Descriptive

Motivation and field of application

Design, fabrication and characterization of biologically active scaffolds with optimal characteristics for successful tissue engineering.

General and main objectives

Hydrogels have been extensively used in various biomedical applications such as drug delivery and biosensing. More recently, the ability to finely tune the size, shape, and chemical properties of biologically relevant hydrogels has generated new opportunities in addressing challenges in tissue engineering. In this respect, polysaccharide microbeads will be fabricated, by an air-dynamically driven encapsulator, and then the microbeads will be functionalized and assembled into a 3D microporous scaffold. The biological properties of the scaffold will be evaluated by in vitro testing.

Learning objectives (technical tools and analytical methods, experimental methodologies)

To gain practical experience in the development, engineerization, and characterization of hydrogel-based formulations for tissue engineering and in cell culture techniques.

Location where the work will be carried out:

DIBRIS, University of Genoa

Additional information

Maximum number of students: 1