

# A PHOTOSWITCHABLE HYDROGEL FOR PHOTONIC MICROSCOPY ...

Responses of biological tissues to mechanical stress are increasingly assessed, owing to their demonstrated link to many biological functions and the onset and progression of various pathologies such as fibrosis or ischemia. **The GELLIGHT project aims at developing biocompatible hydrogels, the stiffness of which can be reversibly tuned by light** and which will be used as active sample holders for photonic microscopy of 3D-cultured cardiac cells.

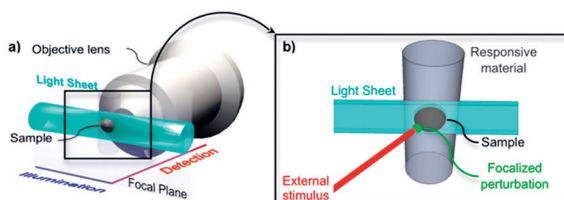


Figure 1. a) Standard LSFM setup. b) Smart sample holder integrated into LSFM setup.

**This project will lead to the development of new visible-responsive hydrogel formulations, which will open applications for soft actuators**

**for biology or responsive drug delivery systems.** It will also provide new tools to simultaneously manipulate and observe biological tissue. This is expected to constitute a basis for next generation mechanobiology set-ups with a diversification of the studied pathologies.

## ... DEVELOPED BY A MULTIDISCIPLINARY CONSORTIUM

Members of the consortium belong to **four academic laboratories working together with a French SME**

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Cardiovascular pathologies

