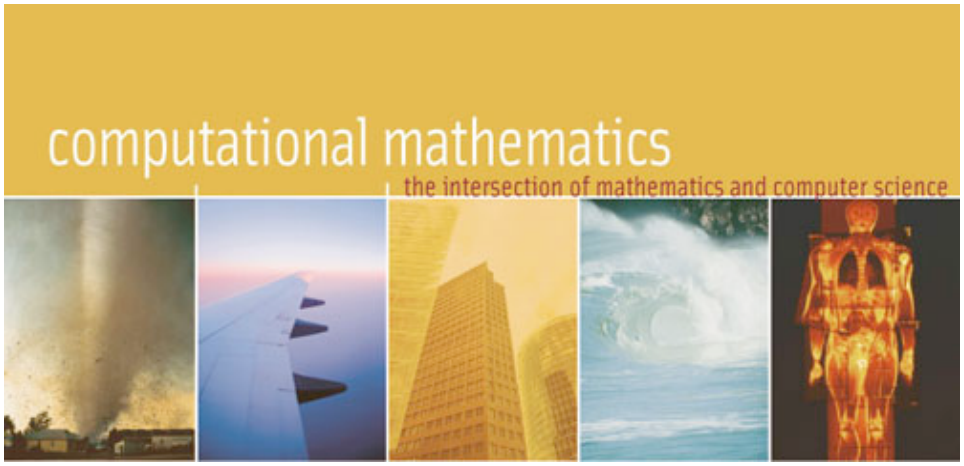

COMPUTATIONAL MATHEMATICS PRESENTS COLLOQUIUM SPEAKER

Professor Warren Hare
Dept. of Mathematics & Statistics, University of British Columbia, Okanagan

Monday March 15, 2010
MC5136 at 3:30pm-5:00pm

TITLE:
"The Derivative of a Set: Normal Cones and Optimization"

ABSTRACT: In calculus we are taught that to find a minimum of a function we start by finding the roots of its derivative. In this talk we explore how this idea extends to finding the minimum of a smooth function over a constraint set:

$$\min \{f(x) : x \in S\}$$

To do this we develop the Normal Cone. By understanding this geometric object we can extend the notions and algorithms of unconstrained optimization ($\min \{f(x)\}$) into a constrained setting ($\min \{f(x) : x \in S\}$). In this talk we discuss the basic definition of a normal cone, provide illustrative examples, and demonstrate how normal cones provide the tools necessary to develop constraint identification theory for optimization problems.

AUDIENCE: This talk is accessible to anyone with an understanding of multivariate calculus.

** ***Refreshments will be available***