The 1st International Workshop on Spatiotemporal Computing

Workshop Website: http://www.stcenter.net/istworkshop
Abstract submissions: https://easychair.org/conferences/?conf=iwsc2015

July 13-15, 2015 at George Mason University (GMU), Fairfax, Virginia, USA

Organized by:

NSF Spatiotemporal Innovation Center (STC)
International Society for Photogrammetry and Remote Sensing (ISPRS)
International Association of Chinese Professionals on Geographic Information Sciences
University Consortium of Geographic Information Science
Chinese Association of Geographic Information Science

Hosted by:

NSF Spatiotemporal Innovation Center
George Mason Univ., Harvard Univ. and Univ. of California, Santa Barbara

1. Workshop & Themes

Global challenges, such as climate change, natural disaster, and infectious disease, occur in accordance with specific patterns existing within both space and time. Observing the phenomena at only a single location or static time-slice cannot fully explore the true dynamics of these phenomena. Understanding, exploring and using the spatiotemporal principles underlying various phenomena would enable the development of trailblazing new methodologies, tools and software to address these challenges. Spatiotemporal computing, the computing paradigm for utilizing spatiotemporal principles to devise cutting-edge computing technologies and solutions, sets a foundation for the future generation of cyberinfrastructure to overcome the obstacles for addressing the global challenges.

The 1st International Workshop on Spatiotemporal Computing (IWSC) aims at exploring the possibilities of spatiotemporal computing in addressing our societal challenges from global to local regions by bringing together people with different backgrounds and expertise. It is also the objective to capture the latest advancements of spatiotemporal computing and related topics. Through a series of presentations, panel discussions and research papers, IWSC strives to 1) explore spatiotemporal principles and develop formal representations for the spatiotemporal patterns from our current research, such as in the computing, geospatial, and social sciences; 2) combine spatiotemporal patterns and

modern computational technologies to foster next generation computing infrastructure to enable big data discovery, access, and processing; and 3) develop new spatiotemporal computing tools and software to improve our capability of urgent events responding.

The 1st IWSC, which will be held on July 13-15, 2015 at George Mason University, Virginia, is co-organized by the STC, ISPRS, CPGIS, and UCGIS. This call for papers will reach participants from academia, industry and government agencies across an ever-broadening spectrum of spatiotemporal studies.

We invite materials from the disciplines including but are not limited to:

- Mining and Analyses methodologies to extract spatiotemporal principles/patterns in various domains, such as climate change, ocean science, environmental science, disaster and public health.
- New computing hardware, software, and tools utilizing spatiotemporal principles/patterns.
- Advanced cyberinfrastructure integrating spatiotemporal principles and cutting-edging computational technologies (e.g. GPU, MapReduce, HPC and cloud computing).
- Advances in modelling, simulation, and virtual environment concerning spatiotemporal data and applications.
- Big Data processing, analysis and visualization using spatiotemporal computing
- Scientific workflow solutions based on spatiotemporal computing.
- Education related to spatiotemporal computing.
- Digital Earth, Public Health, Economics, Natural Disasters, and other applications of spatiotemporal computing

Please indicate your interest in contributing to the research of spatiotemporal computing by submitting an abstract to easychair (https://easychair.org/conferences/?conf=iwsc2015) by December 1, 2014 indicating the following:

- Title
- Names and affiliations of all authors
- Type of submission (full or short paper, and enlightening talk)
- A abstract up to 200 words stating the major contribution and findings
- Contact information for the first author (if different than affiliation)

All submitted abstracts will be reviewed by three experts from the program committee and relevant experts. The final full paper of the selected abstracts must be received by **March 15, 2015**. Depending on paper quality and relevance, papers will be published in special issue(s) with relevant international journals, such as the ISPRS journal of P&RS, IJGIS, and Frontier in Computational Physics. For more information about the workshop, please visit http://www.stcenter.net/istworkshop/.

2. Contacts

Inquires can be addressed to iwstc@stcenter.net

3. Timelines

Important dates for papers based on double-blinded peer-review will be as follows:

- All abstract submission due: December 1, 2014
- Notification of abstract acceptance: December 15, 2014
- All full papers submission due: March 15, 2015
- Notification of full paper acceptance: May 1, 2015
- Final paper due: June 1, 2015

4. Registration

CATEGORY	BY May 15	AFTER May 15
Regular Member (CPGIS, ISPRS, STC, UCGIS)	$300	$400
Student Member, Retired, Underemployed	$150	$200
Non-Member	$400	$550
Student Non-Member	$200	$250
Companion, Spouse	$100	$100
One Day Pass	$150	$150

5. Notice to Participants:

- The STC and ISPRS Foundation offers travel grants for participating in the 2015 International Workshop on Spatiotemporal Computing to a limited number of participants. Awardees will be selected from authors of papers and must attend the workshop. For details Visit: http://www.stcenter.net/istworkshop/
- It shall be the responsibility of the participants to insure themselves with appropriate insurance cover. None of the organizers or the hosts can assume responsibility for accidental coverages.

