McGill Computational Science and Engineering Seminar

Friday, February 18, 2005 at 2:30 p.m.
McConnell Engineering Bldg. Room 13

Finding Traveling Wave Solutions to Reaction Diffusion Equations on Spatially Discrete Domains and Some Applications

Professor Christopher E. Elmer
Department of Mathematical Sciences,
New Jersey Institute of Technology

We discuss finding traveling (and stationary) wave solutions of functional (lattice) differential equations, also known as differential-difference equations of mixed type, with bistable reaction terms and difference diffusion terms on both uniform and nonuniform
spatially discrete domains.

The applications which will be discussed are from materials science (interface motion in crystalline materials) and from biology (action potential propagation in myelinated axons).

Coffee and snacks will be served in Room 603 after the seminar.