# AGENDA

## Monday, September 30, 2013

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>3:30 p.m. – 5:30 p.m.</td>
<td>Conference Registration, Latham Foyer</td>
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<tr>
<td>5:30 p.m. – 6:30 p.m.</td>
<td>Opening Reception, Latham A</td>
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## Tuesday, October 1, 2013

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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<tbody>
<tr>
<td>7:30 a.m. – 9:00 a.m.</td>
<td>Conference Registration, Latham Foyer</td>
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<tr>
<td>8:30 a.m. – 9:00 a.m.</td>
<td>Welcome Remarks, Assembly Hall</td>
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<td>Conference Chairmen <a href="#">Antoine Hobeika and Hesham Rakha</a>, Virginia Tech</td>
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<tr>
<td>9:00 a.m. – 10:00 a.m.</td>
<td>Keynote Speaker: Kai Nagel, Technical University of Berlin, Germany, Assembly Hall</td>
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<td>Large-scale Agent-based Urban Simulations and Project Evaluation</td>
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<td>10:00 a.m. – 10:30 a.m.</td>
<td>Break</td>
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<tr>
<td>10:30 a.m. – 12:00 p.m.</td>
<td>Parallel Technical Sessions</td>
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<tr>
<td><strong>Session 1: TRANSIMS, Solitude</strong></td>
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<td>Chair: David Roden, AECOM</td>
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<tr>
<td>Papers: (1) Agent-based Model of Highway Investments: Forecasting Future Networks under Centralized and Decentralized Ownership Regime: Dilya Askaroff, AECOM; Lei Zhang, University of Maryland</td>
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<tr>
<td>(13) Developing Simulation Model for Indian Road Networks Using TRANSIMS: Neeraj Saxena, Venktesh Pandey, Suryakant Agrawal, Rishabh Kesarwani, Gopal Patil, Indian Institute of Technology, Bombay, India</td>
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<tr>
<td>(27) Large Scale Dynamic Traffic Routing for Statewide Transportation Planning: Application of TRANSIMS in Maryland: Sevgi Erdogan, Krishna Patnam, Fredrick Ducca, Jiazhong Zhou, Di Yang, Lei Zhang, University of Maryland, NCSG</td>
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<td>(51) Analysis of Transportation Projects in Northern Virginia: David Roden and Krishna Patman, AECOM and Kanathur Srikanth, VDOT/NOVA</td>
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<td>Noon – 1:00 p.m.</td>
<td>Lunch, Latham CDEF</td>
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<td><strong>Session 2: Traffic Simulations, Assembly Hall</strong></td>
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<td>Chair: Kai Nagel, Technical University of Berlin, Germany</td>
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<td>Papers: (12) Simulation-Based Optimization for Time-varying Pricing for Toll Roads: Adapting for Heteroscedasticity with Support Vector Regression Method: Xiang He, Xiqun Chen, Chengfeng Xiong, Lei Zhang, University of Maryland</td>
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<td>(17) POLARIS: Planning- and Operations-modeling Language for Agent-based Regional Integrated Simulations: Joshua Auld, Hubert Ley, Vadim Sokolov, Michael Hope, Bo Xu, Kuilin Zhang, Argonne National Laboratory</td>
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<td>(22) Mind the Gap - Passenger Arrival Patterns in Multi-agent Simulations: Andreas Neumann, Ihab Kaddoura, Kai Nagel, Technical University of Berlin</td>
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<tr>
<td>(41) Modeling Human Behavior in Agent-based Systems in the Field of Transportation: Geert Tasseron, Karel Martens, Rob Van der Heijden, Radboud University Nijmegen</td>
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</table>
1:00 p.m. – 2:30 p.m.  Parallel Technical Sessions

**Session 3: Intelligent Transportation Systems (1), Solitude**

Chair: Hesham Rakha, Virginia Tech

Papers:

(3) Modeling Key Players of Highway EMS as MetaMAS Agents that Interact with Traffic and Power Simulators: Hisashi Hayashi, Topon Paul, Shizu Sakakibara, Hideyuki Aisu, Hisashi Yamada, System Engineering Laboratory, Corp Research & Development Center, Toshiba

(24) Autonomous Traffic-jam Clearance using a Frugal Adaptive Cruise Control Strategy: Julia Schindler, University of Bonn

(29) Transportation System Modeling in the Information Era: An Application of a Continuous-Time Integrated Transport Modeling Framework for Capturing Activity-Travel Behaviors in Response to Real-Time Traveler Information: Karthik Konduri, Yihong Ning, Jaime Angueira, University of Connecticut; Ram Pendyala, Arizona State University

(42) Improving Urban Parking Through Better Information: The Potential Impact of Vehicle-to-vehicle communication: Geert Tasseron, Karel Martens, Rob Van der Heijden, Radboud University Nijmegen


**Session 4: Intersection Control and Management (1), Assembly Hall**

Chair: Antoine Hobeika, Virginia Tech

Papers:

(11) Agent-based Simulation of Eco-speed Controlled Vehicles at Signalized Intersections: Hesham Rakha, Raj Kishore Kamalanathsharma, Virginia Tech

(37) Agent-Based Framework for Modeling Operations at Isolated Signalized Intersections: Isaac Kumar Isukapati and George List, North Carolina State University

(49) Intersection Management For Autonomous Vehicles Using Agent-Based Passenger Priority (APP): Ismail Zohdy, Hesham Rakha, Virginia Tech

(50) A Simple, Naive Agent-based Model for the Optimization of a System of Traffic Lights: Insights from an Exploratory Experiment: Tong Pham and Aly Tawfik, Lafayette College; Matthew Taylor, Washington State University

