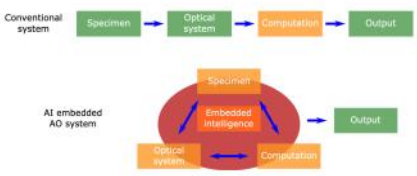
PROJECT NUMBER

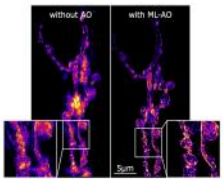
20489

Machine learning assisted adaptive optics for microscopy imaging systems

This new generation machine learning embedded microscope control system ensures outstanding optical performance when imaging deep inside cells and tissues. The adaptive optics removes the optical distortions introduced by the specimen and is applicable to a wide range of microscopes.

Applications: Microscopy, imaging, system improvement





Features	Benefits
Uses hardware (adaptive optics) correction, not data post-processing	Provides a higher level of data integrity, particularly important for scientific research applications
Fewer sample exposures than traditional counterparts	Lower risk of photodamage and faster processing
Optical feedback optimisation process	Optical correction means that optimal information is retrieved before any image post-processing
Bespoke design of data acquisition for better information conditioning	Information is suitably encoded for a more efficient information extraction and thus ensures the method high performance
A specially designed neural network uses physical knowledge	The machine learning algorithm can therefore be smaller, for increased ease of training and operation

Awaiting patent and Available for

- Co-development
- Consulting
- Licensing

To find out more, contact enquiries@innovation.ox.ac.uk and quote the project number.

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