



## **McGill Computational Science and Engineering Seminar**



**Wednesday, October 13, 2004 at 10:45 a.m.  
McConnell Engineering Bldg. Room 603**

### **Modeling and Numerical Simulation of Drug Release: Simulation Applied into Real Life**

**Professor Michel Bercovier  
School of Computer Science and Engineering,  
Hebrew University of Jerusalem**

With the rapid development of computers and of numerical methods such as the FEM, modeling and simulation has become an integral part of design and experiment in most mechanical-based industries. With the possibility of solving large nonlinear problems in complex geometries, Bio-Mechanics has become a growing field for the application of simulation. With the pharmaceutical industry heavily concentrating on High Performance Computing for molecular dynamics, much less has been accomplished in the domain of physiology and design, at the patient level.

We will review some work on Drug Release Modeling, as well as the challenges being faced in the study of drug delivery in the digestive process. These difficulties come from lack of proper experiments, as well as from the wealth of phenomena involved, such as various speed flows, reaction diffusion, dissolution, multiple scales, etc.

The work presented is done jointly with Prof H. Parnas, Dr. Tzafriri, Yehuda Arav, and some pharmaceutical teams.

**Coffee and snacks will be served at 10:30 a.m. in Room 603  
before the seminar.**