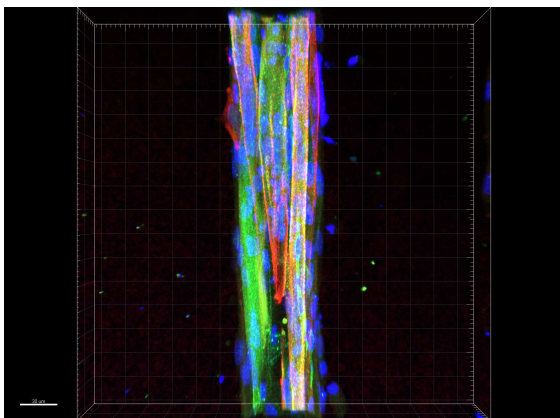


Confocal Microscopy

The Microscopy Characterization Facility has a fluorescence/confocal microscope. This is an essential characterization tool in biology and biomedical sciences, due to its unique attributes against other optical microscopy contrast modes.

Confocal Microscopy:

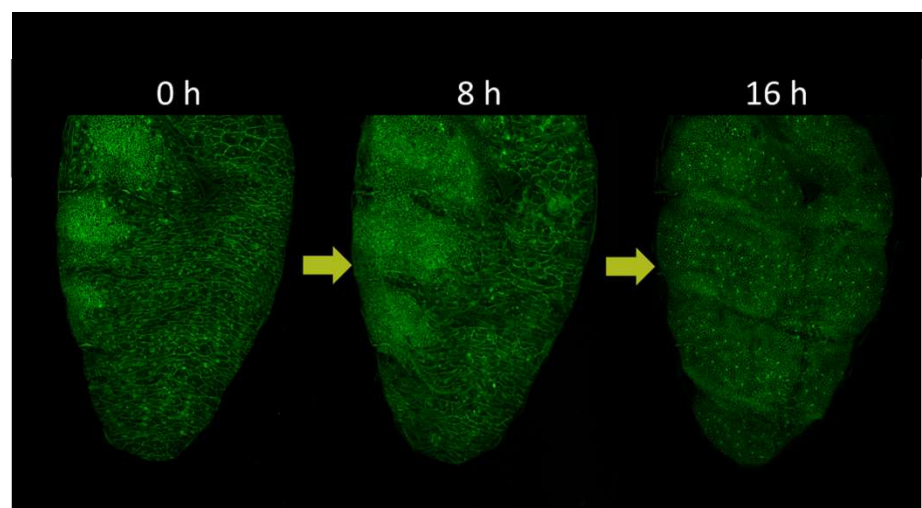
Confocal microscopy works on the principle of exciting a single point in the specimen at a certain wavelength (using a laser) and detecting a single point of the resulting fluorescent signal (using a pinhole at the detector). By doing this, we can improve the image resolution compared to that of wide-field microscopes and collect thin optical sections of the specimen to produce stacked 3D images (just by changing the z-focus). The automatization of this kind of microscopes, allows not only to obtain high-resolution fluorescence images and 3D fluorescence images, but also time series of confocal images and 3D graphs.



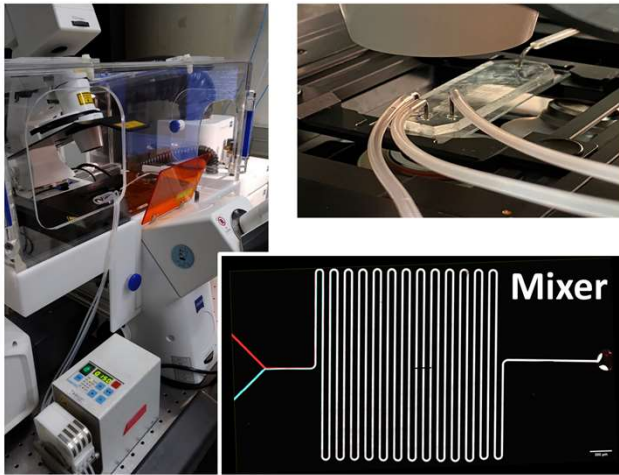
3D confocal graph of a Bioengineered 3D human skeletal muscle from Myotonic dystrophy-derived cells.

Image provided by Dr. Juanma Fernández from the Biosensors for Bioengineering Group at IBEC

In vivo experiment showing the development of adult epidermis of *Drosophila Melanogaster*.



Samples provided by Enrique Martin Blanco from the Signalling Events Cell Migration During Morphogenesis Group at IBMB

**Microfluidic device imaging.**

Fluorescence image of a full microfluidic mixer device showing two different fluorescence-labelled solutions, being Dextran-FITC, 4kDa and Dextran-Rhodamine B, 70 kDa.