

WHITAKER BIOMEDICAL ENGINEERING INSTITUTE

DEPARTMENT OF BIOMEDICAL ENGINEERING FRIDAY SEMINAR SERIES

Michael Buschmann, Ph.D.

**Canada Research Chair in Cartilage Tissue Engineering
Department of Chemical Engineering
Institute of Biomedical Engineering
Ecole Polytechnique de Montreal**

“Articular Cartilage : Electromechanical Studies and Repair using Chitosan-based Biomaterials”

DATE: November 4, 2005

TIME: 1:00 p.m. – 2:00 p.m.

PLACE: **Clark 110**

Host: Dr. Jennifer Elisseff

Abstract:

Degeneration of articular cartilage is the hallmark of osteoarthritis and inflammatory arthritis where the absence of functional articular cartilage in these diseases disturbs joint physiology and creates joint pain. Currently the means for assessing cartilage degeneration and treating lesions of articular cartilage is limited. In this seminar, an overview of our fundamental research program in cartilage structure and mechanics and chondrocyte biology will be given. Experimental methods and poroelastic and electromechanical models of cartilage behavior under load will be discussed. The current state of development of a clinical instrument to assess cartilage health using electromechanical measurements will be outlined. Our glucosamine-based polysaccharide, will also be discussed. We have developed an in situ solidifying formulation of chitosan mixed with blood components that is effective in improving cartilage repair. Efficacy and mechanism of action studies in large and small animal models of cartilage repair will be presented. The seminar will conclude with a description of ongoing studies using chitosan for gene transfer and the future potential of this technology.

Any questions, contact 410-955-3132.

Check the web for a complete list.

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