



NOTICE OF THESIS PROPOSAL PRESENTATION

Geodesy and Geomatics Engineering Doctor of Philosophy

Sheng Gao

**May 12, 2008
Head Hall – Room E-11
@ 8:30 am**

Co-Supervisors: Dr. Darka Mioc, Geodesy and Geomatics Engineering
Dr. Harold Boley, Adjunct Professor, Computer Science

Supervisory Committee: Dr. David Coleman, Geodesy and Geomatics Engineering
Dr. Francois Anton, Adjunct Professor, Geodesy and
Geomatics Engineering

Chair: To Be Announced

Semantic Integration and Sharing of Geo-Referenced Health Data

ABSTRACT

The role of geographical aspect in health studies has long been a concern. Geographical Information System (GIS), which has strong capabilities in storing, managing, manipulating, mapping and analyzing location based data, can greatly improve disease prevention and surveillance. Up to date, there are still some challenges. First of all, Health data are often collected by different health organizations in heterogeneous ways, which cause a barrier to data integration and sharing. Secondly, how to use GIS to interpret health related activities on maps is another problem.

This research is based on the hypothesis that the integration of GIS and Semantic Web in health field can help to discover implicit spatial semantics in source data, and to achieve reliable and accurate data integration as well as effective data sharing. The following proposals have been identified in this research. Firstly, a health geographic ontology data model will be built to support semantic query of health data, and both qualitative and quantitative analysis methods will be used to measure the health data similarities with the consideration of spatial context. Secondly, a health data representation model will be designed to include the semantic, geometric and graphical representation of health data. Thirdly, a system architecture will be developed to integrate GIS and semantic web techniques and technologies in achieving reusability and interoperability in health data sharing.

**Faculty Members and Graduate Students are invited to attend the 20 minute
presentation**