



**NOTICE OF
UNIVERSITY ORAL**
GEODESY AND GEOMATICS ENGINEERING

Master of Science in Engineering

Ian Church

**Wednesday, September 17, 2008
@ 2:30 pm**

Head Hall – Room E-11

Board of Examiners: **Supervisor:** **Dr. John Hughes Clarke, GGE**

Examining Board: **Dr. Marcelo Santos, GGE**
 Dr. Susan Haigh, GGE
 Dr. Charles Hannah, Bedford Institute of
 Oceanography, Nova Scotia

Chair: **Dr. Yun Zhang, GGE**

**Developing a Nested Finite-Element Hydrodynamic Model to Predict
Phase and Amplitude Modification of the Tide within Narrow Fjords**

ABSTRACT

A long term monitoring project to measure the inter-annual change in proglacial deltaic sediments has been initiated in Oliver Sound, one of a cluster of fjords that lie off Eclipse Sound at the northern tip of Baffin Island, Canada. In order to confidently identify the decimetre-level changes in seabed morphology from multibeam surveys, adequate tidal control is required. Surveying in such remote locations presents conditions, logistics and time constraints that prohibit the installation of tide gauges throughout the survey area and existing predicted tide stations are separated from the survey area by complex fjords and islands. To overcome these hurdles, a hydrodynamic model simulation has been constructed to predict the tides throughout the survey region. The simulation results are compared to existing lower resolution tidal models, nearby predicted tides and Globally Corrected GPS data from survey vessels working and transiting throughout the area.

Faculty Members and Graduate Students are invited to attend this presentation.