

Workshop on Big Data and Urban Informatics
Sponsored by National Science Foundation
August 11-12, 2014, University of Illinois at Chicago

Organizers	Piyushimita (Vonu) Thakuria	University of Glasgow	Conference Chair
	Nebiyou Tilahun	University of Illinois at Chicago	Conference Co-chair
	Moira Zellner	University of Illinois at Chicago	Conference Co-chair

PROGRAM

Day 1, Aug. 11, 2014			
8:00 - 8:45	Check in and Continental Breakfast (Room DEF)		
8:45 - 9:30	8:45 - 8:50	Opening Remarks	Mitra Dutta, VC for Research, UIC
	8:50 - 8:55	Welcome	Curt Winkle, Head, Urban Planning & Policy, UIC
	8:55 - 9:30	Plenary	Vonu Thakuria, University of Glasgow
9:30 - 9:45	<i>Break</i>		
9:45 - 11:40	<i>1.1: Analytics of User-Generated Content.</i> <i>Chair: Steven French, Georgia Tech.</i>	<i>1.2 Data behind Urban Big Data.</i> <i>Chair: Jeremy Wu, Consultant.</i>	<i>1.3: Analytics of User-Generated Content.</i> <i>Chair: Harvey Miller, Ohio State University.</i>
	Room G	Room H	Room I
9:45 - 10:05	<i>Developing An Interactive Mobile Information Platform To Integrate Environmental Big Data And Citizen Science In Urban Environmental Management.</i> <i>Zhenghong Tang, Yanfu Zhou, Hongfeng Yu, Tiantian Liu and Yue Gu, University of Nebraska-Lincoln, USA.</i>	<i>Big Data and Survey Research: Supplement or Substitute?</i> <i>Timothy Johnson, University of Illinois at Chicago and Tom Smith, NORC, University of Chicago, USA.</i>	<i>CyberGIS Enabled Urban Sensing from Volunteered Citizen Participation using Mobile Devices</i> <i>Junjun Yin, Shaowen Wang and Yizhao Gao, University of Illinois at Urbana-Champaign, USA.</i>
10:05 - 10:25	<i>Fast Food Data: The Usefulness of Social Media Byproducts</i> <i>Robert Manduca, MIT, Seth Spielman and David Folch, , University of Colorado, USA</i>	<i>When Big Data Are Not Complete: A Time Geographic Analysis of Taxicab GPS Traces</i> <i>Brittany Wood and Mark W. Horner, , Florida State University, USA.</i>	<i>Using Big Data to Study Urban Sentiments: Twitter Data vs. Published Meeting Minutes</i> <i>Justin Hollander, Tufts University, USA; and Erin Graves, , Federal Reserve Bank of Boston, USA.</i>
10:25 - 10:45	<i>Using Social Media Data to Understand Cities</i> <i>Dan Tasse and Jason Hong, Carnegie Mellon University, USA.</i>	<i>Considering Smartphones: Testing Big Data Veracity via User Privacy and Trust in Location-Aware Applications</i> <i>Caitlin Cottrill, University of Aberdeen, UK.</i>	<i>The designer as regulator – design patterns and categorization in citizen feedback systems</i> <i>Dietmar Offenhuber, Northeastern University, USA</i>
10:45 - 11:05	<i>Crowdsourcing Street Beauty: A New Method for Visual Preference Surveys</i> <i>Robert Goodspeed and Jacob Yan, University of Michigan, USA</i>	<i>True Lies in Big Data: Detecting Location Spoofing based on Geographic Knowledge</i> <i>Bo Zhao and Daniel Sui, Ohio State University, USA.</i>	<i>The Potential for Big Data to Improve Neighborhood-Level Census Data</i> <i>Seth Spielman, University of Colorado, USA</i>
11:05 - 11:25	<i>Visualizing a City Using Collection of Crowdsensed Sound</i> <i>Yoshito Tobe, Itaru Usami and Niwat Thepvilajanapong, Mie University, Japan</i>	<i>Accounting for Heteroscedasticity in Big Data</i> <i>Francisco Antunes, University of Coimbra, Portugal; Aidan O'Sullivan, SMART/MIT, Singapore; Filipe Rodrigues, CISUC, Portugal; and Francisco Pereira, SMART, Singapore.</i>	
11:25 - 11:40	<i>Questions/Discussion</i>	<i>Questions/Discussion</i>	<i>Questions/Discussion</i>
11:40 - 13:00	Lunch & Keynote Address (Room DEF) Keynote Speaker: Carlo Ratti, MIT, @12:00 PM		

