Paper Session:

2547 Land Change Modeling I: Concepts and Methods

is scheduled on Wednesday, 4/22/2015, from 3:20 PM - 5:00 PM in Toronto, Hyatt, West Tower, Gold Level

Sponsorship(s):
Spatial Analysis and Modeling Specialty Group
Remote Sensing Specialty Group
Geographic Information Science and Systems Specialty Group

Organizer(s):
Ting Liu - Northeastern Illinois University
Xiaojun Yang - Florida State University

Chair(s):
Ting Liu - Northeastern Illinois University

Abstract(s):

3:20 PM Author(s): *Deana D. Pennington, Ph.D - University of Texas at El Paso

Abstract Title: *Conceptualizing Complex Land Change Systems using Model-Based Reasoning*

3:40 PM Author(s): Jordan W. Smith, Ph.D - North Carolina State University
Ross K. Meentemeyer, Ph.D - North Carolina State University
*Lindsey S. Smart - North Carolina State University
*Georgina Sanchez - North Carolina State University

Abstract Title: *Methodological and Analytical Frontiers for Agent-based Models of Spatially Dynamic Landscape-Scale Processes*

4:00 PM Author(s): *Oh Seok Kim - Korea Environment Institute
SoEun Ahn - Korea Environment Institute
Jeong Ho Yoon - Korea Environment Institute

Abstract Title: *An Integrated Framework of Land-Change Modeling to Support Climate Change Adaptation Policy*

4:20 PM Author(s): *Opeyemi A. Zubair - University of Missouri-Kansas City
Wei Ji - University of Missouri-Kansas City

Abstract Title: *Quantifying the Impact of Modeling Methods on the Accuracy of Land Change Prediction*

4:40 PM Author(s): *Rong Fang -

Abstract Title: *Error analysis of lidar-based tree aboveground biomass models: effects of forest stand's heterogeneities and tree allometry*

Session Description: Land changes are complex processes in which human and natural systems interact over space and time. And geospatial modeling techniques can enhance our understanding of the land change process. Over the past several decades,

various modeling approaches have been developed, including statistical models, rule-based models, mathematical optimization, cellular automata, agent-based models, and hybrid models. They provide insights into the functioning of land changes at aggregated and individual levels, across various spatio-temporal scales, as well as in human, natural, or the coupled systems. This session provides a forum for researchers to exchange new ideas in theories, methods, and techniques relating to the development of geospatial models for land change simulation. Topics may include but are not limited to:

- Model conceptualization: representation of complexity, human-environment interactions, decision-making, and spatial and temporal scales;
- Model implementation: data integration, computational algorithms, and parameter calibration;
- Model validation: landscape pattern characterization, uncertainty, and error measurements;
- Model applications: scenario design, implementation, and applications; and
- Roles of GIS and remote sensing in land change modeling.

New Query