PROGRAM

CUPUM 2015, July 7-10
MIT, Cambridge, MA, USA

14th International Conference on Computers in Urban Planning and Urban Management

CUPUM

Computers in Urban Planning and Urban Management

CUPUM 2015, July 7-10
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http://cupum2015.mit.edu

Boston Skyline
Image Source: Stillman Video Group

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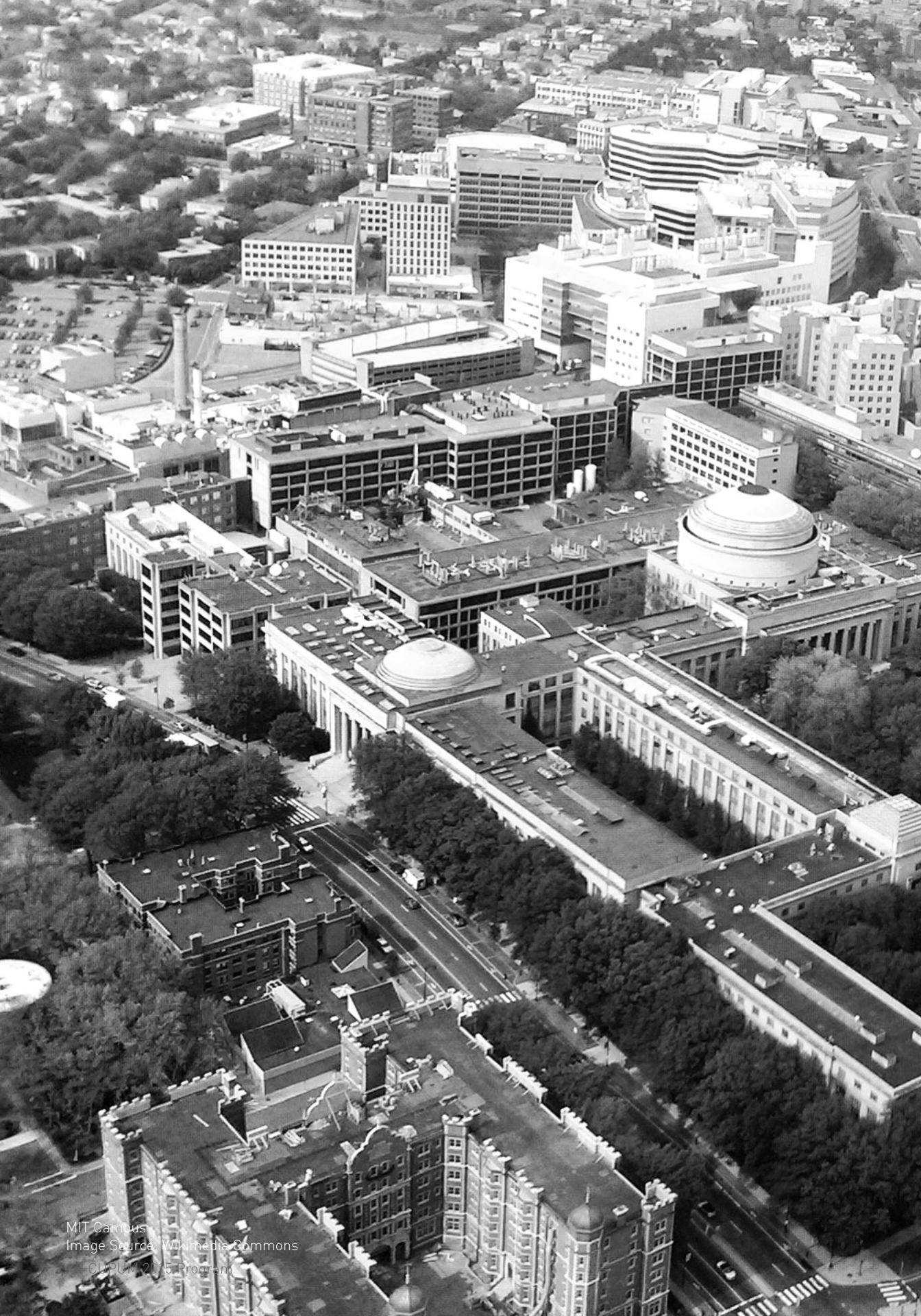


MIT Campus
Image Source: Wikimedia Commons
CLUDA 2015 Program

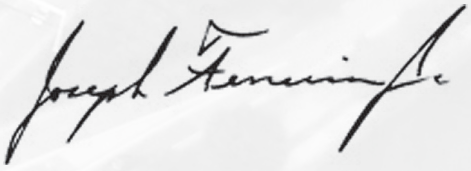
WELCOME

Welcome to the 14th International Conference on Computers in Urban Planning and Urban Management (CUPUM) at the Massachusetts Institute of Technology (MIT) in Cambridge, Massachusetts USA from July 7-10, 2015. Since 1989, the biennial CUPUM meetings have been one of the premier international conferences for the exchange of ideas and applications of computing technologies to address a diverse range of social, managerial, and environmental problems impacting urban planning and development. This year we have several hundred participants from six continents who will share their research and experience during the three days and 210 presentations via Plenaries, Parallel Sessions, and Posters. We have received a record number of submissions for each category of presentation and we look forward to a lively exchange of ideas.

This program provides an overview of all events and presentations at CUPUM 2015. As diagrammed on the accompanying map, all Plenaries will occur in the Stata Center auditorium (Room 32-123) and the parallel session presentations will occur in three rooms within the Stata Center plus two rooms next door in Building 56. Posters will be exhibited during Wednesday and Thursday breaks along the "Stata Student Street" outside the presentation rooms. The Tuesday evening opening reception and the Thursday evening conference dinner will be held close by in the 6th floor of the New Media Lab (Building E14). All conference registrants will receive a copy of the conference book on "Planning Support Systems and Smart Cities" plus a USB flash drive containing the Proceedings of CUPUM 2015.

While the book focuses on the conference theme of planning support systems and smart cities, the full set of conference presentations spans the broader range of CUPUM interests and is organized according to five Tracks: Urban Modeling, Urban Planning and Decision Support (abbreviated as PSS), Urban Analytics, Public Engagement, and Urban Information Infrastructure. Since CUPUM 2013, interest in urban sensing and 'big data' have grown considerably and there has been much interest in the emerging areas of "smart city" initiatives and a new "urban science," which often take top-down views of urban management and research. However, good planning will require drawing on the rich body of existing research about urban processes and decision-making. There is much to learn from bottom-up planning support system efforts, and thoughtful modeling and empirical research about planning processes, urban activities, and the distributional consequences of metropolitan growth strategies. Through keynote talks, panel discussion, and technical sessions and posters, we hope to simulate good discussion and insight about the ways in which information and computing technologies are reshaping our daily lives and providing new opportunities, and risks, regarding urban planning and our ability to shape future cities responsibly.

We thank the many authors, staff, and volunteers for their considerable contributions to this conference and we are most grateful to the many reviewers for their important work in providing useful feedback to all authors. On behalf of the CUPUM Board and Program Committee, we wish you an exciting and inspiring CUPUM 2015 Conference.



Joseph Ferreira, Jr.

CUPUM 2015 Conference Chair

SCHEDULE OVERVIEW

Tuesday, 7 July 2015

06:00
Welcome Reception

Wednesday, 8 July 2015

08:00
Registration + Light Breakfast

09:00 - 17:30
Keynotes and Concurrent Technical Sessions

Thursday, 9 July 2015

07:30
Registration + Light Breakfast

08:00 - 19:00
Keynotes and Concurrent Technical Sessions

19:00
Conference Dinner

Friday, 10 July 2015

08:15
Registration + Light Breakfast

08:45 AM - 12:30
Keynotes and Concurrent Technical Sessions

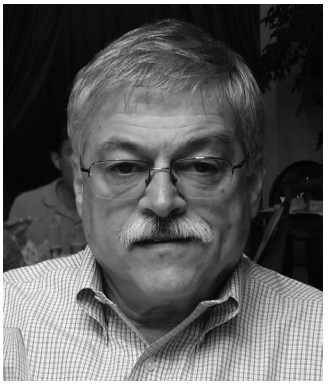
12:30 PM
Close of on-campus portion of academic conference

12:30 PM - 18:00 PM
Afternoon Field Trips

MIT Main entrance at 77 Mass Ave
Image Source: Wikimedia Commons

WEDNESDAY INTRODUCTIONS & KEYNOTE SPEAKER

Conference Chair Joseph Ferreira



Introduction to CUPUM 2015

CUPUM 2015 Conference Chair, Joseph Ferreira, is Professor of Urban Planning and Operations Research in the MIT Department of Urban Studies and Planning (DUSP). He was the founding director of the Department's Computer Resource Lab (in 1983) and now heads DUSP's cross-cutting Urban Information Systems group. He teaches analytical methods and computer-based modeling for planning and urban management and has undergraduate (engineering) and PhD degrees (operations research) from MIT. His research uses GIS and interactive spatial analysis tools to model land use, transportation, and environmental interactions and to build sustainable information infrastructures. He has served as-president of the Urban and Regional Information Systems Association (URISA) and has been principal investigator of numerous research projects including current work on Future Urban Mobility at the Singapore/MIT Alliance for Research and Technology.

MIT Dean Hashim Sarkis

MIT Welcome from Dean Hashim Sarkis

Hashim Sarkis was appointed Dean of MIT's School of Architecture and Planning in January, 2015. Prior to MIT, he was the Aga Khan Professor at Harvard University's Graduate School of Design. Dean Sarkis has published extensively in the history of modern architecture and urban design. His architectural and planning projects, as principal of Hashim Sarkis Studios, comprise affordable housing, institutional buildings, and town planning projects worldwide. These include the award-winning Byblos Town Hall and Housing for the Fishermen of Tyre. Dean Sarkis received his PhD in Architecture from Harvard University, an MArch from the Graduate School of Design at Harvard, and a Barch and BFA from the Rhode Island School of Design.

MIT Dept. Head
Eran Ben-Joseph

MIT Welcome from Prof. Eran Ben-Joseph

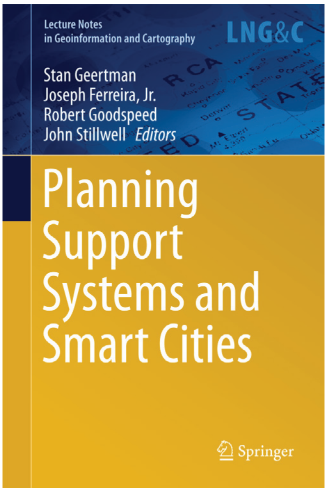
Eran Ben-Joseph is Professor and head of the Department of Urban Studies and Planning at MIT. His research and teaching interests include urban and physical design, standards and regulations, sustainable site-planning technologies and urban retrofitting. He has worked as a city planner, an urban designer and a landscape architect, and he has led national and international multi-disciplinary projects in Singapore, Barcelona, Santiago, Tokyo, and Washington DC, among other places. He holds degrees from the University of California at Berkeley and Chiba National University of Japan.