2:30 pm – 3:00 pm  Break

3:00 pm – 4:30 pm  Parallel Technical Sessions

**Session 5: Intelligent Transportation Systems (2), Solitude**

Chair: Venky Shankar, Penn State University

Papers:

(0) Area Coverage Provided by Vehicle to Vehicle Communication In an Urban Network: Antoine Hobeika, Taehyoung Kim, Heejin Jung, Virginia Tech, and Bart Van Arem, Technical University of Delft

(8) Quantifying Benefits of a Highway Reservation Optimization System: Peng Su and Byungkyu Park, University of Virginia


(53) Modeling Urban Transportation in the Aftermath of a Nuclear Disaster: The Role of Human Behavioral Responses: Madhav Marathe and Henning Mortveit, VBI, Virginia Tech
Wednesday, October 2, 2013

Parallel Technical Sessions

Session 7: Transit and Freight, Solitude
Chair: Eric J. Miller, University of Toronto, Canada
Papers:
(4) Automatic Calibration of Agent-Based Public Transit Assignment Path Choice to Count Data: Manuel Moyo Oliveros, Kai Nagel, Technische Universitat Berlin
(9) Overcoming the Last-Mile Problem with Transportation and Land-Use Improvements: An Agent-Based Approach: Moira Zellner, Dean Massey, University of Illinois at Chicago; Yoram Shiftan, Technion University; Jonathan Levine, Maria Josefa Arquero, University of Michigan
(35) Freight Market Interactions Simulation (FREMIS): An Agent-Based Modelling Approach: Rinaldo Cavalcante, Matthew Roorda, University of Toronto
(36) Agent Based Model for Dynamic Ridesharing: Mehdi Nourinejad, Matthew Roorda, University of Toronto
(40) Validation of an Agent Based Model using Participatory Gaming Approach: A Case of City Logistics: Nilesh Anand, David Meijer, Jhr Van Duin, Srirama Bhamidipati, Lori Tavasszy, Delft University of Technology

Session 8: Traffic Assignment, Route Choice, and Travel Time Predictions, Assembly Hall
Chair: Antoine Hobeika, Virginia Tech
Papers:
(2) Person-based Dynamic Traffic Assignment for Mixed Traffic Conditions: Amit Agarwal, Michael Zilske, K. Ramachandra Rao, Indian Institute of Technology, Delhi; Kai Nagel, Technical University of Berlin
(15) Modeling Agents’ En-Route Diversion Behavior and its Operations Applications: Chenfeng Xiong, Xiang He, Xiqun Chen, Lei Zhang, University of Maryland
(47) An Agent-based Modeling Approach to Predict Experienced Travel Times: Hao Chen, Hesham Rakha, Virginia Tech
Wednesday, October 2, 2013 (continued)

9:30 am – 9:45 am  Break

9:45 am – 11:15 am  Parallel Technical Sessions

**Session 9: Evacuation, Solitude**

Chair: Hubert Ley, Argonne National Laboratory

Papers:

10  Using High Resolution Demographics Data in Agent-based Evacuation Assignments: Wei Lu, Oak Ridge National Laboratory; Lee Han, University of Tennessee Knoxville; Liu Cheng, Mark Tuttle, Budhendra Bhaduri, Oak Ridge National Laboratory

19  From Census Data to Social Networks: Household and Individual Level Agent-based Model for Hurricane Evacuation Departure Time Choice: Samer Hamdar, Justin Schorr, George Washington University

21  An Agent-based Travel Demand Model System for Hurricane Evacuation Simulation: Weihao Yin and Pamela Murray-Tuite, Virginia Tech

43  An Agent-based Modeling of the Multimodal Near-field Tsunami Evacuation: Haizhong Wang, Shangjia Dong, Oregon State University

**Session 10: Driver Behavior, Assembly Hall**

Chair: Monty Abbas, Virginia Tech

Papers:

14  Field Theory in Agent-Based Driver Modeling: Daiheng Ni, University of Massachusetts Amherst

52  A Two-stage, Fitted Values Approach to Activity Matching: Kristian Lum, Madhav Marathe, VBI, Virginia Tech

33  A Cross-Validation of Car and Truck Agents Using Naturalistic Data: Bryan Higgs, Monty Abbas, Virginia Tech

39  Applications of Naturalistic Driving Data to the Agent-based Modeling of Driver Car – Following Behavior: John Sangster, Hesham Rakha, Virginia Tech

11:15 am – 12:00 pm  Discussion Panel 1: Agent-Based Modeling Techniques in Travel Demand Modeling, Assembly Hall

This session includes presentations discussing agent-based modeling techniques by leading experts in ABM. This includes both a general discussion of agent-based modeling and successful implementations in fields outside of the transportation domain. The session will also include the discussion of a theoretical framework for using advanced ABM techniques in transportation modeling which will serve to focus discussion in the later panel session.

Moderator: Hubert Ley
Bill Rand, University of Maryland
Kai Nagel, Technische Universität Berlin
Madhav Marathe, VBI at Virginia Tech

12:00 pm – 1:00 pm  Discussion Panel 2: Agent Based Modeling Techniques in Travel Demand Modeling, Assembly Hall

This session is organized as a panel session to discuss issues and ideas raised in the first session. The panel will focus on the uses of agent-based modeling techniques to improve transportation models. Particular focus will be on developing the theory of ABM, modeling agent behaviors, solution algorithms and theoretical underpinnings, data availability to support ABM, computational tractability and marketing ABM to the wider community.

Moderator: Eric Miller
Matt Roorda, University of Toronto
Joshua Auld, Argonne National Laboratory
Karthik Konduri, University of Connecticut
Chandra Bhat, University of Texas

1:00 pm  Conference Adjournment: Antoine Hobeika, Assembly Hall

( - ) Indicates the paper reference number given by the conference planning committee.