



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

Spatial Epidemiology Case Studies from George Mason University:

- (1) An NIH Funded Study of the Optimization of Liver Transplantation Facilities Across the US Using Location-Allocation Models and Patient Simulation;
- (2) Using GIS to Model Dengue Fever in Kenya;
- (3) A Systematic Review and Meta-Analysis of Rift Valley Fever using Pooled Odds Ratios and Meta-analysis Software to Identify Potential Risk Factors: Results and Software Considerations.

Speaker: Dr. Nigel Waters

Friday, May 8th 2015 - 12:00 to 12:50 p.m.

G500 – Health Sciences Centre, 3330 Hospital Drive NW, Calgary

The presentation will discuss three topics in spatial epidemiology: the optimal location of medical facilities; the prediction of disease occurrence using Geographic Information Science; and a systematic review and meta-analysis of research explaining the potential risk factors of disease. These three topics will be illustrated by case studies that I conducted with colleagues and graduate students while I was a Professor in the Department of Geography and Geographic Information Science and Director of the Center of Excellence in Geographic Information Science at George Mason University in Fairfax, Virginia.

Dr. Nigel Waters is Professor Emeritus of Geography, University of Calgary. He has conducted, and published in peer-reviewed journals and book chapters, numerous studies in GIS, modelling, spatial analysis, and in medical, environmental and transportation geography. He is a former President of the Western Canadian Association of Geographers, and was an associate editor of *GeoWorld* where for 21 years he contributed the *Edge Nodes* column (1989-2014). At the University of Calgary he was the Founding Director of the Masters in GIS Program and of the Transportation Theme School and Transportation Studies Major. Prior to leaving the University of Calgary he was participating in two GEOIDE research projects, leading a SSHRC Project and was working with the Nobel Peace Prize winning Carter Center in Atlanta as the Technical Director of the Mapping the Media in the Americas Project. In June 2007 he was appointed Professor of Geography and Director of the Center of Excellence for Geographic Information Science at George Mason University in Fairfax, Virginia

Objectives:

1. To introduce participants to the optimization of the location of medical facilities using location-allocation models and patient simulation models within a Geographic Information Systems environment; a NIH funded and published case study of the US Liver transplantation system will be described.
2. To describe the use of Geographic Information Science tools to model the prevalence of disease again using GIS software and a published case study of dengue fever in Kenya.
3. To discuss methods for a systematic review and meta-analysis of Rift Valley Fever in Africa; a published case study will describe the use of pooled odds ratios and meta-analysis software to identify potential risk factors.

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. After the seminar, you are invited for continued discussion over coffee and cookies. **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-may08-15/>

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>