Program Co-Chair
Robert Goodspeed

Getting the most out of CUPUM 2015

Program Committee Co-chair, Robert Goodspeed, will help conference participants navigate the Program, Proceedings, and MIT venue. He is Assistant Professor of Urban Planning at the University of Michigan's Taubman College of Architecture and Urban Planning where he teaches geographic information systems (GIS), collaborative planning, and scenario planning theory and methods. His research investigates how new information technologies can be used to improve planning process and outcomes. He holds a Ph.D. in urban and regional planning from the MIT, an M.C.P. from the University of Maryland, and a B.A. in history from the University of Michigan.

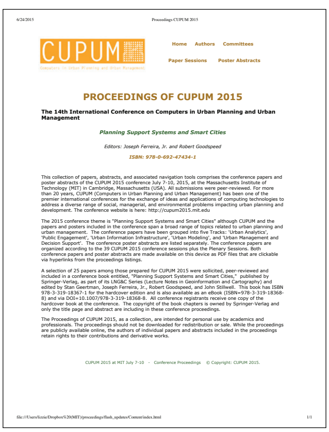
Conference Book



CUPUM 2015 Conference Book

The CUPUM 2015 Conference Book is hot off the press from Springer-Verlag and each registrant will receive a copy at the conference. A selection of 25 papers among those prepared for CUPUM 2015 were solicited, peer-reviewed by the CUPUM Board and Advisors, and included in this book focusing on the conference theme, "Planning Support Systems and Smart Cities." The book (ISBN 978-3-319-18367-1) is part of Springer's LNG&C Series (Lecture Notes in Geoinformation and Cartography) and was edited by Stan Geertman, Joseph Ferreira, Jr., Robert Goodspeed, and John Stillwell. Presentations of book chapters by their authors are scheduled among the parallel sessions covering the various tracks at CUPUM 2015.

Conference Proceedings



6/24/2015 Proceedings CUPUM 2015

CUPUM
Computers in Urban Planning and Urban Management

Home Authors Committees
Paper Sessions Poster Abstracts

PROCEEDINGS OF CUPUM 2015

The 14th International Conference on Computers in Urban Planning and Urban Management

Planning Support Systems and Smart Cities

Editors: Joseph Ferreira, Jr. and Robert Goodspeed

ISBN: 978-0-692-47434-1

This collection of papers, abstracts, and associated navigation tools comprises the conference papers and poster abstracts of the CUPUM 2015 conference July 7-10, 2015, at the Massachusetts Institute of Technology (MIT) in Cambridge, Massachusetts (USA). All submissions were peer-reviewed. For more than 20 years, CUPUM (Computers in Urban Planning and Urban Management) has been one of the premier international conferences for the exchange of ideas and applications of computing technologies to address a diverse range of social, managerial, and environmental problems impacting urban planning and development. The conference website is here: http://cupum2015.mit.edu

The 2015 conference theme is "Planning Support Systems and Smart Cities" although CUPUM and the papers and posters included in the conference span a broad range of topics related to urban planning and urban management. The conference papers have been grouped into five Tracks: 'Urban Analytics', 'Public Engagement', 'Urban Information Infrastructure', 'Urban Modeling', and 'Urban Management and Decision Support'. The conference poster abstracts are listed separately. The conference papers are organized according to the 39 CUPUM 2015 conference sessions plus the Plenary Sessions. Both conference papers and poster abstracts are made available on this device as PDF files that are clickable via hyperlinks from the proceedings listings.

A selection of 25 papers among those prepared for CUPUM 2015 were sollicited, peer-reviewed and included in a conference book entitled, "Planning Support Systems and Smart Cities," published by Springer-Verlag, as part of its LNG&C Series (Lecture Notes in Geoinformation and Cartography) and edited by Stan Geertman, Joseph Ferreira, Jr., Robert Goodspeed, and John Stillwell. This book has ISBN 978-3-319-18367-1 for the hardcover edition and is also available as an eBook (ISBN=978-3-319-18368-8) and via DOI=10.1007/978-3-319-18368-8. All conference registrants receive one copy of the hardcover book at the conference. The copyright of the book chapters is owned by Springer-Verlag and only the title page and abstract are including in these conference proceedings.

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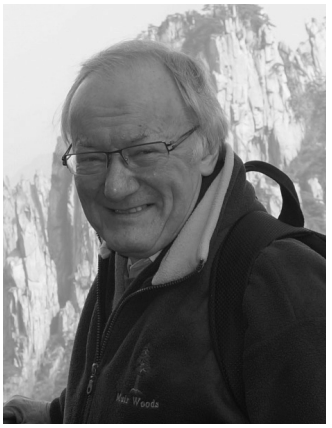
Proceedings of CUPUM 2015

The collection of papers, posters and talk abstracts that comprise CUPUM 2015 are packaged together with associated navigation tools in the Proceedings of CUPUM 2015, July 7-10, 2015. All submissions were subjected to double-blind peer review. This proceedings has ISBN: 978-0-692-47434-1 and will be provided on a flash drive to all conference registrants. Following the conference, the proceedings will be made available online from the conference website: http://cupum2015.mit.edu.

Wednesday Keynote Speaker: Michael Batty



"Sketch Planning With Simplified Land Use Transportation Models"

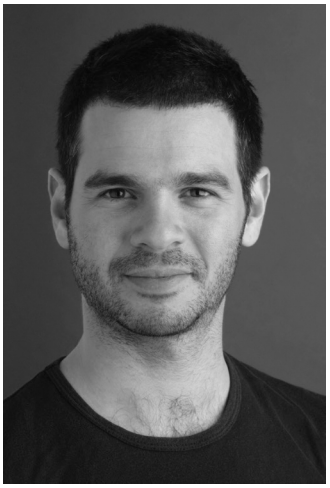
Planning support systems have only just reached the point where many alternative scenarios can be tested and evaluated in a routine manner. This has been made possible through developments in computation which lets users access models and methods remotely, executing their predictions in real time and exploring their outcomes in interactive fashion. Here we report on the development of a suite of simplified and aggregate land use transportation models for large scale impact analysis, illustrating their visual interfaces with examples of new transport lines and airports in the London metropolitan region, in Bogotá, Columbia where we show the segregated structure of the city in terms of its accessibility to different income groups, and in Dubai, UAE where the data we have used has been drawn entirely from the web and where we show how crude models can still be built for testing the impacts of major change in data-poor situations.

Biographic Sketch of Michael Batty

Michael Batty, CBE FRS FBA, is the Bartlett Professor of Planning at University College London, and Chairman of UCL's Centre for Advanced Spatial Analysis (CASA). He is world renown for his path breaking work on urban modeling, spatial analysis, and planning support systems. Prior to establishing CASA in 1995, Prof. Batty taught at the University of Manchester, University of Reading, Wales Institute of Science and Technology (now University of Cardiff), and the State University of New York at Buffalo, where he headed the NSF National Center for Geographic Information and Analysis. CASA is an interdisciplinary center focused on the development of mathematical and computer methods in geographical information science, urban and regional modeling, and the scientific theory of cities. CASA has grown to around 50 research and administrative staff and now awards both PhDs and Masters' degrees in smart cities and spatial analysis. Prof. Batty has received numerous awards and accolades, notably the CBE for services to Geography in the 2004 Queen's Birthday Honors, and the Lauréat Prix International de Géographie Vautrin Lud. His recent books include The New Science of Cities (MIT press, 2013) and Cities and Complexity (MIT Press, 2007). Prof. Batty continues to serve as CASA Chairman following his retirement and remains actively involved in the emerging science of cities and the hot topic of smart cities.

FRIDAY KEYNOTE SPEAKER AND CUPUM CLOSING

Friday Keynote Speaker: Assaf Biderman



The Sense*able* City

Small and distributed computers have become an integral part of our lives. With the ubiquity of wireless connectivity they now recombine with our physical environment. Information about urban conditions can be captured in real time, processed, and fed back into cities, enabling new ways to monitor, understand, and experience our cities. We can synchronize transportation systems, allocate energy in a smarter way, reuse our waste optimally, and respond more rapidly to emergencies. More importantly, the citizen is in the center of this momentous change. When empowered by real-time information about what's happening around us, our capacity to make smarter decisions and new types of contribution is greatly enhanced. Like the Internet, the networked city invites participation from individuals, organizations, companies, and governments to program and design the digital architectures that will craft our urban future. In this talk, various projects carried out at MIT's SENSEable City Lab that explore this new condition will be discussed: real-time maps that use the digital exhaust of communication networks to describe urban mobility and environmental conditions, the flows of locatable trash, and a new mode of personal urban transport.

Biographic sketch of Assaf Biderman

Assaf Biderman is a technology inventor, author, and entrepreneur. He teaches at the MIT, where he is the associate director of the SENSEable City Laboratory, a research group that explores the "real-time city" by studying the increasing deployment of sensors and networked miniaturized electronics, as well as their relationship to the built environment. In December 2012, Assaf founded Superpedestrian, a technology company that focuses on the future of personal urban mobility. He teamed up with a group of veteran roboticists to develop their first product—The Copenhagen Wheel—the SENSEable City Lab's award winning bicycle project. Superpedestrian has received multiple awards including the 2014 Red Dot: Luminary, as well as Time Magazine's 25 Best Inventions of 2014, and the 2014 Deutscher Werkbund award. Assaf holds multiple patents and has co-authored dozens of publications and book

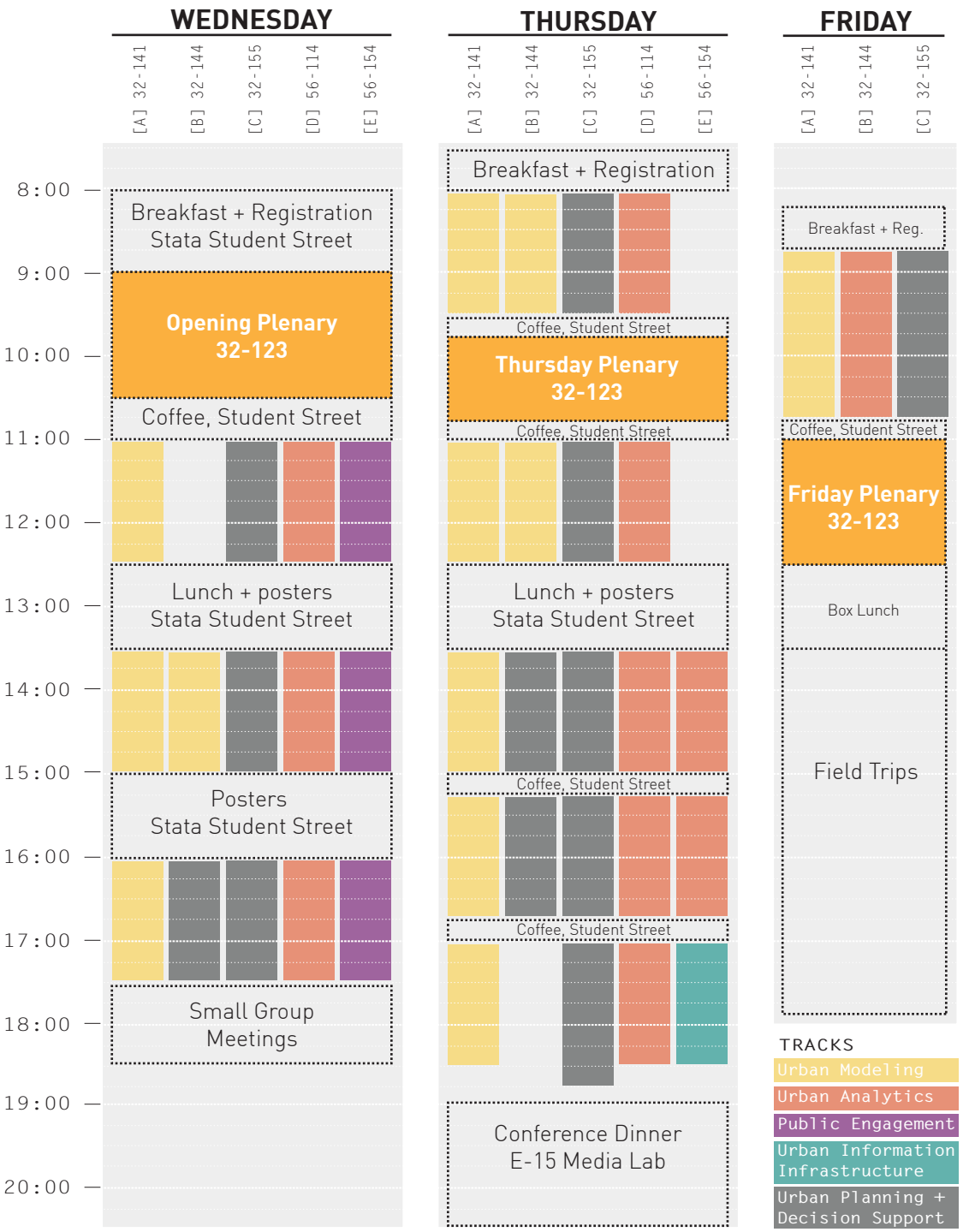
chapters. His work on urban technologies has been exhibited worldwide in such venues as the Museum of Modern Art in New York, the Design Museum Barcelona, the Science Museums in Boston and in London, and the Venice Biennale; and it has been featured in over 1,000 media publications including the BBC, New York Times, the Economist, WIRED, CNN, and CNBC.

