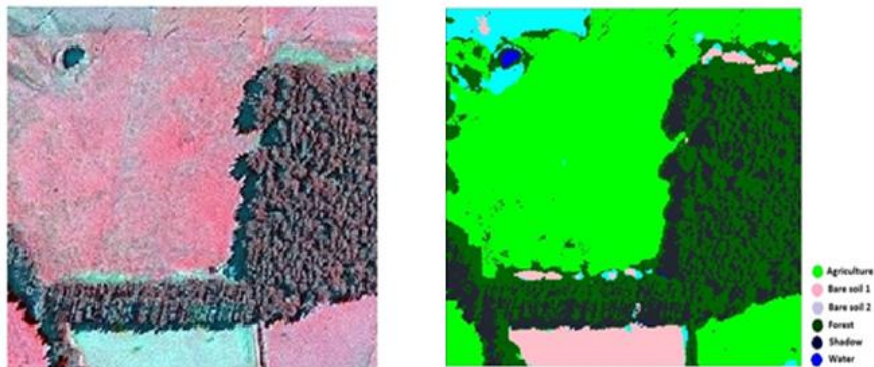


A Vector Agent Approach to Classify Satellite Images

Kambiz Borna

PhD candidate
School of Surveying, University of Otago

After several decades remote sensing imagery has shown considerable advances, culminating in easy acquisition of data of a high spatial resolution (H-res), for instance WorldView-1 data with a resolution of less than half a metre. Such imagery along with remarkable increases in computational power have provided tools for scientists and practitioners to explore, understand, predict and plan for a broad range of phenomena and features in more detail compared to the past. In spite of the intrinsic and potential capabilities that exist in H-res images, the increasing variability within the data can compromise the relevance of pixel-based image classification. However, the use of image objects as processing units in the analysis of remote sensing images can overcome this limitation. Yet, traditional object-based image analysis (OBIA) are modelled based on the assumption that there is a crisp or exact boundary between real-world objects and that the process of object segmentation is static. To tackle these limitations, we propose an alternative approach of OBIA based on a new approach comprising dynamic spatial object units to drive a unified process of segmentation and classification, namely vector agents. An initial implementation of a vector agent-based classification framework is presented here, along with its testing and results.



12:00 noon, Thursday, 15 May 2014

L1 Lecture Theatre

School of Surveying

310 Castle Street

