openFrame
Sustainable open source microscope platform

The openFrame is a compact, modular, open-source microscope platform conceived by the Photonics Group at Imperial College London and co-developed, commercialised and supported by Cairn Research. Being an open-source project, the fundamental building blocks can be machined in your own workshop based on the STEP files provided on the openScopes.com website, or can be supplied by Cairn at a component level, or as integrated systems. The compact and stable platform is designed from the ground up to work with a wide range of current and legacy components and is typically controlled via MicroManager or other open-source software. The versatile platform is, literally, centered around the chosen objective lens, enabling a high degree of optimisation and making it an excellent base for rapid instrument prototyping or application development.

APPLICATIONS

- Widefield fluorescence
- Brightfield / Darkfield / Phase contrast
- Calcium / Voltage imaging & photometry
- Confocal & Lightsheet
- Single molecule and Super resolution
- Electrophysiology

KEY BENEFITS

- Compact and stable
- Rapid reconfiguration for new applications
- Huge choice of infinity corrected objectives and tube lenses
- Industry-standard cage and thread mounts on every port, enabling several projects on a single frame
- Extensible - only buy what you need, as you need it
- Compatable with existing illuminators, cameras, stages, objectives, filters, and lenses from any manufacturer
- Budget friendly core modules
- Easy to break down for cleaning or transport
- Unrivalled access to optical train with laser pointer test kit available for alignment and validation
- Can be supported and maintained by any experienced microscopist

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MULTICHANNEL EMISSION SPLITTING RANGE

NO.1 IN OPTICAL PERFORMANCE, STABILITY AND USABILITY

OptoSplit II & III

With an elegant configuration for simple side by side image splitting, the OptoSplit delivers high throughput imaging at a realistic price. Ideal for FRET, ratiometric imaging, polarisation studies and most simultaneous imaging applications requiring two or three images. User-configurable cubes and intuitive x, y adjustments offer convenience and simplicity.

Optosplit II Bypass

This builds on the success of the OptoSplit II, but adds a convenient single lever bypass mode making it more suitable for multi-user microscopes where simultaneous dual channel imaging is required for specific experiments alongside single wavelength recordings.

MultiSplit

Up to four channels simultaneously on one camera chip! The Multisplit uses the four quadrants of a single camera in a 2×2 square format. The Multisplit has the further possibility of simultaneous multi-depth imaging which is particularly attractive, as we can now do this at four depths rather than just two or three.

Multi Camera Adapters

Splitters for up to four channel imaging using multiple cameras (each). Perform simultaneous recording of multiple wavelengths, polarisation states or z depths using the full camera FOV without having to reduce their size. Variable rectangular aperture allows for the use of cropped sensor modes for the fastest speeds. Includes interchangeable camera mounts for C, F and T-mount cameras.

OptoMask

Enables precise FOV control for the high-speed, cropped sensor mode offered by several camera manufacturers including Andor and Teledyne..

OptoSpin 25 & 32

An intelligently designed, fast-spinning and stepping filter wheel, now with 25mm and 32mm wheels available and a range of microscope adapters. This slim unit has low inertia, enabling smooth operation and the ability to step between emission filters in 30ms, and spin continuously at 7500rpm when synchronised with a suitable light source. Change filters without moving the camera and mount two units together in the same 35mm optical path length for versatile combinations. (6 position for one filter wheel, 10 position for two).

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