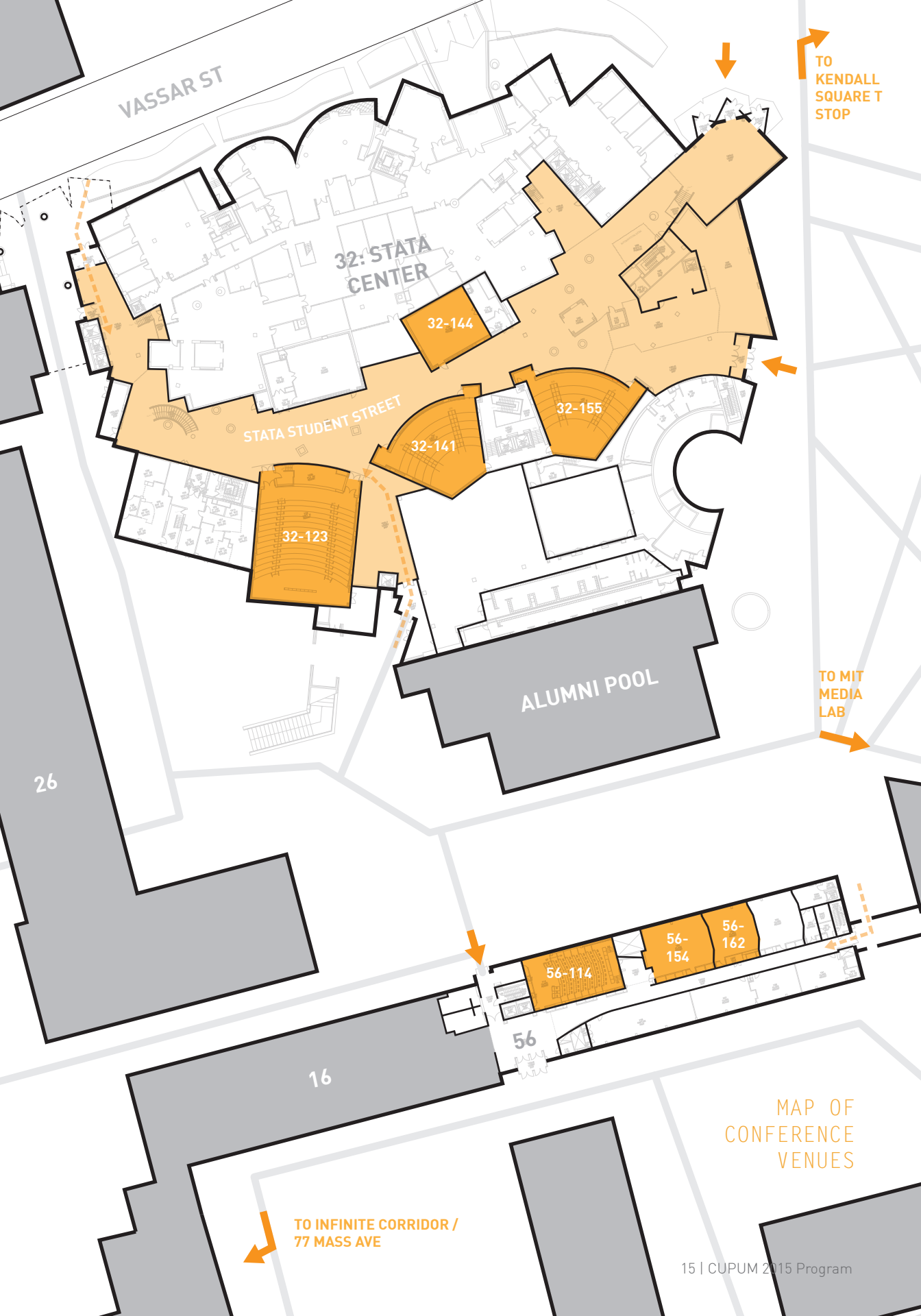
CUPUM Chair
Stan Geertman

CUPUM 2015 Closing Remarks

Stan Geertman chairs the CUPUM Board of Directors and he will be one of the CUPUM Board members providing closing remarks during Friday's Plenary. Stan Geertman is Professor of Planning Support Science and Chair of Spatial Planning at Utrecht University in the Netherlands and has published widely in both national and international journals and book series. He is editor of the international peer-reviewed journal Applied Spatial Analysis and Policy, and serves on the editor board of other scientific journals (e.g., CEUS). His current research interests include planning and decision support systems, smart cities and smart governance, and socio-spatial analysis for sustainable urbanization.

