



The faculty of Biotechnology and Food Engineering

Seminar

Dr. Udi Sarig

Materials Science and Engineering, Nanyang
Technological University, Singapore

Engineering Synthetic Tissue Technologies Using Basic Biological Building Blocks

The seminar will be held in English

Abstract:

Tissue Engineering (TE) is an interdisciplinary field that applies the principles of life sciences and engineering towards the development of biological substitutes that restore, maintain, or improve tissue function. The principle tissue engineering dogma relies on tissue specific stem or progenitor cells to provide biological functionality, often supported by a biomaterial scaffold, of either natural or synthetic origin, and by dedicated bioreactor engineering—mimicking the physiological conditions in vitro. In this talk, Dr. Sarig will present his work on natural cardiovascular derived biomaterials for the treatment and modeling of the cardiovascular system. He will focus on the intricate and reciprocal cross talk between these biomaterials, and various multi- and pluripotent stem and progenitor cells in vitro and in vivo using disease animal models (rats and pigs). Dr. Sarig will further demonstrate the benefits of custom-engineered bioreactors for the support of cardiovascular tissues' assembly and vascularization—as prerequisites to the development of clinically relevant tissues. Collectively, the presented findings suggest that a biomimetic approach is imperative in order to overcome the challenges of generating functional complex tissues and organs. Dr. Sarig will finally discuss the possible clinical and commercial applications for such a biomimetic approach in the context of his suggested research plan and current global trends.

Thursday, 28.6.18, 14:00 – 15:00, Room 300
Faculty of Biotechnology and Food Engineering