Math and Stat Colloquium
Thursday, Jan. 24
3:30 p.m. AnSc 118

Refreshments will be served in the Animal Science Lounge at 3 p.m.

Speaker:
Bernard Deconinck
University of Washington

"Reconstructing the water surface from pressure measurements"

Abstract: A new method is proposed to recover the water-wave surface elevation from pressure data obtained at the bottom of the fluid. The new method requires the numerical solution of a nonlocal nonlinear equation relating the pressure and the surface elevation which is obtained from the Euler formulation of the water-wave problem without approximation. From this new equation, a variety of different asymptotic formulas are derived. The nonlocal equation and the asymptotic formulas are compared with both numerical data and physical experiments.