.
- Brightfield illumination with high uniformity and fast sequential switching.
- Custom relay optics and large-format camera support for increased resolution and field of view.
- Compatible with 96-well plates (F- or U-bottom) for both live and fixed sample formats.
- Fully integrated with Micro-Manager control software and FIJI analysis workflows.
- Compact footprint (400 × 400 × 600 mm)

Optional Upgrades:

- Fluorescence capability: 1, 2, or 3 excitation/emission channels for live or fixed imaging.
- Environmental control: Stage-top incubation with heat and CO₂ regulation for long-term studies.
- Variable magnifications: 3x, 5x, 10x, and 20x objectives for flexible resolution and field coverage.
- Robot arm ready for high-throughput automated screening.