

A description for general public

The project concerns the interdisciplinary research of polymer fibers with cells for regenerative medicine. The purpose of this study is fundamental understanding of cells growth on tissue scaffolds to be able to control cells proliferation, migration and adhesion with surface and bulk properties, and electrical conductivity of fibers.

For the first time we will investigate the conductivity versus geometrical aspects of the polymer scaffolds on growth and proliferation of cells. Our research will involve application of 3D FIB-SEM tomography to study in details (nanometers scale) interactions between cells and scaffolds, which is a pioneering approach in this field.

As a result, general correlations between parameters related to scaffold architecture such as porosity, pore and fiber size and fiber morphology, and cells ingrowth will be established. Better understanding of the cells-scaffold interactions will allow in the future to design used in regenerative medicine.