



# Visitor Seminars Research

School of  
**Surveying**  
*Te Kura Kairūri*

Location: Room 113 (also known as L1), 1<sup>st</sup> Floor  
310 Castle Street

Date: Friday, 19<sup>th</sup> September, 2014

## Chris Pearson

1:00 pm – 2:00 pm

### Deformation monitoring in the South Island 1992-2014: What does it tell us about this part of the Pacific-Australian plate boundary?

#### Abstract:

The University of Otago has been active in the measurement of crustal deformation for the last 20 years. In this talk I will focus on three studies where the School of Surveying has been particularly active, which together form a transect from Central Otago across the Alpine Fault to the west coast. Using these data it is possible to constrain the slip rate on the Alpine Fault and estimate strain rates within the Pacific plate east of the plate boundary. I will also present an update on the results of monitoring post seismic relaxation from the Christchurch earthquake.

## Joseph Wright

2:00 pm – 3:00 pm

### Resolving urban drainage networks using new geospatial modelling techniques

#### Abstract:

Numeric models of urban surface hydrology are useful tools to understand, develop and manage urban catchments to mitigate the rising economic cost of flooding due to changing precipitation patterns, urbanisation, sea level rise, and the ongoing expense of maintaining and upgrading drainage infrastructure. The management of stormwater in New Zealand is moving towards an approach that can predict the time-varying quantity and quality of stormwater at many points in the network. Such an approach demands that our urban environments be represented as spatially-rich 3D surfaces. However, conventional geospatial surface models do not use computer resources efficiently if the spatial resolution required to resolve fine scale surface features is applied uniformly across the entire study area. This lecture describes new techniques that combine hydrological analysis with hierarchical referencing systems and Level-of-Detail surface models to generate hydrologically adaptive regular tessellations for urban drainage modelling.