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13:00 - 14:35	<i>2.1 Urban Plan-Making. Chair: Zorica Nedovic-Budic. University College Dublin.</i>	<i>2.2 Changing Organizational and Educational Perspectives with Big and Open Urban Data. Chair: Robert Freestone, University of New South Wales.</i>
	Room G	Room H
13:00 - 13:20	<i>Big Data for Plan-Making: Using Volunteered Geographic Information in Bike-share Planning Nader Afzalan, University of Colorado Boulder, USA.</i>	<i>How Should Urban Planners Be Trained to Handle Big Data? Steven French and Camille Barchers, Georgia Institute of Technology, USA.</i>
13:20 - 13:40	<i>Planning for the Change: Mapping Sea Level Rise and Storm Inundation in Sherman Island Using 3Di Hydrodynamic Model and LiDAR Yang Ju, Wei-Chen Hsu, John D. Radke, William L. Fourt, Wei Lang, University of California at Berkeley, USA; Olivier Hoes, Delft University of Technology, Netherlands; Howard Foster, Gregory Biging, Emery Roe, Martine Schmidt-Poolman, Rosanna Neuhausler, Amna Alruheil and William F. Maier, University of California at Berkeley, USA.</i>	<i>Big Spatio-temporal Network Data Analytics for Smart Cities: Research Needs Venkata M.V. Gunturi, Shashi Shekhar, William Northrop and Andrew Kotz, University of Minnesota, USA.</i>
13:40 - 14:00	<i>Parameterizing Land Use Planning: Deploying quantitative analysis methods in the practice of city planning Talia Kaufmann, MIT, USA</i>	<i>'Big' Data + 'Open' Data + 'Mobile' Data: A Framework for Urban Informatics Kevin Desouza, Arizona State University, USA.</i>
14:00 - 14:20	<i>Estimating Driving and Parking Patterns from Cellular Network Data: An Application to Plug-In Electric Vehicle Charging Infrastructure Planning Jing Dong and Xuesong Zhou, Iowa State University, USA</i>	<i>Emerging Urban Digital Infomediaries and Civic Hacking in an Era of Big Data and Open Data Initiatives Piyushimita (Vonu) Thakuriah, University of Glasgow, UK; Lise Dirks and Yaye Keita-Mallon, University of Illinois at Chicago, USA.</i>
14:20 - 14:35	<i>Questions/Discussion</i>	<i>Questions/Discussion</i>
14:35 - 14:50	Break	

