

### **WG3: Modelling**

Characterization data obtained from partners in WG2 can be used to develop and validate mathematical models based on multiscale fluid and solid mechanics concepts including transport phenomena and bio-chemical kinetics of scaffold-cell-growth factor interactions. Model input regarding chemical composition and microstructure can be collected from SEM, XRD or micro-CT experiments.

The use of novel biomaterial-tissue simulation tools in Finite Element Analysis of organ-implant structures will give access to unparalleled insight into the functionality of the scaffolds and will open new perspectives for their optimization.

The main goals of this WG are:

- to exchange knowledge and obtain up-to-date report about current state of the art regarding mathematical modelling in cardiology and mathematical modelling of neurological systems..
- to define new concepts concerning mathematical modelling of cardiological systems; learning also from neurological modelling