Paper Session:

1674 Spatiotemporal Symposium: Data Analysis and Modeling

is scheduled on Tuesday, 4/21/2015, from 4:40 PM - 6:20 PM in Lucerne 2, Swissôtel, Lucerne Level

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

Organizer(s):
Min Sun - George Mason University
Jizhe Xia

Chair(s):
David Wong - University of Hong Kong

Abstract(s):

4:40 PM Author(s): *Bo Huang - Department of Geography and Resource Management, The Chinese University of Hong Kong

Abstract Title: *Spatiotemporal Data Regression: Accounting for both Autocorrelation and Non-stationarity*

5:00 PM Author(s): *Jesse Piburn - Oak Ridge National Laboratory
Robert Stewart - Oak Ridge National Laboratory

Abstract Title: *Using Dynamic Time Warping for finding and assessing spatio-temporal trends in large global datasets: applications and findings from the World-STAMP project*

5:20 PM Author(s): *Shuzhan Fan - Louisiana State University

Abstract Title: *The Spatial-Temporal Prediction of Various Crime Types in Houston, TX Based on Hot-Spot Techniques*

5:40 PM Author(s): *Jizhe Xia - GMU

Abstract Title: *Forming a spatiotemporal performance model for geospatial services*

6:00 PM Author(s): *Miaomiao Song - Arizona State University
Wenwen Li - Arizona State University

Abstract Title: *Spatiotemporal data representation and its effect on the performance of spatial analysis in a cyberinfrastructure environment - A case study with raster zonal analysis*

Session Description: Many 21st century challenges, such as climate change, infrastructure, natural disaster and interdisciplinary discovery, exist within a 4-dimensional (3D space and 1D time) framework. Integrating our understanding and methods across all four dimensions would lead to new approaches to help us address the challenges by providing: 1) new methodologies to improve our knowledge; 2) new computational tools and software to advance relevant technologies; and 3) applications to directly address the challenges. For example, how could we save thousands more

lives if an earthquake hits a densely populated area or a huge volcano erupted near a major city? A spatiotemporally aware and optimized approach could help advance GIScience, Cyberinfrastructure, Cloud Computing, Big Data, Social Media, Digital Earth and future generations of GIS and geographic solutions. A better understanding of the spatiotemporal linkage among different domains of geography would enable us to address problems that were previously unsolvable.

Following the great success on ST symposium last year, we are organizing a series of sessions (paper and panel, etc.) again at 2015 AAG annual meeting to continue moving the discussion forward and gradually build a research agenda and community. We welcome a wide range of studies that address or utilize spatiotemporal concepts.

Possible topics include, but are not limited to:
What are the important aspects in spatiotemporal study?
What are the most significant breakthroughs in the past 5 years in spatiotemporal research?
What is missing from current research scheme?
What can be achieved in the next 5 years?
What are the spatiotemporal principles in various geographic domains, such as regional science, climatology, public health, cyberinfrastructure, etc.?
What are the approaches to model and represent spatiotemporal principles?
How can spatiotemporal thinking be formulated and used as a methodology and conceptualization process in earth science discovery and applications?
How can spatiotemporal thinking be used in managing and developing cloud computing?
How can spatiotemporal computing be used for addressing Big Data issues?
What is the way to educate the next generation workforce with spatiotemporal knowledge?
How can we best enable the collaboration on spatiotemporal studies?

New Query