**Cooperation Project** 

**Duration: Dec 2011 - Dec 2014** 

Partners: 4

**Budget: 686000 Euros** 

Jnfo

The main idea of NanoArthroChondros is the development of a new strategic treatment for cartilage re-generation in the knee joint region.

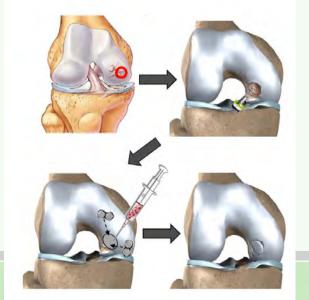
Specifically, nanobiomimetic scaffolds, functionalised with bioactive molecules and stem cells will be developed for the attraction and chondrocyte proliferation and will be anchored on the knee joint by a mechanically stable implant (Completed Implant).

## **Impact**

- Better quality of Life for patients with degenerative cartilage diseases.
- ◆ The Completed Implant as a low cost treatment.
- Competitive opportunities for the SMEs with the know-how at a European & World-wide level.
- Dissemination of the acquired knowledge & excellence e.g. through patents.
- New funding opportunities for the SMEs and the Universities for new strategies in Regenerative Medicine.

## **Objectives**

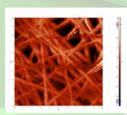
- Development of Biofunctionalized complex 3D Scaffolds produced by 3D Vacuum & Electrostatic Deposition Techniques to create the ideal environment for Chondrocytes growth.
- Biofunctionalization of the complex Scaffolds to lead to chondrocyte regeneration.
- Implant composed by the Biofunctionalized complex Scaffold and the support anchor for the Mechanical Stabilization of the implant in the joint region.
- Development of the Completed Implant as the final product with the Endoarticular infusion and seeding of the stem cells at the implant site.

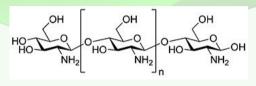


## **Deliverables**

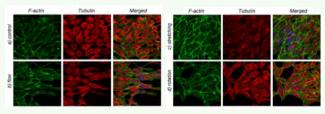
Nanofibrous Scaffolds, Biofunctionalized Scaffolds, Stem cell & Animal studies (Services & Product by AUTh)







Scaffolds under dynamic conditions (Services & Protocol by UoP)



- Support anchor for the mechanical stabilization of the implant (Product by KSA)
- Stem cells & chondrocytes (Services & Product by Biohellenika)

