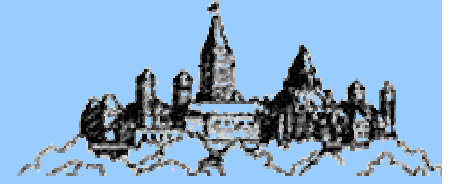




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Ottawa Section

IEEE 125th EMBS Seminar Series



Wear particle-induced periprosthetic osteolysis and bone tissue engineering using fibrin gels

Dr. Isabelle Catelas

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Canada Research Chair (Tier II) in Bioengineering in Orthopedics*



One of the major causes of joint implant failure is aseptic loosening due to bone destruction around the prosthesis (called periprosthetic osteolysis), primarily caused by the biological effects of wear particles. This presentation will explain some of the currently known biological mechanisms leading to periprosthetic osteolysis and will define some approaches to modulate these mechanisms in the attempt to increase implant longevity.

Many chronic bone diseases, such as non-union fractures and osteoporotic fractures, require bone graft substitutes to repair the injury or defect. The development of new bone substitutes promoting bone mineralization and vascularization is a critical challenge in bone tissue engineering. This presentation will focus on fibrin gels as a potential matrix for bone tissue engineering applications.

Dr. Catelas received her Bachelor's Degree in Biological Engineering at the University of Technology of Compiègne in France in 1995, her Master's degree at Ecole Polytechnique of Montreal in 1997, and her Ph.D. at McGill University in 2002, the latter two in Biomedical Engineering. After a few years in the biotechnology industry in the US, Dr. Catelas joined the Department of Mechanical Engineering at the University of Ottawa in May 2008, with a cross-appointment to the Faculty of Medicine. Dr. Catelas is an Associate Professor and holds a Canada Research Chair (Tier II) in Bioengineering in Orthopedics. Her research interests include the study of implant wear particles, their biological effects and possible approaches to modulate these effects, as well as bone regeneration.

March 24, 2010

admission is free

18:00 – 19:30 pm

ME-3356

Carleton University

Light refreshment will be served



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