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14:50 - 16:25	<i>3.1 - Urban Knowledge Discovery. Chair: Shaowen Wang, University of Illinois at Urbana-Champaign.</i>	<i>3.2 - Urban Knowledge Discovery. Chair: Satish Ukkusuri, Purdue University.</i>	<i>3.3 - Urban Knowledge Discovery. Chair: Daniel Felsenstein, Hebrew University.</i>
	Room G	Room H	Room I
14:50 - 15:10	<i>The Influence of Distance Decay Coefficient on Modularity-based Community Detection in Spatial Networks</i> <i>Yaoli Wang, University of Georgia, USA and Song Gao, University of California, Santa Barbara, USA.</i>	<i>The Impact of Land-Use Variables on Free-floating Carsharing Vehicle Rental Choice and Parking Duration</i> <i>Mubassira Khan, Randy Machemehl and Zhanmin Zhang, University of Texas at Austin, USA.</i>	<i>Inside the Triangle: Does Database Selection Alter our Understanding of Urban Industrial Systems?</i> <i>Mary Donegan, University of North Carolina at Chapel Hill, USA.</i>
15:10 - 15:30	<i>Seeing Chinese Cities through Big Data</i> <i>Jeremy Wu, Consultant, USA and Rui Zhang, Digital China Holdings Limited, China.</i>	<i>Big Urban Probe Data for the Provision of Advanced Traveler Information Services and Traffic Management Schemes</i> <i>Josep Maria Salanova Grau, Evangelos Mitsakis, Iraklis Stamos and Georgia Aifandopoulou, Hellenic Institute of Transport, Greece.</i>	<i>The Southern California Housing Bubble: Neighborhood Level Measures and Economic Implications</i> <i>Johannes Moenius, University of Redlands, USA.</i>
15:30 - 15:50	<i>Time-geographic Relationships between Vector Field Densities of Activity Patterns and Transport Systems</i> <i>Xintao Liu, Wai Yeung Yan and Joseph Chow, Ryerson University, Canada.</i>	<i>Identifying Driving Risk Factors to Support Usage-Based Insurance using Smartphone Personalized Driving Data</i> <i>Yi-Chang Chiu, University of Arizona, USA; Yu-Luen Ma, Illinois State University, USA and Xianbiao Hu, Metropia Inc., USA.</i>	<i>Examining Intraurban Migration in the Twin Cities Metropolitan Area using Parcel Data</i> <i>Shipeng Sun, University of Minnesota, USA.</i>
15:50 - 16:10	<i>Understanding the Usage of NYC Taxicabs for Vehicle Electrification in a Large Metropolitan Area</i> <i>Promiti Dutta and Roger Anderson, Columbia University, USA.</i>	<i>Integrating fixed and mobile arterial roadway data sources for transportation analysis</i> <i>Alexander Bigazzi, Wei Feng, Adam Moore and Miguel Figliozzi, Portland State University, USA.</i>	<i>Modeling Urban Capacity with Public Data: Helping Realize Universal Prekindergarten in New York City</i> <i>Richard Dunks, Ravi Shroff, Miguel Castro, Jeongki Lim and Haozhe Wang, New York University, USA.</i>
16:10 - 16:25	<i>Questions/Discussion</i>	<i>Questions/Discussion</i>	<i>Questions/Discussion</i>
16:25 - 18:30	Reception & Group Activity <i>Led by: Moira Zellner (Room DEF)</i>		

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Day 2, August 12, 2014			
8:00 - 8:45	Continental Breakfast		
8:45 - 10:40	4.1 : Health and Well-Being. <i>Chair: Caitlin Cottrill, University of Aberdeen.</i>	4.2 Urban Data Management. <i>Chair: Budhendra Bhaduri, Oak Ridge National Laboratory.</i>	4.3 Livability & Sustainability. <i>Chair: John Radke, University of California at Berkeley.</i>
	Room G	Room H	Room I
8:45 - 9:05	<i>UbiActive: A Smartphone-Based Tool for Trip Detection and Travel-Related Physical Activity Assessment</i> <i>Yingling Fan, University of Minnesota, USA.</i>	<i>On City Dashboards and Data Stores</i> <i>Oliver O'Brien, James Cheshire, Steven Gray, Michael Batty and Andrew Hudson-Smith, University College London, UK.</i>	<i>Computable Liveability</i> <i>Glenn Geers, NICTA, Australia.</i>
9:05 - 9:25	<i>Archive of Many Outdoor Scenes: Using Public, Online Webcams for Public Health Surveillance</i> <i>Aaron Hipp, Deepti Adlakha, Rebecca Gernes, Agata Kargol and Robert Pless, Washington University in St. Louis, USA.</i>	<i>Centralized Real-Time Platform as a Tool for Urban Studies</i> <i>Orlando Cabanas, Politecnico di Milano, Italy and Celine Steer, Freelancer, Italy.</i>	<i>Advancing Sustainability Indicators Through Text Mining: A Feasibility Demonstration</i> <i>Samuel Rivera, Barbara Minsker, Daniel Work and Dan Roth, University of Illinois at Urbana Champaign, USA.</i>
9:25 - 9:45	<i>Extracting Activity Patterns from GPS Track Data</i> <i>Sungsoon Hwang, DePaul University, USA, Christian Evans and Timothy Hanke, Northwestern University, USA.</i>	<i>AURIN Supporting Urban Informatics through a Big Data Analytics Online Workbench</i> <i>Chris Pettit and Phil Delaney, University of Melbourne, Australia.</i>	<i>Combining Physical and Participatory Sensing in Urban Mobility Networks</i> <i>Xiao-Feng Xie and Zun-Jing Wang, Carnegie Mellon University, USA.</i>
9:45 - 10:05	<i>Big Data, Small Apps: Premises and products of the civic hackathon</i> <i>Sara Carr and Allison Lassiter, University of California, Berkeley, USA.</i>	<i>A Big Data Mashing Tool for Measuring Transit System Performance</i> <i>Gregory Erhardt, Oliver Lock, Elsa Arcaute and Michael Batty, University College London, UK.</i>	<i>Collecting, Mapping, Analyzing, and Archiving Urban Soundscapes</i> <i>Tae Hong Park, New York University, USA.</i>
10:05 - 10:25	<i>'Big Data': Pedestrian Volume Using Google Street View Images</i> <i>Li Yin, University at Buffalo, The State University of New York, USA, Qimin Cheng, Huazhong University of Science & Technology, China, and Zhenfeng Shao, Wuhan University, China.</i>	<i>Guiding Data-Driven Transportation Decisions</i> <i>Kristin Tuft, Basem Elazzabi, Nathan Hall, Morgan Harvey, Kath Knobe, David Maier and Veronika Megler, Portland State University, USA.</i>	
10:25 - 10:40	<i>Questions/Discussion</i>	<i>Questions/Discussion</i>	<i>Questions/Discussion</i>
10:40 - 10:55	Break		

