

## CS Masters' Thesis Defense

**Title:** *GIS-Based Seismic Damage Assessment*  
**Speaker:** Prashant Dikshit  
**Date:** Thursday, March 29, 2012  
**Time:** 11:30 a.m.  
**Location:** GMCS 405  
**Thesis advisor:** Dr Carl Eckberg

### **Abstract:**

GIS has the capability to store, manipulate, analyze and display a large amount of spatial and tabular data. The purpose of this study is to investigate the seismic damage to the city of Christchurch using Geographic Information System.

The main objective of this thesis is to compile the available data of the city and use GIS technology in order to assess the seismic risk of the city. To come up with better results I analyzed the past historical earthquakes in order to obtain the intensity values.

During the whole thesis the main goal is to:

- Develop GIS based methodology for seismic damage assessment.
- Identify the relationship between urban development and seismic risk.
- Identify zones for liquefaction, amplification.
- Formulate specific recommendations for a city based on the results of risk assessment.