SESSION TIMETABLE

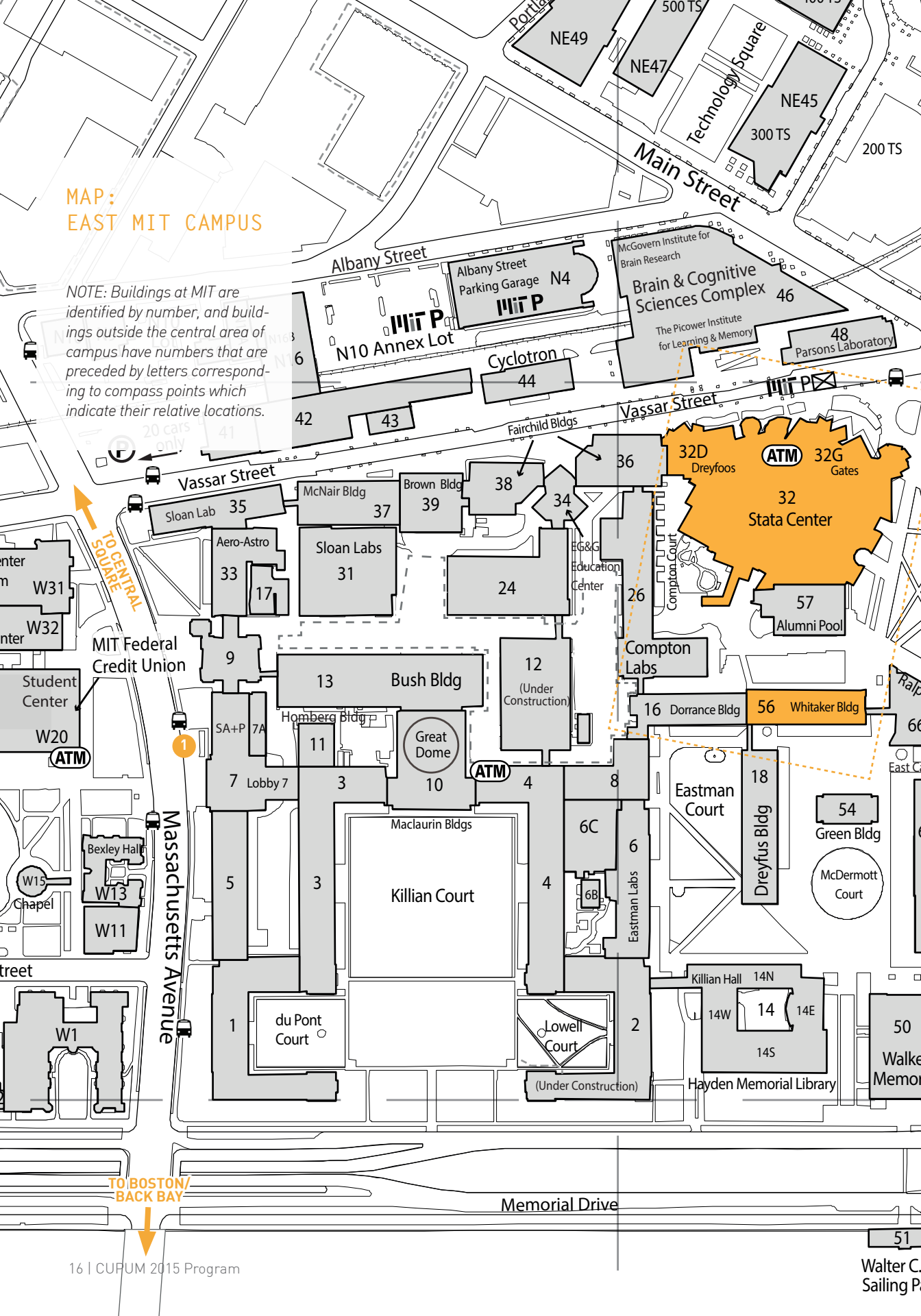


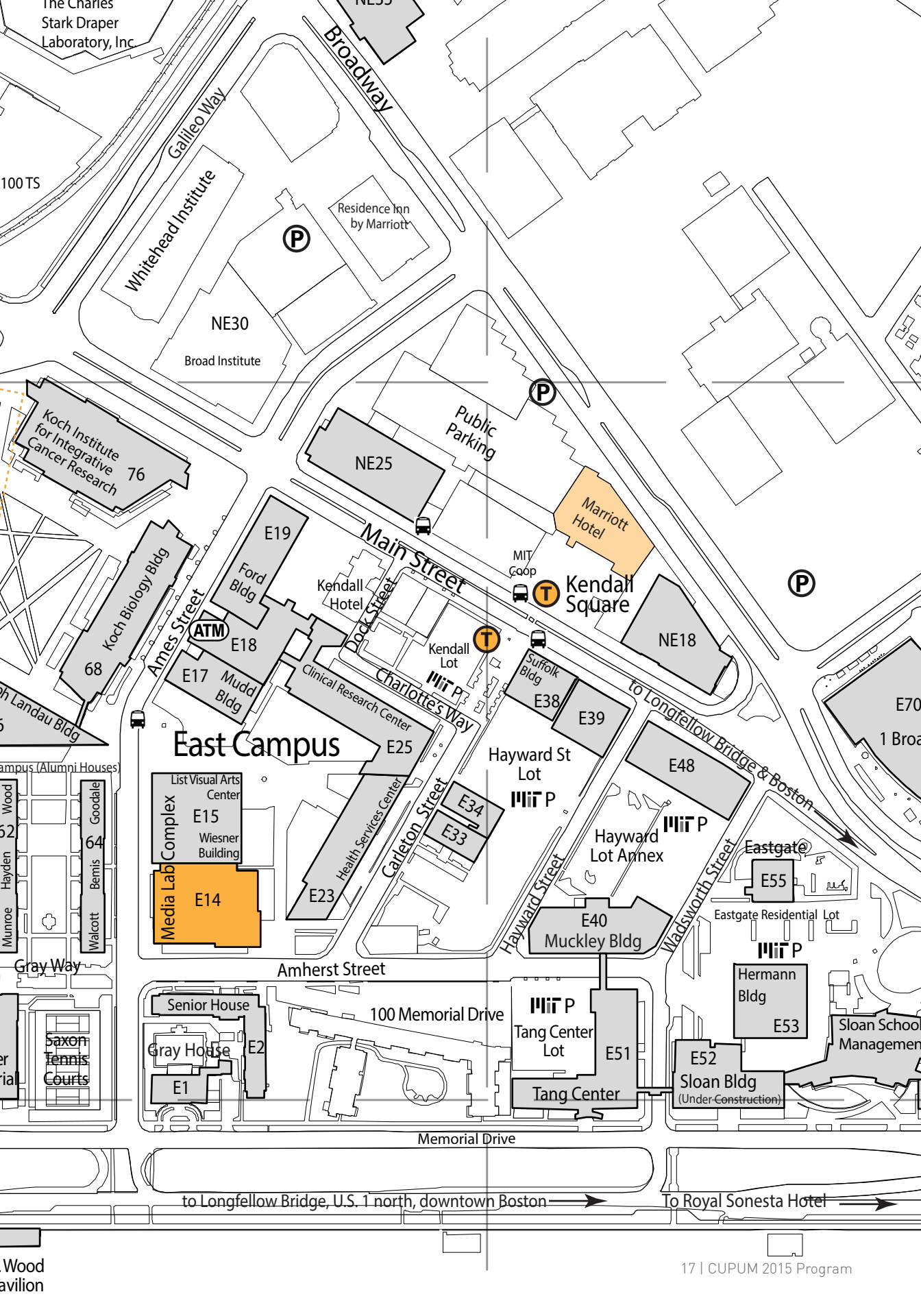


MAP OF CONFERENCE VENUES

MAP: EAST MIT CAMPUS

NOTE: Buildings at MIT are identified by number, and buildings outside the central area of campus have numbers that are preceded by letters corresponding to compass points which indicate their relative locations.




The Charles Stark Draper Laboratory, Inc
Broadway
Galileo Way
100 TS
Whitehead Institute
Residence Inn by Marriott
NE30
Broad Institute
Koch Institute for Integrative Cancer Research
76
NE25
Public Parking
Marriott Hotel
Main Street
MIT Coop
Kendall Square
Kendall Hotel
Dock Street
E19
Ford Bldg
Koch Biology Bldg
68
Ames Street
ATM
E18
E17
Mudd Bldg
Clinical Research Center
Kendall Lot
Charlotte's Way
Suffolk Bldg
E38
E39
NE18
to Longfellow Bridge & Boston
East Campus
E25
Hayward St Lot
E48
List Visual Arts Center
Complex
E15
Wiesner Building
Media Lab
E14
E23
Health Services Center
Carleton Street
E34
E33
Hayward Lot Annex
Hayward Street
Wadsworth Street
Eastgate
E55
Eastgate Residential Lot
E40
Muckley Bldg
Gray Way
Amherst Street
Senior House
Gray House
E2
E1
100 Memorial Drive
Tang Center Lot
E51
Tang Center
Hermann Bldg
E53
E52
Sloan Bldg
(Under Construction)
Saxon Tennis Courts
Memorial Drive
to Longfellow Bridge, U.S. 1 north, downtown Boston
To Royal Sonesta Hotel

PARALLEL SESSION LISTING

Code	Track	Session Name	Moderator
W1A	Modeling	Transport Planning	A. Nélson Rodrigues da Silva
W2A	Modeling	Travel Demand and Behavior (1)	Jinhua Zhao
W3A	Modeling	Travel Demand and Behavior (2)	Jinhua Zhao
W2B	Modeling	Modeling Uncertainty and Developer Behavior	Kazuaki Miyamoto
T1A	Modeling	Growth, Decline and Urban Well Being	Anthony Yeh
T1B	Modeling	Complexity and Scale	Weifeng Li
T2A	Modeling	Location and Urban Form	Anthony Yeh
T2B	Modeling	Open Data in Modeling	A. Nélson Rodrigues da Silva
T3A	Modeling	Land Use, Environment and Energy (1)	Karl Kim
T4A	Modeling	Land Use, Environment and Energy (2)	Karl Kim
T5A	Modeling	Land Use, Transport and Urbanization (1)	Weifeng Li
F1A	Modeling	Land Use, Transport and Urbanization (2)	Anthony Yeh
W1C	PSS	PSS and the Smart City	Richard Klosterman
W2C	PSS	Practice and Participation in PSS (1)	Richard Klosterman
W3C	PSS	Practice and Participation in PSS (2)	Richard Klosterman
W3B	PSS	PSS and Big Data	Anthony Yeh
T1C	PSS	PSS for Urban Services	Stan Geertman
T2C	PSS	PSS for Natural Disasters	Karl Kim
T3C	PSS	PSS for Climate and Environment	Stan Geertman
T4C	PSS	PSS and Urban Form (1)	Paola Rizzi
T5C	PSS	PSS and Urban Form (2)	Paola Rizzi
T3B	PSS	PSS and Transport	A. Nélson Rodrigues da Silva
T4B	PSS	Use of Micro-data in PSS	Richard Klosterman
F1C	PSS	Implementing PSS in Government	Robert Goodspeed

Code	Track	Session Name	Moderator
W1D	Analytics	Neural Networks and Data Mining	Chris Pettit
W2D	Analytics	Networks and Cluster Detection	Andrew Allan
W3D	Analytics	Mobile Sensing to Improve Urban Operations	Mi Diao
T1D	Analytics	Spatial Patterns of Housing and Pricing	Mi Diao
T2D	Analytics	Human Dynamics and Space-Time Mobility	Chris Pettit
T3D	Analytics	Urbanization and Landuse-Transport Models	Mi Diao
T4D	Analytics	Urban Built Environment	Mi Diao
T5D	Analytics	Traffic Management	Kazuaki Miyamoto
T3E	Analytics	Accessibility and Risk Management	Chris Pettit
T4E	Analytics	Tapping Social Media and Human Emotions	Sarah Williams
F1B	Analytics	Visualization of Spatial Data	Sarah Williams
W1E	Engagement	Particpatory Urban Sensing	Renée Sieber
W2E	Engagement	Computer Aided Tools for Planning	Renée Sieber
W3E	Engagement	Engagement Issues and Methods	Renée Sieber
T5E	Infrastructure	Urban Information Infrastructure	Andrew Allan

Note: "Code" refers to the date, session slot, and room. For example, W2D is a Wednesday session in the 2nd set of parallel sessions on that day and occurs in room D (which is labeled 56-114 on the Room and the campus map, to indicate Building 56, Room 114). All 39 parallel sessions are listed and named above with the numbering sorted by Track. See the session overview on page 14 or the session details on the following pages for a chronological breakdown of session times and locations.

DETAILED SCHEDULE
Tuesday, July 07

18:00-20:30: E14-New Media Lab, 6th floor

Registration + Opening Reception

KEY
* paper
% abstract-only
# book-abstract

DETAILED SCHEDULE
Wednesday, July 08

08:00-18:00: Student Street (Stata Center)

Registration

08:00-09:00: Student Street (Stata Center)

Light Breakfast

09:00-10:30: (room 32-123)

Opening Session and Wednesday Keynote Talk: see details on p. 08-11

10:30-11:00: Student Street (Stata Center)

Coffee Break

11:00-12:30: Parallel Session W1A: (room 32-141) Transport Planning

W1A: A concept of Platoon Flow Duration in Data Aggregation for Urban Road Capacity Estimation
** Gunasekaran Karupannan, Kalaanidhi Sivagnanasundaram, Gayathri H and Velmurugan Senathipathi*

W1A: Modelling Eco-Effciency For Vehicular Emissions From The Perspective Of Dhaka City: Development of a Tool for Sustainable Transport Planning
** Asif Iqbal and Andrew Allan*

W1A: Modelling Local Accessibility Networks to Optimise the Planning of Transit Oriented Developments in Adelaide
** Andrew Allan and Matthew Fielke*

W1A: Traffic accidents risk analysis based on road and land use factors using GLMs and zero-inflated models
** Paweenuch Songpatanasilp, Teerayut Horanont, Harutoshi Yamada and Ryosuke Shibasaki*

11:00-12:30: Parallel Session W1C: (room 32-155) PSS and the Smart City

W1C: Sentient PSS for Smart Cities
 # Brian Deal, Varkki Pallathucheril, Yong Wook Kim and Haozhi Pan

W1C: Smart Cities – Field of application for Planning Support Systems in the 21st Century?
** Jan-Philipp Exner*

W1C: From situation awareness to smart city planning and decision making
** Susa Eräranta and Aija Staffans*

W1C: The development of smart cities in China
** Yongling Li, Yanliu Lin and Stan Geertman*

11:00-12:30: Parallel Session W1D: (room 56-114) Neural Networks and Data Mining

W1D: Knowledge-Mining the Australian Smart Grid Smart City Data: A Statistical-Neural Approach to Demand-Response Analysis
 # Omid Motlagh, Greg Foliente and George Grozev

W1D: Extraction of industry coagglomeration patterns from small area statistics: An approach by the FDR-based cluster detection and the frequent pattern mining of industry clusters
** Ryo Inoue*

W1D: Spatial Analysis of the Indian Subcontinent: the Complexity Investigated through Neural Networks
** Giovanni Fusco and Joan Perez*

W1D: Systematic Data Mining into Land Consumption in Germany
** Alfred Ultsch, Odette Kretschmer and Martin Behnisch*

11:00-12:30: Parallel Session W1E: (room 56-154) Particpatory Urban Sensing

W1E: Leveraging Cellphones for Wayfinding and Journey Planning in Semi-formal Bus Systems: Lessons from Digital Matatus in Nairobi
 # Jacqueline Klopp, Sarah Williams, Peter Waiganjo, Daniel Orwa, Adam White

W1E: The Use of Participatory Urban Sensing Data in Urban Infrastructure Investment Assessments: Insights from Two Delphi Surveys in Beijing
** Ying Long, Steve Denman, Debbie B Deng, Xiao Rong, Xihe Jiao and Ying Jin*

W1E: Smart Phones for a Smart City: Requirements for Context Aware Mobile Application for Landscape and Urban Planning
** Alexandra Tisma, Mathijs M. de Weerdt, Birna van Riemsdijk, Martijn Warnier and René van der Velde*