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10:55 - 12:30	<p>5.1 Insights into Social Equity. <i>Chair: Lise Dirks, UIC.</i></p> <p style="text-align: center;">Room G</p>	<p>5.2 Emergencies and Crisis Informatics. <i>Chair: Kevin Desouza, Arizona State University.</i></p> <p style="text-align: center;">Room H</p>	
10:55 - 11:15	<p><i>Big Data and Equity in U.S. Cities</i></p> <p><i>Mai Nguyen and Emma Boundy, University of North Carolina-Chapel Hill, USA.</i></p>	<p><i>Dynamic Agent Based Simulation of an Urban Disaster using Synthetic Big Data</i></p> <p><i>Daniel Felsenstein, A. Yair Grinberger and Michal Lichter, Hebrew University of Jerusalem, Israel.</i></p>	
11:15 - 11:35	<p><i>Modeling Social Justice Issues in Urban Zones Using Big Data: Evidence from Bikeshare and Taxicab Data</i></p> <p><i>David King, Columbia University, USA; Jonathan Peters, City University of New York, USA; Adam Davidson, City University of New York, USA; and Juan Francisco Saldarriaga, Columbia University, USA.</i></p>	<p><i>Using Social Media to fill the Gaps in Urban Areas During Emergencies</i></p> <p><i>Guido Cervone, The Pennsylvania State University, USA; Emily Schnebele and Nigel Waters, George Mason University, USA; Mark Mattson and Jeff Harrison, The Carbon Project, USA; Martina Moccaldi and Rosa Sicignano, University of Salerno, Italy.</i></p>	
11:35 - 11:55	<p><i>Applications of Machine Learning to “Stop and Frisk”</i></p> <p><i>Ravi Shroff and Alex Chohlas-Wood, New York University, USA.</i></p>	<p><i>Agent-based Large-Scale Emergency Evacuation Using Real-Time Open Government Data</i></p> <p><i>Wei Lu, Cheng Liu and Budhendra Bhaduri, Oak Ridge National Laboratory, USA.</i></p>	
11:55 - 12:15	<p><i>On Exploring Spatial Correlations in Census Derived Socioeconomic Datasets</i></p> <p><i>Vinay Prabhu, Carnegie Mellon University, USA; Rohit Negi, Carnegie Mellon University, USA and Miguel Rodrigues, University College London, UK.</i></p>	<p><i>Scaling an Urban Emergency Evacuation Framework: Challenges and Practices</i></p> <p><i>Rajasekar Karthik and Wei Lu, Oak Ridge National Laboratory, USA.</i></p>	
12:15 - 12:30	<i>Questions/Discussion</i>	<i>Questions/Discussion</i>	
12:30 - 13:45	<p><i>Lunch & Keynote Address (Room DEF)</i></p> <p><i>Keynote Speaker: Paul Waddell, University of California at Berkeley at 12:50 pm</i></p>		

