Graduate Seminar in Mathematics

Dr. Ronald Haynes, Memorial University

Thursday, Nov. 22, 2012

3:00 – 4:00 p.m.
C-3033

An introduction to domain decomposition methods for the parallel solution of partial differential equations

Abstract:

Domain decomposition methods provide a way to solve partial differential equations numerically utilizing modern, readily available multicore computing platforms. The technique is motivated by a theoretical result due to Schwarz in 1870. I will review the basic approach and show some recent work where I have adapted the technique to generation of adaptive grids. If time permits, I will show how the method is coupled with arecently developed parallel in time approach to give a fully parallel space-time
method.