W1E: Who's talking, who's listening: exploring social media use by community groups using social network analysis
** Wayne Williamson and Kristian Ruming*

12:30-13:30: Student Street (Stata Center)

Lunch & Poster Session 1 (See poster details on pages 34-35)

13:30-15:00: Parallel Session W2A: (room 32-141) Travel Demand and Behavior (1)

W2A: Freight Trip Generation in urban contexts: a comparison between Lisbon and Singapore
** André Alho, Yin Jin Lee, Edgar Blanco, Christopher Zegras and João de Abreu e Silva*

W2A: Exploring Agency Relationship in Transport Service Sector by Analysing Traveller Choice Behaviour
** AHM Mehbub Anwar, Kiet Tieu, Peter Gibson, Matthew J. Berryman, Khin Than Win, Andrew McCusker and Pascal Perez*

W2A: An agent-based multi-objective optimization model for allocating public charging stations for electric vehicles
** Qi Han, Bauke De Vries and Geert Kanters*

W2A: Microscopic trip generation: Adding fidelity to trip-based travel demand models
** Rolf Moeckel, Leta Huntsinger and Rick Donnelly*

13:30-15:00: Parallel Session W2B: (room 32-144) Modeling Uncertainty and Developer Behavior

W2B: Who's afraid of heights? An agent-based model of urban density
% Sara Levy, Karel Martens and Rob van der Heijden

W2B: A Real-Option Based Dynamic Model to Simulate Real Estate Developer Behavior
** Mi Diao, Xiaosu Ma and Joseph Ferreira*

W2B: Modelling the spatial decisions of private developers: A case study of Jakarta Metropolitan Area, Indonesia
** Agung Wahyudi, Yan Liu and Jonathan Corcoran*

W2B: Modelling uncertainties in long-term predictions of urban growth: a coupled Cellular Automata and Agent-Based approach
** Ahmed M Mustafa, Ismaïl Saadi, Mario Cools and Jacques Teller*

13:30-15:00: Parallel Session W2C: (room 32-155) Practice and Participation in PSS (1)

W2C: Usability of Planning Support Systems: an evaluation framework
 # Patrizia Russo, Maria Francesca Costabile, Rosa Lanzilotti and Chris Pettit

W2C: The Influence of Planning Support Systems on Planning Practice
% Peter Pelzer

W2C: From public participation GIS to participative planning support system – Exploring the Helsinki 2050 master planning process
% Maarit Kahila-Tani

W2C: To make LUTI models operational tools for planning.
** Mathieu Saujot, Matthieu de Lapparent, Elise Arnaud, Emmanuel Prados*

13:30-15:00: Parallel Session W2D: (room 56-114) Networks and Cluster Detection

W2D: Capacity of Roadway Infrastructure and its Relation with Functional Urban Regions
** Gustavo Garcia Manzato, Rodrigo Sanches Dias and Antônio Nélson Rodrigues Da Silva*

W2D: Using Migration Degree to Distinguish Post-Industrial U.S. Cities
** Clio Andris and Cindy Cook*

W2D: Communities in an inter-firm network and their geographical perspectives
** Ritsu Sakuramachi, Naoya Fujiwara, Shota Fujishima, Yuki Akiyama and Ryosuke Shibasaki*

W2D: Spatial cluster detection on detailed data without constraint of continuousness
** Akihito Ujiie and Junya Fukumoto*

13:30-15:00: Parallel Session W2E: (room 56-154) Computer Aided Tools for Planning

W2E: eDevelopment-Assessment as "Smart ePlanning" for New South Wales (NSW) Australia
** Awais Piracha*

W2E: The Evolvement of Computer-Aided Urban Planning in China
** Lin Zhang, Stan Geertman and Yanliu Lin*

W2E: How Will Compact City Affect Me? : Urban Planning Simulations for Citizens
** Yoko Hasegawa, Yoshihide Sekimoto, Toshikazu Seto and Yuki Fukushima*

W2E: CityEye: Real-time Visual Dashboard for Managing Urban Services and Citizen Feedback Loops
** David Lee, Jesus Ricardo Alvarez Felix, Shan He, Dietmar Offenhuber and Carlo Ratti*

15:00-16:00: Student Street (Stata Center)

Break & Poster session 2 (See poster details on pages 34-35)

16:00-17:45: Parallel Session W3A: (room 32-141) Travel Demand and Behavior (2)

W3A: Motorization and Commuting Mode Choice around Metro Stations in Shanghai Central and Suburban Areas
** Haixiao Pan, Yanbo Ge, Qing Shen, Peng Chen*

W3A: Modeling Urban-level Impact of a Shared Taxi Market
** Andrea Paraboschi, Paolo Santi and Carlo Ratti*

W3A: Self-Selection versus Contextual Effects: The Land Use –Travel Connection Revisited
% Ming Zhang and Wenjia Zhang

W3A: Exploring the Impact of Shared Autonomous Vehicles on Urban Parking Demand: An Agent-based Simulation Approach
** Wenwen Zhang, Subhrajit Guhathakurta, Jinqi Fang, Ge Zhang*

W3A: A GIS-based Planning Support System to Control Sprawl
% Afia Zubair Raja and Tayyaba Ahmed

16:00-17:30: Parallel Session W3B: (room 32-144) PSS and Big Data

W3B: Moving beyond Operations: Leveraging Big Data for Urban Planning Decisions
** Steve French, Camille Barchers and Wenwen Zhang*

W3B: How fare simulation tools in urban public transport can benefit from smart card data analysis?
** Catherine Bouteiller & Bruno Faivre d'Arcier*

W3B: What are Essential requirements in Planning for Future Cities using Open Data Infrastructures and 3D Data Models?
** Soheil Sabri, Christopher J Pettit, Mohsen Kalantari, Abbas Rajabifard, Marcus White, Oliver Lade and Tuan Ngo*

W3B: A new method of estimating locality of industry cluster regions using large-scale business transaction data
** Yuki Akeyama, Yuki Akiyama and Ryosuke Shibasaki*

16:00-17:30: Parallel Session W3C: (room 32-155) Practice and Participation in PSS (2)

W3C: Managing Crowds: The Possibilities and Limitations of Crowd Information During Urban Mass Events
 # Lara-Britt Zomer, Winnie Daamen, Sebastiaan Meijer and Serge Paul Hoogendoorn

W3C: THE EVERYONE CITY: How ICT-based public participation shapes urban form
 # Sara Levy, Karel Martens and Rob van der Heijden

W3C: "Re-using Dublin": A crowd sourced web mapping application to support the reuse of underutilized spaces in Dublin.
% Aoife Corcoran and Zorica Nedovic-Budic

W3C: Disasters, Drones, And Crowd-Sourced Damage Assessment
** Karl Kim, Pradip Pant and Eric Yamashita*

16:00-17:30: Parallel Session W3D: (room 56-114) Mobile Sensing to Improve Urban Operations

W3D: Development and Operation of Social Media GIS for Disaster Risk Management in Japan
 # Kayoko Yamamoto

W3D: Study on Traffic Flow Characteristics using Probe Vehicles
** E. Elangovan, D. Jebaselwin Gladson, K. Gunasekaran, S. Kalaanidhi, K. Karthiga*

W3D: A Comparison among various Classification Algorithms for Travel Mode detection using sensors' data collected by smartphones
** Muhammad Awais Shafique and Eiji Hato*

W3D: Assessing noise exposure levels along recently built cycle paths in a Brazilian city with a mobile sensing system
** Thiago Cunha Ramos, Antônio Nélson Rodrigues Da Silva, Lea Cristina Lucas de Souza, Luc Dekoninck and Dick Botteldooren*

16:00-17:30: Parallel Session W3E: (room 56-154) Engagement Issues and Methods

W3E: Virtual Worlds As Support Tools For Public Engagement In Urban Planning
 # Anja Jutraz and Tadeja Zupancic

W3E: Recoding embedded assumptions: adaptation of an open source tool to support sustainability, transparency, and participatory governance
 # Jennifer Minner

W3E: Facilitating PSS Workshops: A Conceptual Framework and Findings from Interviews with Facilitators
 # Peter Pelzer, Robert Goodspeed and Marco Te Brömmelstroet

W3E: Gaming, Urban Planning and Transportation Design Process
 # Jayanth Raghothama and Sebastiaan Meijer

17:30 -18:30+: (room 32-144)

Informal Small Group Meetings

In order to facilitate small group discussion and birds-of-a-feather meetings, we have reserved Room 32-144 for an additional few hours after Wednesday sessions end at 17:30. The tables and benches along the "Stata Student Street" also provide convenient places for small group meeting and discussion.

The Transport and Spatial Development (SIG-F1) of the World Conference on Transport Research Society (WCTRS) will meet in room 32-144 from 17:30 - 18:30.

DETAILED SCHEDULE
Thursday, July 09

07:30-18:00: Student Street (Stata Center)

Registration

07:30-08:00: Student Street (Stata Center)

Light Breakfast

08:00-09:30: Parallel Session T1A: (room 32-141) Growth, Decline and Urban Well Being

T1A: Well-being and the city: Understanding urban sustainability in terms of the capability approach using land use transport interactions modeling
** Camilo Vargas-Ruiz, Michael Batty and Alan Wilson*

T1A: Downtown Dynamics Model by Artificial Society Approach
** Toshiyuki Kaneda and Shuang Chang*

T1A: Simulation Analyses on Jane Jacobs' City Diversity Requirements by Using Downtown Dynamics Model
** Masahiro Shohmitsu, Shuang Chang, Toshiyuki Kaneda and Jin Renbao*

T1A: Finding the State Space of Urban Regeneration: Modeling Gentrification as a Probabilistic Process using k-Means Clustering and Markov Models
** Emily Royall and Thomas Wortmann*

08:00-09:30: Parallel Session T1B: (room 32-144) Complexity and Scale

T1B: Modelling the knowledge of urban complexity: The role of ontologies in spatial design tasks
** Dino Borri, Domenico Camarda and Maria Rosario Stufano Melone*

T1B: Vector-based Cellular Automata: exploring new methods of urban growth simulation with cadastral parcels and graph theory
** Pablo Barreira González, Montserrat Gómez-Delgado and Francisco-Aguilera Benavente*

T1B: Integrating models for complex planning policy analysis: Challenges and a solution in coupling dissimilar models
** Harutyun Shahumyan and Rolf Moeckel*

T1B: Cellular automata modeling of multiscale urban systems: concepts, models and applications
% Nuno Pinto, António Antunes and Josep Roca

08:00-09:30: Parallel Session T1C: (room 32-155) PSS for Urban Services

T1C: PSS in informal urban settlements: results of five years of implementation in Belo Horizonte, Brazil
** Gerson José de Mattos Freire, Fernanda Borges de Moraes, Lucas Saliba Santos, Sheyla Aguilar Santana, Andrea Scalon Afonso, Vera Lúcia Voll and Marcílio Felício Pereira*

T1C: The strategically located land index support system for human settlements land reform in South Africa
** Walter Musakwa, Rebone. M Tshesane, Lerato Raesetsa Segooa, Eric N Makoni and Matheri Kangethe*

T1C: Informing Planning to Address Healthcare Disparities: Assessing Spatial Accessibility to Health Care Using GIS Analysis
** Ilir Bejleri, Ruth Steiner, Donna Neff, Jeffrey Harman, Barbara Lutz, Sulhee Yoon and Michael Bumbach*

T1C: Mapping the Waste Handling Dynamics in Mombasa Using Mobile Phone GPS
** David Lee, Kevin Kung and Carlo Ratti*

08:00-09:30:
Parallel Session T1D: (room 56-114) Spatial Patterns of Housing and Pricing

T1D: Trade-off between benefit from the ocean and flood hazard risk: A spatial multilevel hedonic analysis
** Daisuke Murakami and Yoshiki Yamagata*

T1D: Measuring Housing Vacancies in Japanese Cities: Spatial Analytics Using Utilities Data
** Kiichiro Kumagai and Michael Batty*

T1D: Spatial exploration of the refurbishment dynamics of urban housing stock
** Liane Thuvander, Magnus Österbring, Erika Mata, Holger Wallbaum, Filip Johnsson and Mikael Mangold*

T1D: Examining the Long-Term Effect of Government Housing Regulations on the Spatial Distribution of Residents: A Case Study of Singapore
** Jingsi Shaw and Joseph Ferreira*

09:30-09:45:
Student Street

Short Coffee Break

09:45-10:45:
(room 32-123)

Thursday Plenary: Panel Discussion of ICT Impacts on Urban Planning Education and Practice
A Panel of urban planning academics will stimulate discussion among participants by sharing their thoughts and experiences regarding the impacts of information and computing technologies on urban planning practice and professional education.