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13:45 - 15:20	<i>6.1. Urban Knowledge Discovery Transportation - General. Chair: Glenn Geers, National ICT of Australia.</i>	<i>6.2. Urban Knowledge Discovery Transportation - Public Transport. Chair: Kristin Tufte, Portland State University.</i>	<i>6.3. Urban Knowledge Discovery Cities, Land Use, Energy. Chair: Yashito Tobe, Aoyama Gakuin University.</i>
	<i>Room G</i>	<i>Room H</i>	<i>Room I</i>
13:45 - 14:05	<i>From Global to Local: Big Data and Model Development for Spatially and Temporally Scalable Multi-Modal and Multi-Commodity Freight Transportation</i> <i>Guoqiang Shen, University of Oklahoma, USA.</i>	<i>Finding Public Transportation Community Structure based on Large-Scale Smart Card Records in Beijing</i> <i>Song Gao, University of California Santa Barbara, USA and Ying Long, Beijing Institute of City Planning, China.</i>	<i>Exploring the Use of 'Big Data' for Analyzing the Dynamic Spatial Patterns of Hotel and Entertainment Development</i> <i>Li Yin, University at Buffalo, The State University of New York, USA, Liang Wu, China University of Geosciences, China, Sam Cole and Laiyun Wu, University at Buffalo, The State University of New York, USA.</i>
14:05 - 14:25	<i>Big Brother is Watching You... To Predict Crashes</i> <i>St-Aubin, Paul, Nicolas Saunier, Ecole Polytechnique de Montreal, Canada, and Luis Miranda-Moreno, McGill University, Canada.</i>	<i>Spatially-Explicit Computational Evaluation of Urban Accessibility from a Human's Point of View</i> <i>Eran Ben-Elia, Tel Aviv University, Israel, Itzhak Benenson, Tel Aviv University, Israel; Yodan Rofo, Ben Gurion University, Israel and Dimitry Geyzersky, Performit Ltd, Israel.</i>	<i>Popular Urban Amenities: The Ingredients of Attractive Restaurant Areas in Dutch Cities</i> <i>Arribas-Bel, Daniel, University of Birmingham, UK and Jessie Bakens, VU University Amsterdam, Netherlands.</i>
14:25 - 14:45	<i>A Bayesian Urban Link Travel Time Estimation Model Using Large-scale Taxi Trip Data</i> <i>Xianyuan Zhan and Satish Ukkusuri, Purdue University, USA.</i>	<i>Developing a Comprehensive US Transit Accessibility Database</i> <i>Andrew Owen and David Levinson, University of Minnesota, USA.</i>	<i>Getting out of the pool: shrinkage methods for tall and wide datasets. An example from building energy consumption.</i> <i>David Hsu, University of Pennsylvania, USA.</i>
14:45 - 15:05	<i>Modeling Taxi Demand and Supply in New York Using Large-Scale Taxi GPS Data</i> <i>Ci Yang, Rutgers University, USA, and Eric Gonzales, University of Massachusetts Amherst, USA.</i>	<i>Impact of Subway Accessibility on Taxi Trip Generation in New York City</i> <i>Dan Wan, Camille Kamga and Anil Yazici, City College of New York, USA.</i>	
15:05 - 15:20	<i>Questions/Discussion</i>	<i>Questions/Discussion</i>	<i>Questions/Discussion</i>
15:20 - 15:30	<i>Break</i>		
15:30 - 16:15	<i>Breakout Session (Room DEF) Introductions by: Nebiyu Tilahun</i>		
16:15 - 16:45	<i>Open discussion on future plans (Room DEF) Chair: Vonu Thakuriah</i>		
16:45	<i>Adjourn</i>		