



Carleton
UNIVERSITY



Department of
**Geography &
Environmental Studies**

FOUNDERS SEMINAR

Presents:

Dr. Chuiqing Zeng

The applications of unmanned aerial vehicle (UAV) in water quality study and precision farming

When: **Friday January 20, 2016**

Time: **2:30- 4:00**

Location: **Loeb A220**

(Light refreshments will be available)

ALL WELCOME



Abstract:

The unmanned aerial vehicle (UAV) technology is rapidly developed in the last decade, with increasing applications in many industries. There are two driving factors that mainly propel UAV applications in Earth observation and Geoscience: the largely improved performance, stability, and accessibility of the consumer-level UAVs, as well as the miniaturization and enhancement of sensors/instruments to be mounted on such UAVs. UAV applications in Geoscience, however, are still largely limited by immature data acquisition approaches and scarce industry-specific data process flows.

This talk will introduce you with industry-specific UAV data acquisition and processing techniques. Specifically I will provide examples of how UAV technology is being used to estimate water quality in rivers and lakes, and how UAV platforms is employed to assist farmers' agriculture practice. Apart from the technical presentation, I will also share interesting stories during UAV flights and beautiful scenes of our nature, and discussing the challenges to UAV applications up in the air.

Bio:

The short version of my name is: "Chui" (pronouncing as "tree").

Chui was trained in Geo-information science from his Bachelor of Engineering program in Wuhan University, China. Then he pursued his Master of Science degree in Cartography and GIS from Chinese Academic of Sciences – studying the 1.3 billion population distribution and migration in China. Chui obtained his Ph.D. program at the University of Western Ontario in 2014, where he studied how to automatically measure building location, shape, height, and 3D structure directly from satellite images and aerial photos. He currently works as a post-doctoral researcher at Carleton University, focusing on unmanned aerial vehicle (UAVs) platform data collection and related applications in water quality studies and precision agriculture. Chui had published seven peer-reviewed journal papers as first-author, and have another three under revision. Chui also worked as a teaching assistant or independent instructor for 12 courses started from 2010. As the pronunciation of his name, Chui would like to build his academic career like the growth of a tree: gather nutrient from the deep soil of Geoscience, grow slowly but healthy, and provide a shade to others at the same time.