



**BİLKENT UNIVERSITY**  
**MOLECULAR BIOLOGY AND GENETICS**  
**DEPARTMENTAL SEMINAR**

**"Biomimetic Strategies in Musculoskeletal Tissue Engineering"**

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Musculoskeletal injury and dysfunction are the major cause of disability and account for more than one-half of all chronic conditions, totally leading to a staggering economic burden. Current surgical techniques for the treatment of the musculoskeletal system pathologies can often be limited by the availability, quality and quantity of materials. This has led to the exploration and development of novel methods based on tissue engineering and regenerative medicine. The goal of musculoskeletal tissue engineering is to develop treatment strategies for tissues such as bone, skeletal muscle, ligament, tendon, and cartilage using a combination of natural and synthetic materials that are formed into 3D scaffolds together with proper cells and regulatory factors. Mimicking natural tissue organization and/or signaling pathways hold great promise in the functionalization of the engineered constructs towards clinical translation. In this talk, the focus will be on engineering functional skeletal muscle tissue by mimicking the dynamic loading of the native muscle microenvironment as well as biomimetic growth factor delivery strategies in the regeneration of bone. These therapies hold great promise toward developing complex functional tissue constructs for regenerative medicine applications.

**Date-Time : Wednesday, November 18, 2015 – at 15:40**

**Place : SBZ-14**

**Host : Serkan Göktuna**