10:45-11:00:
Student Street

Short Coffee Break

11:00-12:30:
Parallel Session T2A: (room 32-141) Location and Urban Form

T2A: Optimization of wind environment of cognitive space based on Space Syntax and Numerical Simulation - Case study of Jiangnan residential area
** Huagui Guo and Qingming Zhan*

T2A: Modeling pedestrians' shopping behavior in downtown areas
** Aloys Borgers and Harry Timmermans*

T2A: The use of Building Information Modeling to set parameters for inclusionary zoning in Brazil
** Lara Furtado and Clarissa Freitas*

T2A: Decoding Retail Location - a Primer for the Age of Big Data and Social Media
** Vassilis Zachariadis, Camilo Vargas, Joan Serras, Peter Ferguson and Michael Batty*

11:00-12:30: Parallel Session T2B: (room 32-144) Open Data in Modeling

T2B: Modelling Local Amenities with Online Open-source Data in a New Spatial Equilibrium Model: Insights from Applications for Beijing
** Li Wan, Xiao Rong and Ying Jin*

T2B: Understanding Human Mobility and Activity in Multiple Non-identifiable Statistics
** Ken Hidaka, Hiroshi Ohno and Takahiro Shiga*

T2B: Urban land value, Accessibility and Night Light Data: A Case Study in China
** Sumeeta Srinivasan and Deng Yu*

T2B: How to build a synthetic population for the Service Sector using directory websites.
** Giulia Cernicchiaro and Joseph Ferreira*

11:00-12:30: Parallel Session T2C: (room 32-155) PSS for Natural Disasters

T2C: Interdisciplinary assessment of rodent-borne diseases and epidemic outbreak risks in the urban scale with the use of geographic information systems
** Magdalena Baranowska, Pratigya Balaji, Vijay Santhanam, Rolf Schütt*

T2C: Evaluating the Damage of Great Earthquakes in Aggregate Units Based on Detailed Population Distribution for Each Time Frame
** Yoshiki Ogawa, Yuki Akiyama, Hiroshi Kanasugi, Hiroaki Sengoku and Ryosuke Shibasaki*

T2C: Modeling urban growth and hazard scenarios in Montego Bay, Jamaica
% Barry Fradkin and Juan Carlos Vargas Moreno

T2C: Sharing geographic information and technologies for policy integration of spatial planning and flood risk management
% Jing Ran and Zorica Nedovic-Budic

11:00-12:30: Parallel Session T2D: (room 56-114) Human Dynamics and Space-Time Mobility

T2D: Automobile Driver Behavior and Cell Phone Use while Driving
** Zuleide Feitosa, Hartmut Gunther and Pastor Willy Gonzales Taco*

T2D: Harnessing Heterogeneous Social Data to Explore, Monitor, and Visualize Urban Dynamics
** Achilleas Psyllidis, Alessandro Bozzon, Stefano Bocconi and Christiaan Titos Bolivar*

T2D: Making Real-Time Predictions of People's Irregular Movement under Disaster Situations
** Takahiro Yabe, Yoshihide Sekimoto, Hiroshi Kanasugi and Takehiro Kashiyama*

T2D: "Mobilidad en las alturas": An analysis of space-time activity patterns and urban configuration in La Paz - Bolivia
** Ronny Marcelo Aliaga Medrano, Rony Marcelo Arteaga Velasques and Pastor Willy Gonzales Taco*

12:30-13:30 Student Street (Stata Center)

Lunch & Poster session 3 (See poster details on pages 34-35)

13:30-15:00: Parallel Session T3A: (room 32-141) Land Use, Environment and Energy (1)

T3A: Simulating Urban Resilience: Disasters, Dynamics and (Synthetic) Data
 # A. Yair Grinberger, Michal Lichter and Daniel Felsenstein

T3A: Hierarchical controls on watershed stormwater: land use/ cover composition and connectivity
** Ge Zhang, Subhrajit Guhathakurta and Wenwen Zhang*

T3A: Global urban land use modeling to test its sensitivity of urban expansion to transportation cost and housing productivity changes
** Masanobu Kii and Kazuki Nakamura*

T3A: Modeling Land Use Change and Population Relocation Dynamics in Response to Sea Level Rise Scenarios: a Case Study in Bay County, Florida
% Zhong-Ren Peng, Liyuan Zhao, Jie Song

13:30-15:00: Parallel Session T3B: (room 32-144) PSS and Transport

T3B: Urban Metrics for Urban Logistics: Building an Atlas for Urban Freight Policy Makers
** Daniel E. Merchán, Edgar E. Blanco and Alexis H. Bateman*

T3B: The Negative Externalities of the Transportation System in Megacities influenced by the Industrial and Commercial Establishments and the Urban Freights flows
** Diego B. Tomasiello, Cláudia A. Soares Machado, Mariana A. Giannotti, Renato O. Arbex and José Alberto Quintanilha*

T3B: A taxipooling system with equity consideration
** Xiaosu Ma, Jinming Ding, Wei Wang, Xuepeng Hua and Yujia Peng*

T3B: Reshaping Transport Planning through Dynamic Illustration, Solid Evidence and Careful Conversations
% Michael Shiffer

13:30-15:00: Parallel Session T3C: (room 32-155) PSS for Climate and Environment

T3C: Conditions for Planning Support Systems – the case of the Dutch Delta Approach in Bangladesh
** Hanne van den Berg, Peter Pelzer and Kymo Slager*

T3C: Hierarchical Climate Zone as a tool for spatial planning – Case study of Wuhan, China
** Jiong Wang, Qingming Zhan and Yinghui Xiao*

T3C: An Integrated System Dynamics Modeling Approach For Predicting The Dynamic Functions Towards Sustainable Development Of Chennai Metropolitan City, India
% Adinarayanane Ramamurthy, Monsingh D. Devadas and Virupoxi Bagodi

T3C: (Geo)Design with Data (and Nature too)
** Ming-Chun Lee*

13:30-15:00: Parallel Session T3D: (room 56-114) Urbanization and Landuse-Transport Models

T3D: Data Integration to Create Large-Scale Spatially Detailed Synthetic Populations
 # Yi Zhu and Joseph Ferreira, Jr.

T3D: Pragmatic incremental or courageous leapfrog [re]development of a land use-transport modelling system for Perth, Australia
 # Sharon Biermann, Doina Olaru, John Taplin and Michael Taylor

T3D: Transition Analysis of Regional Characteristics Using Building Geo Big Data and National Census Data Throughout Japan ~Focusing on Compact City, Re-urbanization and Suburban Sprawl~
** Yuki Akiyama and Ryosuke Shibasaki*

T3D: Spatial Analysis of Urban Characteristics Based on Land Use Information along Tram Lines
** Koji Yoshikawa, Fumiko Perry and Naoyuki Tsukamoto*

13:30-15:00: Parallel Session T3E: (room 56-154) Accessibility and Risk Management

T3E: Addressing Parking Challenges in Downtown Pittsburgh
** Tayo Fabusuyi and Robert Hampshire*

T3E: The GIS-based Research of Measurement on Accessibility of Green Infrastructure – A Case Study in Auckland
** Jing Ma and Errol Haarhoff*

T3E: Identifying risk profiles in the London's public transport system
** Roberto Murcio, Chen Zhong, Ed Manley and Michael Batty*

T3E: Structural Tension Indicator
% Henrique Leite and Romulo Krafta

15:00-15:15 Student Street

Short Coffee break

15:15-16:45: Parallel Session T4A: (room 32-141) Land Use, Environment and Energy (2)

T4A: Urban Data and Building Energy Modeling: A GIS-based Urban Building Energy Modeling System Using the Urban-EPC Engine
 # Steven Jige Quan, Qi Li, Godfried Augenbroe, Jason Brown and Perry Pei-Ju Yang

T4A: Follow-up of environmental impacts upon water sources of São Carlos, Brazil
** Carlos Wilmer Costa, Francisco Antônio Dupas, Reinaldo Lorandi and Erica Zanardo Oliveira*

T4A: A GIS extension model to calculate urban heat island intensity based on urban geometry
** Camila Mayumi Nakata-Osaki, Léa Cristina Lucas de Souza and Daniel Souto Rodrigues*

T4A: Linking Urban Structure and Air Quality: A Geographically Weighted Regression Model for PM2.5 Concentrations in Beijing
** Weifeng Li and Jiansheng Wu*

15:15-16:45: Parallel Session T4B: (room 32-144) Use of Micro-data in PSS

T4B: Data and Analytics for Neighborhood Development: Smart Shrinkage Decision Modeling in Baltimore, Maryland
 # Michael Johnson, Justin Hollander and Eliza Davenport Whiteman

T4B: Agent-based Estimation of Household Micro-Data with Detailed Attributes for a Real City
** Nao Sugiki, Tomoya Muranaka, Noriko Otani and Kazuaki Miyamoto*

T4B: Micro Factors Causing Fall in Land Price in Mixture Area of Residence and Commerce
** Kojiro Murakami, Akio Kondo and Kojiro Watanabe*

T4B: Tailor-made Selection of Policy Measures for Households based on the Detailed Attributes by Segmentation Approach with Decision Tree Analysis
** Noriko Otani, Yusuke Fukuoka, Nao Sugiki and Kazuaki Miyamoto*

15:15-16:45: Parallel Session T4C: (room 32-155) PSS and Urban Form (1)

T4C: An Evaluation and Design Support System for Urban Walkability
** Ivan Blečić, Arnaldo Cecchini, Francesco Fancello, Giovanna Fancello and Giuseppe A. Trunfio*

T4C: The Feasibility of adopting Planning Support Systems in the Land-use Planning in the Egyptian Cities
** Niveen Ghattas*

T4C: A simulation-based planning support system for creating walkable neighbourhoods
** Claire Boulange, Christopher Pettit, Gustavo Arciniegas, Hannah Badland and Billie Giles-Corti*