6. About Organizing Societies

- STC: Many 21st century challenges to contemporary society, such as natural disasters, happen in both space and time, requiring that spatiotemporal principles and thinking be incorporated into the computing process. A systematic investigation of the principles would advance human knowledge by providing trailblazing methodologies to explore the next generation of computing for addressing the challenges. This NSF university, industry and government cooperative research center for spatiotemporal thinking, computing, and applications (i.e. STC) is to conduct deliverable-oriented shared research to address the 21st century challenges based on the computing conducted by the GMU center for intelligent spatial computing (CISC), thinking by UCSB Center for Spatial Studies (CSS), and applications by Harvard Center for Geographic Analysis (CGA). For more about STC, please visit http://stcenter.net/

- ISPRS: Photogrammetry and Remote Sensing is the art, science, and technology of obtaining reliable information from noncontact imaging and other sensor systems about the Earth and its environment, and other physical objects and processes through recording, measuring, analyzing and representation. The International Society for Photogrammetry and Remote Sensing is a non-governmental organization devoted to the development of international cooperation for the advancement of photogrammetry and remote sensing and their applications. The Society operates without any discrimination on grounds of race, religion, nationality, or political philosophy. For more about ISPRS, please visit http://www.isprs.org/

7. Committees

Steering Committee
Peggy Agouris, Dean, College of Science, George Mason University, USA
Luc Anselin, Academician, Arizona State University and MIT, USA
Michael Batty, Academician, University of College – London, UK
Peter Bol, Harvard University, USA
Jianya Gong, Academician, Wuhan University, China
Michael Goodchild, Academician and Professor Emeritus, UC- Santa Barbara, USA
Huadong Guo, Academician and Director General, Institute of Remote Sensing and Digital Earth (RADI), Chinese Academy of Sciences
Jiawei Han, University of Illinois at Urbana-Champaign
Jie Jiang, President, ISPRS Commission IV
Mei-Po Kwan, President Elect, CPGIS
Zhigang Li, Chief Engineer, NASG, China
Songlian Li, President, ISPRS Commission II, Ryerson University, Canada
Steve Prager, President, UCGIS

Douglas Richardson, Executive Director, Association of American Geographers
Rita V. Rodriguez, National Science Foundation, USA
Shashi Shekhar, University of Minnesota, USA
Anthony Stefanidis, George Mason University, Fairfax, VA, USA
Jean-Claude Thill, President, Regional Science Association International
Lynn Usery, Director, Center of Excellence for GIScience, USGS
Elizabeth Wentz, Arizona State University

Programming Committee
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Wei Huang, National Geomatics Center of China, Beijing, China
Qunying Huang, Univ. of Wisconsin – Madison, USA
Jing Li, University of Denver, USA
Rui Li, Wuhan University, Wuhan, Hubei, China
David McMeekin, Curtin University of Technology, Australia
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Serge Rey, Arizona State University, USA
Abdelmounaam Rezgui, New Mexico Tech, USA
John Schnase, NASA Goddard
Shih-Lung Shaw, Univ. of Tennessee – Knoxville, USA
Wenwu Tang, University of North Carolina – Charlotte
Paul Torrens, University of Maryland
Ming Tsou, San Diego State University, USA
Shaowen Wang, Univ. of Illinois at Urbana-Champagne, USA
David Wong, Univ. of Hong Kong and George Mason University, Hong Kong
Carl Xu, University of Woyming, USA
Xinyue Ye, Kent State University
Ruixin Yang, George Mason University
May Yuan, University of Texas-Dallas, USA

8. Lodging

Both Fairfax on campus housing and the Marriot Residence Inn Fairfax will be available. Details will be supplied in following announcement.

9. About Fairfax and Washington, D.C.

The City of Fairfax is at the crossroads of Northern Virginia. It is just 20 minutes from Washington, DC, with an attractive blend of commercial, office, retail and residential properties. It combines the charm of a small town with the opportunities of a thriving urban area. Some important places to visit are Fairfax Museum, Old Town Hall, Historic Blenheim, and Air and Space Museum. To know about City of Fairfax, please visit http://www.fairfaxva.gov/home

Founded on July 16, 1790, Washington DC is unique among American cities because it was established by the Constitution of the United States to serve as the nation's capital. There are a lot of must-sees in Washington D.C., including the White House, the Capitol, the Smithsonian museums, and Arlington National Cemetery. For more information about D.C., you can visit: http://en.wikipedia.org/wiki/Washington,_D.C.