

Highly improved multi-photon imaging with easy-to-use femtosecond laser technology

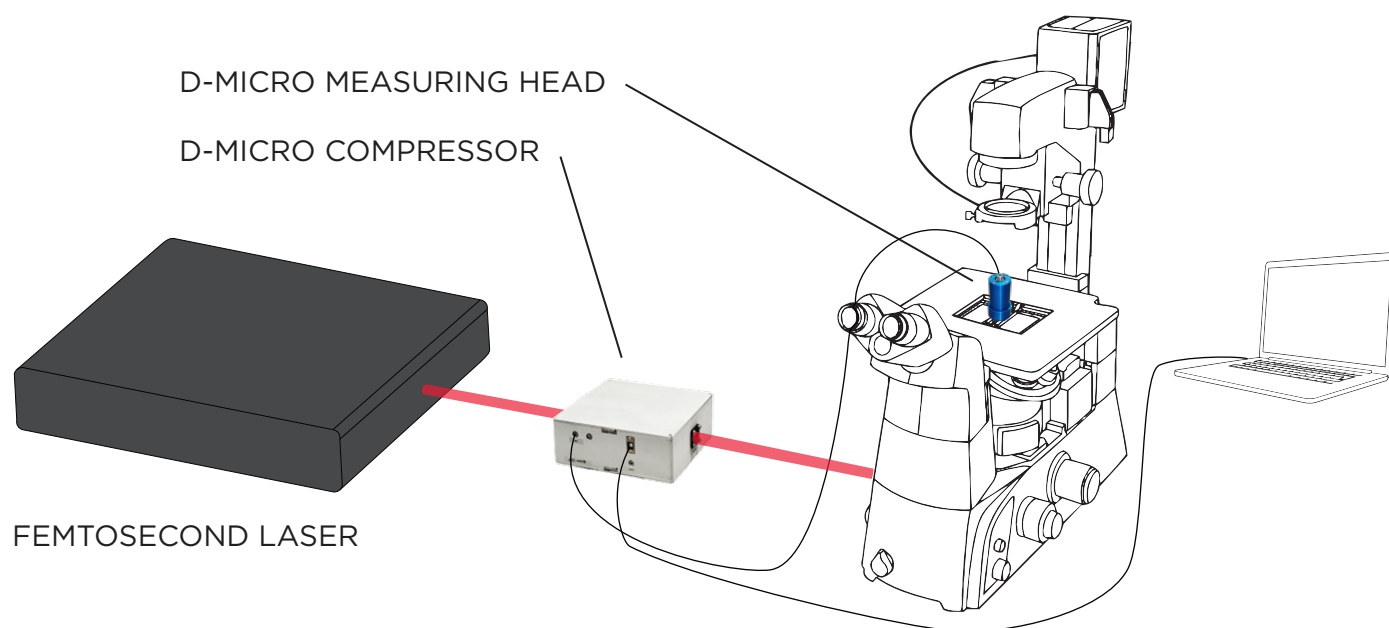
Image quality in multi-photon microscopy depends drastically on the compression of the laser pulses at the sample. Every optical component in a microscope introduces temporal dispersion that increases the laser pulse duration.

Ensuring optimum pulse compression at the sample is not an easy task, and is harder to do for shorter pulses. **Sphere's d-micro was especially developed to solve this problem** by simultaneously compressing the pulse and ensuring optimum duration directly at the sample plane, even for the most demanding laser pulses.

The d-micro comprises two COMPACT modules:

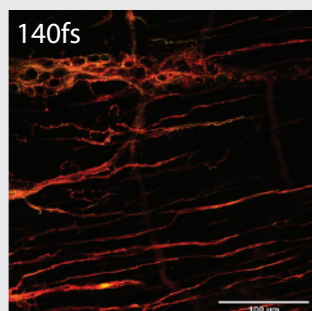
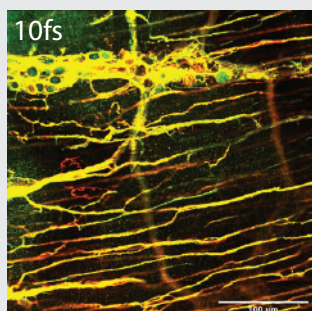
- the COMPRESSOR, which allows pre-compensating the dispersion introduced by the microscope
- the MEASURING HEAD, which measures the pulse directly at the sample position

Sphere Ultrafast Photonics can install the d-micro system on a microscope already equipped with a femtosecond laser, or can provide a complete ultra-broadband femtosecond laser with bundled d-micro system, with guaranteed pulse duration below 10 fs at the sample plane.



The images show a greatly improved signal intensity (improved S:N and image contrast) for the same average power level, as well as details that can be seen using a compressed sub 10 fs laser pulse instead of a significantly longer pulse duration.

MULTI-FLUOROPHORE EXCITATION



SyncRGB:FLIM

