

Workshop:

Object-Based Image Analysis (OBIA) for High Resolution Remotely Sensed Imagery

Instructor: Dr. Dongmei Chen

With the advent of new generation of high-resolution satellite systems as well as digital aerial photos from airplane platforms and UAVs, a large amount of high resolution images are available for fine-scale level feature identification and updating. The rapid increase of very high resolution (VHR) remote sensing (RS) image data has opened new frontier for developing methodologies for accurately extracting real-world features and monitoring their change. **Object-Based Image Analysis (OBIA)** has become a common approach for extracting meaningful information from high resolution remotely sensed images analysis. This workshop is aimed for students and researchers who are interested in learning and using OBIA tools in their future research. The main objectives of this workshop are to:

- 1) Present an overview on pixel-based and object-based remote sensing image analysis;
- 2) Review the different image segmentation algorithms and discuss their advantages and limitations;
- 3) Introduce OBIA tools currently available in the market and compare their performance with examples;
- 4) Give a demo on the OBIA tool set developed by Laboratory of Geographic Information and Spatial Analysis (LaGISA) at Queen's University for image segmentation;
- 5) Discuss the future trends and technical challenges of OBIA in different applications.

Lecturer's bio: Dr. DongMei Chen is a full professor at the Department of Geography and Planning, Queen's University, Canada. She received a B.A. in economic geography from Peking University, China, a master in GIS and remote sensing application from the Institute of Remote Sensing Application, Chinese Academic of Science, and a Ph.D. in geography from the joint doctoral program of San Diego State University and University of California at Santa Barbara. Before she joined the faculty at Queen's University in 2002, she had worked in ESRI as a GIS product specialist. She has over 20 years of experience in teaching, research and consulting services in remote sensing, spatial analysis, and environmental modeling, and have collaborated with different governmental agencies and private companies. She has published over 100 peer-reviewed journal articles, book chapters and conference proceedings, and edited three books. More details about Dr. Chen and her research laboratory can be found at <http://gis.geog.queensu.ca>, or <http://www.queensu.ca/geographyandplanning/lagisa>.