



BILKENT UNIVERSITY

unam - INSTITUTE of MATERIALS SCIENCE & NANOTECHNOLOGY

FACULTY OF SCIENCE

**MATERIALS SCIENCE and NANOTECHNOLOGY
GRADUATE PROGRAM SEMINAR**

“Tissue Engineering and Stem Cells”

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Ankara University
Stem Cell Institute

Despite the knowledge on the plasticity of stem cells of various origins, our understanding of the fundamental mechanisms of differentiation and organogenesis *in vivo* is still very limited; thus many practical obstacles stand in the way to the routine application of stem cell technologies in medicine. Increased attention to the heterogenous cell kinetics architecture of stem cell-based tissue units in adult tissues should better inform current efforts to improve existing stem cell therapies and promote an acceleration of development of new cell-based treatments, including tissue engineering. For the time being, -except for certain types of tissues including the skin, the bone, and some others-, engineering of implantable tissue constructs is largely experimental and is still to overcome significant hurdles before it becomes a viable clinical modality. Tissue engineering and regenerative medicine will eventually benefit from the emerging science of stem cell biology and signal transduction. Acellular tissue engineering approach using native or biomimetic biomaterials maintaining cell-signalling motifs to mobilize the stem/progenitor cell reservoirs of the body presents potential for engineering functional tissue.

Date : May 21, 2010 (Friday)

Time : 15:40

Place : Faculty of Science Building, A Block, Seminar Room (SA 240)

Tea and cookies will be served after the seminar