

ChBE 995 Autumn 2009



***The William G. Lowrie Department of Chemical and Biomolecular
Engineering Graduate Program***

Cordially invites you to attend a seminar on

Programming Mesenchymal Stem Cell Lineage Progression

Thursday, October 22nd, 11:30 a.m.

Room 207 Koffolt Labs, 140 W. 19th Avenue
Reception before the Seminar in Room 336 Koffolt Labs, at 11:00 a.m.

Mariah S. Hahn
Assistant Professor
Department of Chemical Engineering
Texas A&M University

Abstract

A myriad of environmental signals are known to influence mesenchymal stem cell (MSC) differentiation, including scaffold modulus and the concentration and identity of bioactivity presented to the cells. For instance, recent literature suggests that often fine alterations in 2D and 3D matrix compliance influence MSC lineage commitment, and extensive studies have shown that the identity and concentration of growth factors to which MSCs are exposed modulate their differentiation. However, comparatively little is known about the relative impact of these various stimuli on driving MSC differentiation. This is significant, because, if particular environmental signals prove dominant, then more attention can be focused on appropriately tuning these variables so as to elicit desired differentiation. We will discuss our results on the comparative influence two key microenvironmental variables, specifically scaffold modulus and bioactivity, on MSC lineage commitment.