T4C: Built Environment versus Personal Traits: an Application of Integrated Choice & Latent Variable Model (ICLV) in Understanding Modal Choice in Rome, Italy
** Samira Ramezani, Barbara Pizzo and Elizabeth Deakin*

15:15-16:45: Parallel Session T4D: (room 56-114) Urban Built Environment

T4D: The Role Of Traffic Flow And The Floor Space Index (Fsi) In Predicting Environmental Noise
** Mariene Giunta, Marcia Suriano, Lea Cristina Lucas de Souza and Eliane Viviani*

T4D: Time-series Analysis and Prediction of Building Material Stock and Flow Using 4d-GIS
** Kenji Sugimoto, Hiroyoshi Morita and Hiroki Tanikawa*

T4D: Analyzing the impact of the built environment on the bike sharing usage: The case of Lyon city
** Tien-Dung Tran, Nicolas Ovtracht and Bruno Faivre D'Arcier*

T4D: Development of a Simplified computerized tool to measure the visibility of open spaces
** Rim Meziani, Mohammed Assad Ghazal and Hassan Hajjdiab*

15:15-16:45: Parallel Session T4E: (room 56-154) Tapping Social Media and Human Emotions

T4E: The role of Social Media Geographic Information (SMGI) in Spatial Planning
 # Michele Campagna, Roberta Floris, Pierangelo Massa, Anastacia Girsheva & Konstantin Ivanov

T4E: Urban Emotions – Benefits and risks in using human sensory assessment for extraction of contextual emotion information in urban planning
 # Peter Zeile, Bernd Resch, Jan-Philipp Exner and Günther Sagl

T4E: A spatiotemporal analysis of participatory sensing data "tweets" and extreme climate events toward real-time urban risk management
** Yoshiki Yamagata, Daisuke Murakami, Gareth W. Peters and Tomoko Matsui*

T4E: Exploring the distribution and dynamics of functional regions using mobile phone data and social media data
** Jinzhou CAO, Wei TU, Qingquan LI, Meng ZHOU and Rui CAO*

16:45-17:00: Student Street

Short Coffee Break

17:00-18:30: Parallel Session T5A: (room 32-141) Land Use, Transport and Urbanization (1)

T5A: LUTIPSS: A ArcGIS Engine Based Planning Support System for Land Use and Transportation Integration
** Yi Wang, Xinjun Wang, Hailong Su, Lei Tong and Defa Sun*

T5A: PSS in the Cloud
% Varkki Pallathucheril, Brian Deal

T5A: Rail Transit-Supported Suburbanization in Shanghai, China
% Qing Shen, Peng Chen and Haixiao Pan

T5A: Development and Implementation of Regional Planning Model: Use Southern California Planning Model (SCPM) as an Example
** Qisheng Pan, Peter Gordon, Harry Richardson and James Moore*

17:00-18:45:
Parallel Session T5C: (room 32-155) PSS and Urban Form (2)

T5C: Is Sky the Limit for Compact Urbanism?
% Chang-Jen Lan

T5C: The Effects of Urban Redevelopment on Housing Prices in Shenzhen
** Ying Liu, Pu Hao, Frank van Oort, Stan Geertman and Yanliu Lin*

T5C: Informing Planning Decisions through GIS Documentation of San Antonio's Historic Colonial Landscape
** Azza Kamal, Angela Lombardi, Shelley Roff and Betzaida Pollet*

T5C: Suitability analysis of heritage corridor based on GIS and Remote Sensing — Case study of region along the Zhangzhou ancient post road
** Huagui Guo and Qingming Zhan*

T5C: The spatial characteristics of residential mobility in the information era: a perspective of information channel in Nanjing city, China
** Qin Xiao and Zhen Feng*

17:00-18:30:
Parallel Session T5D: (room 56-114) Traffic Management

T5D: MassDOT Real Time Traffic Management System
 # Russell Bond and Ammar Kanaan

T5D: Performance Evaluation of Uncontrolled Intersection using Microscopic Simulation
** Hemavathy M, Kalaanidhi S, Gunasekaran K, Mukti Advani and Velmurugan S*

T5D: Developing congestion index based on taxi GPS data
% Jiawen Yang, Xiangfu Kong and Xiongbin Lin

T5D: Methodological Proposal For Identification Data Collection Points On Cargo Flows: A Contribution To Matrix Freight Flow Models
** Lilian S. Santos, Cassiano Gustavo Messias, Sérgio Adriano Loureiro, Bruno V. Bertoncini, Oneida B. Bezerra and Orlando Fontes Lima Jr.*

17:00-18:30:
Parallel Session T5E: (room 56-154) Urban Information Infrastructure

T5E: Development of a community planning support system based on open data: Neighborhood quality of life and health in City of Atlanta
** Ge Zhang, Wenwen Zhang, Subhrajit Guhathakurta and Nisha Botchwey*

T5E: Comparing the Distribution of Open Geospatial Information between the Cities of Japan and Other Countries
** Toshikazu Seto and Yoshihide Sekimoto*

T5E: Ontology-Based Data Integration from Heterogeneous Urban Systems: A Knowledge Representation Framework for Smart Cities
** Achilleas Psyllidis*

T5E: Concept Model "the Flow of Information in the City"
** Rikutaro Manabe*

19:00-21:30:
E14-New Media Lab, 6th floor

Conference Dinner

(Tickets Required)

DETAILED SCHEDULE
Friday, July 10

08:15-13:30: Student Street (Stata Center)

Registration

08:15-08:45: Student Street (Stata Center)

Light Breakfast

08:45-10:45: Parallel Session F1A: (room 32-141) Land Use, Transport and Urbanization (2)

F1A: Modeling urban growth scenarios in Cairo Metropolitan Region 2035
** Taher Osman, Prasanna Divigalpitiya and Takafumi Arima*

F1A: Relationships between Cellular Automata based land use model parameters and spatial metrics: Enhancing understanding in a calibration context.
** Charles P. Newland, Hedwig Van Delden, Jeffrey P. Newman, Holger R. Maier and Aaron C. Zecchin*

F1A: Particle Swarm Algorithm for Calibration of Land-Use and Transport Integrated models
** Cedric Boittin, Nicolas Gaud, Vincent Hilaire and David Meignan*

F1A: Contributions to the calibration of integrated land use and transportation models
** Thomas Capelle, Peter Sturm, Arthur Vidard and Brian Morton*

F1A: Alternative Configurations of Beijing's Greenbelt: New insights from a recursive spatial equilibrium model
** Mingfei Ma and Ying Jin*

08:45-10:45: Parallel Session F1B: (room 32-144) Visualization of Spatial Data

F1B: Visualization methods for linking scientific and local knowledge of climate change impacts
 # Scott Lieske, Kari Martin, Ben Grant and Claudia Baldwin

F1B: Integrated Visual Exploration Tool for Fusion of Mass Movement and Static Data
** Satoshi Ueyama, Yuki Akiyama and Ryosuke Shibasaki*

F1B: Using flow-comap technique to visualize spatial-temporal patterns of public bike sharing program and the effect of weather and contender events
** Terry Li and Jonathan Corcoran*

F1B: Perspectives on transit: Potential benefits of visualizing transit data
** Colin Stewart, Ehab Diab, Robert Bertini and Ahmed El-Geneidy*

F1B: Integrating Urban Simulation and 3D Geometric Modeling
% Paul Waddell

08:45-10:45:
Parallel Session F1C: (room 32-155) Implementing PSS in Government

F1C: Smart Governance, Collaborative Planning and Planning Support Systems: a fruitful triangle?
 # Yanliu Lin and Stan Geertman

F1C: Smart Cities: Concepts, Perceptions and Lessons for Planners
 # Tuan Yee Ching and Joseph Ferreira

F1C: Adaptive Planning - Needs and strategies for indicator based adaptive planning
** Willi Wendt*

F1C: The Australian Urban Intelligence Network - supporting Smart Cities
 # Chris Pettit, John Barton, Xavier Goldie, Richard Sinnott, Robert Stimson and Tom Kvan

F1C: The Process for Adopting Technology in Ontario Municipalities and the Implications for Innovation in Development
** Mary Rowntree Watt Bachem Riemer and Clarence Woudsma*

10:45-11:00:
Student Street (Stata Center)

Short Coffee Break

11:00-12:30:
(room 32-123)

Closing remarks and Friday Keynote Talks (see details on p. 12-13)

12:30-18:00:
Student Street (Stata Center) and Beyond

Field Trips
(Tickets Required)

POSTERS

233: Understanding Employment Activity Compactness from Mobile Phone Positioning Data
Xingang Zhou, Anthony G.O. Yeh and Yang Yue

270: An attempt to introduce Geodesign thinking into urban design practices – Form Syntax method
Yu Ye and Anthony G.O. Yeh

280: Accessibility Analysis in Singapore: from the perspective of Big Data
Kai Cao

327: Incorporating Latent Lifestyle Classes to Explain and Simulate Household Residential Decisions: A Case Study of Singapore
Shan Jiang and Joseph Ferreira

335: Temporal transferability of vehicle ownership and trip generation models for Boston metropolitan area
Yafei Han and Christopher Zegras

336: Uncertainty and Stability of Land Use Models: A first order approximation for CUBE LAND
Victor Rocco and P Christopher Zegras

348: Beyond zoned land use: Inferring spatial activity patterns from social media posts
Samuel Maurer and Alexey Pozdnukhov

349: Geospatial framework for predicting and quantifying landcover changes derived from current and planned transportation infrastructures in Belo Horizonte - Brazil
Daniel Sampaio, Rodrigo Nobrega and Marcos Elmiro

356: Morphological Features of the Waterscape Heritage in Wuhan, China
Zhitong Chen, Xiaofeng Li and Ming Zhang

359: Short-term detection of urban land development using radar remote sensing data
Zhixin Qi and Anthony Yeh

385: Machine learning from big data on land use
Hichem Omrani, Amin Tayyebi and Nicholas T. Longford

388: Urban Form and Social Sustainability Impact Assessment Using GIS and AHP (Analytical Hierarchy Process) Methods
Ayeh Sajjadieh Khajouei

390: Real Time Synchronous Web Application for collecting and sharing Disaster Information
Toshihiro Osaragi and Ikki Niwa

391: Choice Behavior Model For Tsunami Refuge Facilities: Modeling and Analysis of Evacuations in Natori City after the Great East Japan Earthquake
Takashi Yamada, Masahiro Sasaki and Tatsuya Kishimoto

393: Visualise Shrinking And Wrinkling Of Space Caused By Uneven Regional Accessibility Development Using Time-Space Map
Kai Zhou

394: Gamifying Urban Planning Processes
Otso Helenius and Aija Staffans

395: Tsunami inundation simulation and agent based modeling to support evacuation analysis and mitigation planning
Erick Mas, Satomi Hayashi, Bruno Adriano and Shunichi Koshimura

396: Automatic Transformation of Road Marking Data into Lane-level Ribbon Network for Navigation
Teng Zhong, Xiaohu Zhang and Anthony Gar-On Yeh

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FIELD TRIPS

The CUPUM 2015 conference organizers are pleased to offer seven pre-organized field trips for conference participants and their family members. Field trips depart from MIT after the close of the academic conference at 12:30 PM on Friday, 10 July; they end at 6:00PM at an MBTA subway stop. All field trip locations are near to the MBTA and participants may leave a trip early if necessary. Field trips are limited to 40 participants, except where noted. In addition, information on a variety of self-guided Boston-area tours will be available at the conference site.

