



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

**Master of Science in Engineering**

**Seyed Emad Mousavi**

**Friday, March 14, 2014 @ 9:00 am**

**Head Hall – ADI Studio (C25)**

**Board of Examiners: Supervisors: Dr. Yun Zhang, Geodesy & Geomatics Eng.**

**Examining Board: Dr. Monica Wachowicz, Geodesy & Geomatics Eng.  
Dr. David Coleman, Geodesy and Geomatics Eng.  
Dr. Raid Al-Tahir, Geodesy and Geomatics Eng.  
Dr. Weichang Du, Faculty of Computer Science**

**Chair: Dr. Emmanuel Stefanakis, Geodesy & Geomatics Eng.**

**Implementing Scalable Geoweb Applications Using Cloud and Internet Computing**

**ABSTRACT**

New advancements in technology such as rise of social networks have led to more geospatial data being produced every day. The current issue with the large volume of geospatial data is to store and process it because of the scalability of the data. In this thesis, two computing implementations, cloud computing and Internet computing, are studied and evaluated for their capability in storing, processing and visualizing large volumes of geospatial data. For the cloud computing implementation, the different concepts of cloud computing have been analysed according to their applications, models and services. Moreover, a case study using cloud computing platforms has also been implemented for storing and processing geotagged tweets retrieved for a national recreational park in Vancouver, BC. For the Internet computing platform, the Open Geospatial Consortium's Web Processing Service has been investigated as a framework for sharing geospatial data and processing it over Internet. The raster calculation in Web Processing Service platforms has also been implemented to evaluate its capabilities in handling large volume of data, Landsat satellite imagery has been used for the case study of this research. This study states that internet computing can be used to handle geospatial data processing but when dealing with large volumes of data this study proves that Internet computing and current Geospatial Information Systems are not suitable to be used and cloud computing platform can be utilized to handle large volumes of geospatial data.

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