The O'Brien Institute for Public Health &
the Department of Community Health Sciences present:

Modelling Air Quality in Calgary Using Land Use Regression

Speaker: Isabelle Couloigner

Friday, December 1, 2017 - 12:00 to 12:50 p.m.

G500 - Health Sciences Centre, 3330 Hospital Dr NW

This presentation addresses the spatial variability of selected air pollutants (NO2, PM2.5 and 10, BTEX, Black Carbon and some PM-related metals) over the City of Calgary and its surrounding area for 2-week periods in summer 2015 and winter 2016. Overall, the land-use regression (LUR) models featured consistent sets of predictors, which included environmental, industrial, transportation, and other land use variables and were used to estimate concentration level at the dissemination block level over the study region. Models for each pollutant and season yielded specific local patterns, and overall yielded a consistent pattern with higher pollution levels in the eastern and northeastern portions of the study area. Air pollution estimates generated by this study will be used in a variety of health studies to examine associations between air pollution and various adverse health outcomes.

Dr. Isabelle Couloigner is a research associate of spatial analytics in the department of Geography and of Ecosystem and Public Health at the University of Calgary. She received her Engineering diploma from École Louis de Broglie (France) and her PhD from École des Mines de Paris / Université de Nice-Sophia Antipolis (France). She was a Faculty member in the department of Geomatics at the University of Calgary for 8 years before going into geomatics consulting and private teaching. She is an expert in geospatial analytics working with Remote Sensing in combination with GIS and ground-based data for urban and environmental monitoring/modelling using different Image Processing toolbox/software, ESRI ArcGIS and R software for geospatial data analysis and modelling.

Objectives:

1. To appreciate the spatial variability of pollutants over the city of Calgary and across seasons; to understand the limitations of regulatory air quality networks in providing high-resolution spatial data
2. To understand the importance of accurate and reliable high-resolution estimates of air pollution in health modelling. [To further understand that spatially inaccurate and unreliable air pollution estimates are likely to inflate error in health and epidemiological models
3. To understand how land use regression models work; to learn to critically assess spatial air quality estimates and use them in epidemiological modelling

This event is a self approved group learning activity (Section 1) as defined by the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada. **This seminar is also available via an online AdobeConnect session:** To attend the seminar from another location via your computer, click on this link:

https://connectmeeting.ucalgary.ca/oiph-dec01-17/

Enter as a guest. You may join the session at any time. It is advisable to test your audio before the seminar starts. The AdobeConnect session will be archived and accessible for later viewing at: https://www.obrieniph.ucalgary.ca/events/chsobrien-institute-seminar-series