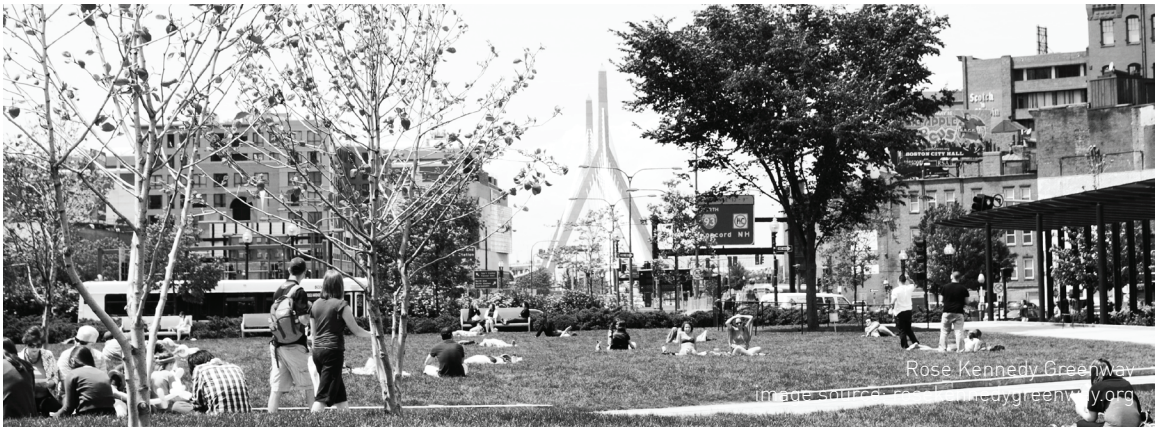
Registrants may sign up for a field trip as part of the conference registration process; those who have already registered may revisit their registration to sign up for a trip. Please email conferences-www@mit.edu if you need assistance in signing up.

Tickets for the tours will be available for sale at the conference registration desk.

1. Rose Kennedy Greenway and Boston Planning Organizations

Get out of the conference room and into the city, as we stroll along the Rose Kennedy Greenway and visit officials at two Boston planning agencies. The 15-acre Rose Fitzgerald Kennedy Greenway is a new 1.5 mile linear park running atop Boston's Central Artery Tunnel (part of the infrastructure project known as the "Big Dig"). The park connects many of Boston's downtown neighborhoods—including the North End, Faneuil Hall, and Chinatown—and represents a living, evolving space to explore and showcase recent innovations in park design and public space activation. Along the way we'll also visit the Boston Redevelopment Authority and meet with planners from the Metropolitan Area Planning Council, the regional planning agency responsible for land use planning coordination for the 101 cities and towns in Greater Boston. The walking tour includes the temporary monumental sculpture by artist Janet Echelman, As If It Were Already Here, currently suspended in the airspace above the Greenway. And of course, there will be ice cream along the way!

Cost: $20 per person.



Rose Kennedy Greenway

2. Rose Kennedy Greenway and MBTA Operations Center

Get out of the conference room and into the city, as we stroll along the Rose Kennedy Greenway and visit officials at Boston planning agencies. The 15-acre Rose Fitzgerald Kennedy Greenway is a new 1.5 mile linear park running atop Boston's Central Artery Tunnel (part of the infrastructure project known as the "Big Dig"). The park connects many of Boston's downtown neighborhoods—including the North End, Faneuil Hall, and Chinatown—and represents a living, evolving space to explore and showcase recent innovations in park design and public space activation. Along the way, this tour will visit the Massachusetts Bay Transportation Authority (MBTA) Operations Control Center, which handles real-time management of Boston's subway and bus system. The walking tour includes the temporary monumental sculpture by artist Janet Echelman, As If It Were Already Here, currently suspended in the airspace above the Greenway. And of course, there will be ice cream along the way!

Cost: $20 per person.

3. Boston Innovation District, Institute of Contemporary Art, and Harpoon Brewery

Although it was founded in 1630, the City of Boston continues to reinvent and remake itself with each new generation. In this walking tour, we'll explore one of the latest iterations of this process, the emerging Innovation District in the South Boston Seaport neighborhood. Stops will include the historic South Station (gateway to both old and new transit systems), the Institute for Contemporary Art (housed in a stunning new structure perched on the waterfront), and District Hall (a new civic space designed to encourage collaboration and the exchange of ideas). We'll end the afternoon with a visit to the Harpoon Brewery, an example of the American "microbrewery" movement with deep roots in Boston.

Cost: $30 per person (includes admission to the ICA and Harpoon Brewery)

Institute of Contemporary Art (ICA)
Image Source: Steve Dunwell

4. Harvard Square, Harvard Museum of Natural History, and Peabody Museum of Archaeology and Ethnology

Travel by public transit to Harvard Square to tour the historic Harvard Yard and visit the Harvard Museum of Natural History and the adjoining Peabody Museum of Archaeology and Ethnology. We have arranged a special tour of the Ware Collection of Blaschka Glass Models of Plants. These remarkable models—over 4,000—were created by Leopold Blaschka and his son Rudolf over a fifty-year period. The incredibly accurate glass models were made in Germany from 1887 to 1936. for Harvard's Botanical Museum to help with the teaching of botany. You will also be free to tour the rest of both museums, including exhibits of mammals and birds, minerals and gems, and in the Peabody Museum, archaeology and ethnology. The glass flower tour is approximately one hour.

Cost: $25 (includes admission to the Harvard Museum of Natural History and the Peabody Museum of Archeology and Ethnology).

5. Mary Baker Eddy Library Mapparium, Boston Skywalk and Newbury Street

After a short bus ride across the Charles River into Boston, we will visit the Mary Baker Eddy library and walk through the stained-glass globe of the world known as the Mapparium, and enjoy their multimedia presentation on the global spread of ideas. Then, weather permitting, we will walk along Christian Science Plaza's reflecting pool to Prudential Tower to enjoy a 360-degree view of Boston from the 50th-floor Prudential Skywalk observatory and the "Dreams of Freedom" exhibit on the immigrant experience in Boston. The tour will conclude on Boston's Newbury Street where visitors may explore its many shops and restaurants. Visitors may also wish to walk the few blocks to Copley Square and explore the Boston Public Library and historic Trinity Church.

Cost: $25 (includes admission to the Mapparium and Skywalk Observatory)

Harvard Square
Image Source: Wikimedia Commons

6. University of Massachusetts Boston, Urban Harbors Institute, John F. Kennedy Library and Museum

We will travel by transit to the campus of the University of Massachusetts Boston. There, we will meet the director of the Urban Harbors Institute, which focuses on coastal and harbor planning and resource management. Next, we will take a short walk across the UMass campus to visit the John F. Kennedy Presidential Library and Museum, with exhibits from President Kennedy's time in the Oval Office and information on his presidency including the Space Race. Visitors may choose to take a brief tour of the Kennedy Library then proceed next door to the newly-opened Edward M. Kennedy Institute for the United States Senate, which features exhibits and a full-scale replica of the U.S. Senate Chamber. Trip limited to 20 participants.

Cost: $25 (includes admission to the John F. Kennedy Library and Museum; the optional visit to the Edward M. Kennedy Institute is an additional $14, payable at the door.)

Mapparium
Image Source: Highway Highlights

CUPUM

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Boston Skyline from Charles River
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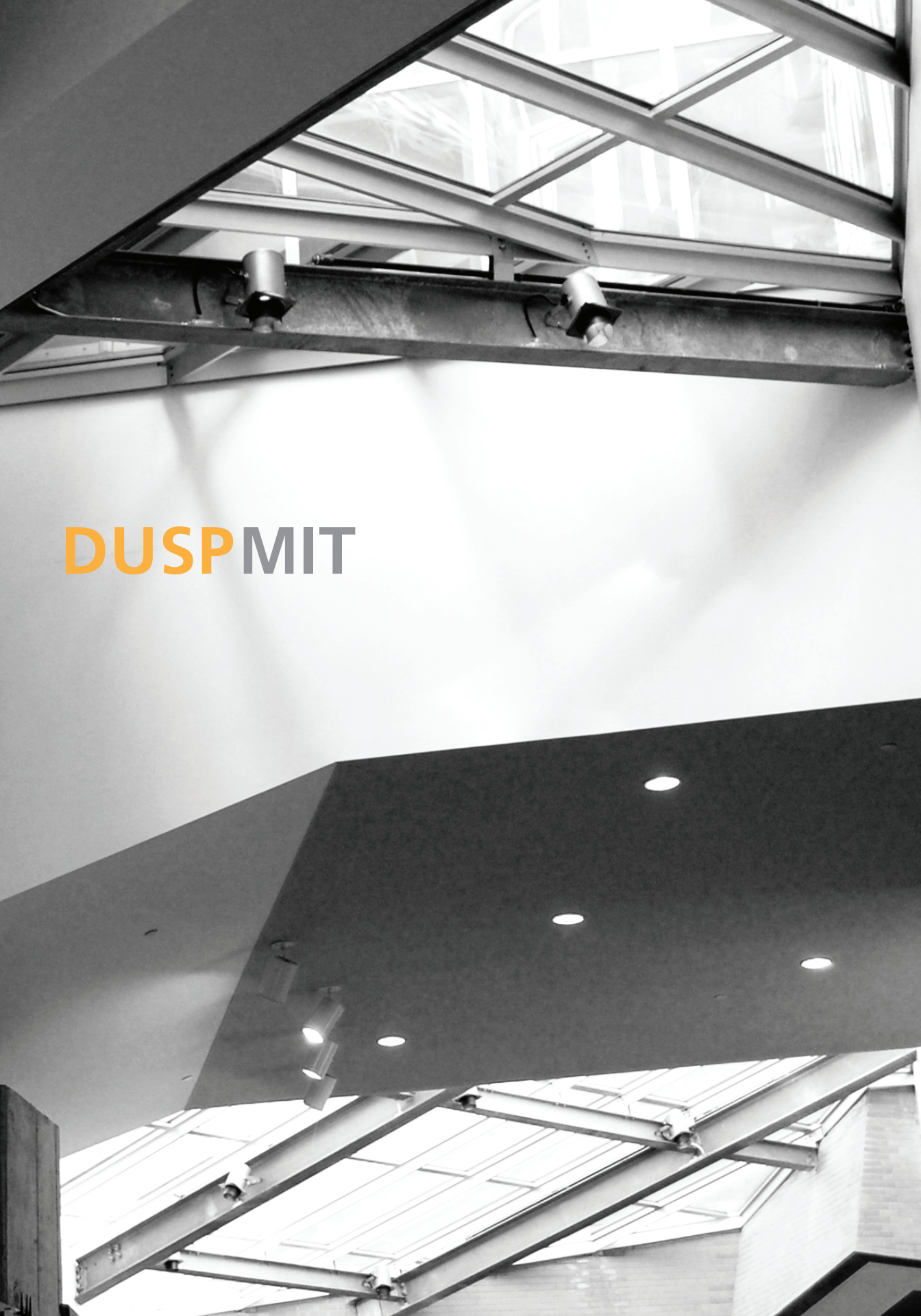
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