



AAG Annual Meeting

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Paper Session:

2112 Spatiotemporal Thinking, Computing and Applications 6: Natural Hazards

is scheduled on Wednesday, 4/9/2014, from 8:00 AM - 9:40 AM in Room 12, TCC, First Floor

Sponsorship(s):

Hazards, Risks, and Disasters Specialty Group
 Cyberinfrastructure Specialty Group
 Spatial Analysis and Modeling Specialty Group

Organizer(s):

[Chaowei Yang](#) - George Mason University
[Keith C. Clarke](#) - University Of California, Santa Barbara
[Shaowen Wang](#) - University of Illinois at Urbana-Champaign

Chair(s):

[Weihe Wendy Guan](#) - Harvard University

Abstract(s):

8:00 AM Author(s): *Xingyu Zhou -
 Xiaoliu Yang -

Abstract Title: *Research Study on Assessing Level of Benefit and Risk of Rain-flood Utilization for the Dahuangpuwa Flood Detention Area in the Hai River Basin*

8:20 AM Author(s): Xiaoyan Song - Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences
 *Lijuan LI - Institute of Geographic Sciences and Natrual Resources Research,CAS
 Guobin Fu - CSIRO Land and Water, Private Bag 5, Wembley, Western Australia

Abstract Title: *Spatial-temporal variations of spring drought based on spring-composite index values for the Songnen Plain, Northeast China*

8:40 AM Author(s): *Lawrence McGlenn - SUNY - New Paltz

Abstract Title: *Pathways and Hazardous Exposures in 3D*

9:00 AM Author(s): *Kathryn Reavis - East Carolina University
 Thad Wasklewicz - East Carolina University

Abstract Title: *Assessment of Debris Flow Hazards, North Mountain, Phoenix, AZ*

9:20 AM Author(s): *Jianxun Rui - University of Michigan China Data Center
 Fayong Zhang - University of Michigan China Data Center
 Shuming Bao - University of Michigan China Data Center

Abstract Title: *The Workflow Based Spatial Intelligence System for Disaster Impact*

Session Description: Many 21st century challenges, such as climate change, 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. The NSF Spatiotemporal Innovation Center is established to collectively investigate just such solutions.

Following the success of last year's spatiotemporal thinking, computing and application sessions, we are organizing a series of sessions (paper, illustrative, interactive, and panel) on STCA to move the discussion forward and to build a research agenda. Possible topics include but are not limited to:

1. Are there undiscovered spatiotemporal principles or laws?
2. How to detect spatiotemporal patterns from observation and simulations?
3. How to analyze spatiotemporal patterns in various geographic sciences, such as climate change, ocean science, environmental science, disaster and sustainability studies.
4. How to formulate and/or utilize spatiotemporal thinking as a methodology and conceptualization process in geographic science discovery and application.
5. What are the new computing, software, and application products to address spatiotemporal problems?
6. How can spatiotemporal thinking and computing be used to manage and develop cloud computing and Big Data solutions?
7. Does a spatiotemporal approach facilitate better understanding of the physical and social sciences, such as climate change, energy, political, and population sciences?
8. How to educate the next generation workforce with spatiotemporal knowledge and methods?
9. How best to communicate spatiotemporal knowledge.

Organizers

- Peter Bol, Harvard University
- Keith Clarke, University of California at Santa Barbara
- Jeff Dozier, University of California at Santa Barbara
- Michael Goodchild, University of California at Santa Barbara/ESRI
- Wendy Guan, Harvard University
- Diansheng Guo, Univ. of Southern Carolina
- Paul Houser, George Mason University
- Qunying Huang, Univ. of Wisconsin-Madison
- Shaowen Wang, Univ. of Illinois at Urbana-Champaign
- Chaowei Yang, George Mason University
- Axing Zhu, Univ. of Wisconsin-Madison

New Query