



Dipartimento di Scienze e Tecnologie

Seminari ed incontri del DST

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**A tissue-like multifunctional 3D scaffold:
Design and functionalization of resorbable matrices.
For which reason?**

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ORE 13.00

**Aula 5, Dipartimento di Scienze e Tecnologie
Via Port'Arsa, 11, Benevento**

The trend within tissue-engineering research is to obtain material which stimulate, optimize and control cell-material interactions. Materials that are bioactive, biomimetic, multifunctional, and degradable ought to be designed to specifically stimulate cells and biological processes in a spatial and temporal controlled manner. There are many parameters to play with, for example surface topography, hydrophilicity, the mechanical properties, scaffold design and material functionality. The number of parameters in combination with number of applications makes it important to develop a tool box for tissue regeneration, which on one hand fulfils basic requirements and on the other hand is freely combinable with what is needed in the respective clinical situation. We are developing this tool box by establishing synthesis methods and fabrication techniques.

This tool box is important because the trend and the reality is far apart today. The surgeons do not ask for the advanced material, they rather use materials that have been proven to be safe during many many years. So in conclusion, do we really need these bioactive materials? Do we really need degradable polymers in this field, or is it safer/better to use inert or biological materials? This lecture will guide the audience through different kinds of materials, what they can do/are used to today in different clinical situations, what we aim for in the research today and finally what we are aiming for in the future and why.

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