

SPRING 2013

RESEARCH NEWS

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Dr. Camille Kamga

Director
University Transportation Research Center
Assistant Professor
The City College of New York

As you are reading through this issue of our center newsletter, you will notice that it continues to be filled with accomplishments of our members of which we are extremely proud. Again and again, these accomplishments are testimonies of the commitment for excellence demonstrated by our members to advance the transportation research and education. We, at UTRC, are very proud of our friend and colleague, Professor Jose Holguin-Veras at Rensselaer Polytechnic Institute. Jose was among 12 people honored at the White House on May 18th as Transportation "Champions of Change." As stated by Secretary LaHood, "these champions represent the very best in American leadership, innovation, and progress." Please join me to extend our congratulations to Jose.

We are proud of the accomplishments of our outstanding icon mentor, Herb Levinson who received the Connecticut chapter of the Institute of Transportation Engineers' 2013 transportation Achievement Award. Herb continues to be active in the activities of the cen-

ter. Congratulations to my colleague at the City College, Professor Neville Parker as he was recognized by his peers and awarded the CCNY's President's Award for Outstanding Faculty Services.

As a very busy Spring semester is ending, we at UTRC will continue to be active this summer in carrying out the program as mandated by the UTC grant. In the next weeks, applications for both the Advanced Institute for Transportation Education (AITE) and the September 11th Memorial Program will be reviewed and recipients announced. In collaboration with our partner agencies, we are working to develop and release more call for proposals for our research and education and workforce development programs.

I invite you to read this newsletter and continue to provide us with your articles and accomplishments. They capture the essence of our center.

Faculty Awards

Dr. Jose Holguin-Veras

Received the White House Transportation “Champions of Change” Award



On May 8th, the White House honored twelve people as Transportation “Champions of Change.” This Champions event, “Transportation Technology Solutions for the 21st Century,” focused on individuals or organizations that have provided exemplary leadership in developing or implementing transportation technology solutions to enhance performance, reduce congestion, improve safety, and facilitate communication across the transportation industry at the local, state or national level.

“These Champions represent the very best in American leadership, innovation, and progress,” said Secretary LaHood. “I’m proud to recognize these transportation leaders who work every day to grow our economy and help us reach our destinations more quickly, efficiently, and safely.”

a shift in deliveries from the congested daytime hours to the off-hours of 7PM to 6AM. Since the system has been implemented, freight receivers enjoy the superior reliability of off-hour deliveries, carriers benefit from increased productivity, and daytime travelers and pedestrians enjoy reduced congestion, noise, and pollution. His influential research has led to substantial improvements in the ability to model and induce changes in the behavior of the freight industry. The Champions of Change program was created as an opportunity for the White house to feature groups of Americans – individuals, businesses and organizations – who are doing extraordinary things to empower and inspire members of their communities.

To learn more about the White House Champions of Change program and nominate a Champion, please visit the website at: www.whitehouse.gov/champions

Dr. José Holguín-Veras is the William H. Hart Professor of Civil and Environmental Engineering at the Rensselaer Polytechnic Institute and the Director of the Center for Infrastructure, Transportation, and the Environment. Dr. Holguin-Veras has led the development of an off-hour freight delivery system that combines Global Positioning System (GPS) remote sensing monitoring with GPS-enabled smart phones. This transportation technology solution has facilitated

Herbert S. Levinson

Received the Connecticut Chapter of ITE 2013 Transportation Achievement Award



Herbert S Levinson receiving the 2013 Transportation Achievement Award given by the Connecticut Institute of Transportation Engineers (ITE)

Each year Connecticut Institute of Transportation Engineers (ITE) presents four members with one of the following awards: Service to the Chapter Award, Transportation Leadership Award, President's Award, and Transportation Achievement Award.

The 2013 transportation achievement award was given to **Herbert Levinson**; UTRC Icon mentor. This award is given to a member with many years of dedicated service to the traffic engineering profession and the Institute of Transportation Engineers.

Herbert Levinson was also Awarded an Honorary Doctor of Engineering Degree at the Illinois Institute of Technology (Chicago)



Herbert S. Levinson receiving an honorary Doctor of Engineering degree from John L. Anderson, President of Illinois Institute of Technology (Chicago)

Herbert Levinson has also received an honorary Doctor of Engineering degree for his outstanding contributions to the safe and efficient movement of people and goods on the streets and highways of the nation.

Levinson has been an Icon Mentor at the University Transportation Research Center for many years. He is a member of the National Academy of Engineering and an honorary member of the Institute of Transportation Engineers

Dr. Neville Parker

Received the CCNY's President's Award for Outstanding Faculty Services

Dr. Neville Parker was selected to receive the City College President's Award for Outstanding Faculty Service in the School of Engineering for the inaugural year of the President's Awards.

CCNY President Coico presented the award at a special reception for faculty on Monday, May 20, at the Great Hall, CCNY.

CE's Chairperson, Dr. Julio Davalos acknowledged his outstanding service contributions to CCNY for so many years and conveyed him his warmest appreciation and gratitude.

We proudly congratulate Dr. Parker for his commitment and services to the Civil Engineering Department and to students.

University of Ecuador at Milagro (UNEMI) and The City College of New York (CCNY) sign MoU CCNY-Based Institute to Provide Development Support in Transportation Management and Technical Programs



On May 1, 2013, the University of Ecuador at Milagro (UNEMI), represented by Chancellor and Rector Jaime Orozco Hernandez, and the City College of New York (CCNY), represented by Provost and Vice President for Academic Affairs, Dr. Maurizio Trevisan, signed a Memorandum of Understanding (MOU), in recognition of the value of establishing international networks among educational institutions. In this case, specifically, the MOU reflects the desire of UNEMI to foster international cooperation in educational pursuits in various disciplines of Engineering related to transportation, and CCNY understands that this will position the CUNY Institute for Transportation System (CUNY ITS) for a central role in transportation education, research and development in South America, specifically, Bolivia, Venezuela, Argentina, Colombia and Peru, along with Ecuador, which has been designated as the host country for the consortium. The MoU also paves the way for joint externally funded research and development projects, and for the creation of a pipeline for fully funded graduate students to attend the Grove School of Engineering (GSOE), through an eventual joint graduate program to be considered.

The MOU includes the formation of an Advisory Committee which shall identify and explore the specific areas of potential cooperation in teaching and research. The advisory committee shall be the initial point of interaction, guidance and coordination between the Parties, and shall advise on all aspects of this MOU, specifically implementation of the objectives of the MOU itself.

The first activity following the execution of the MoU, was a workshop held in Ecuador, from May 24, 2013 to June 2, 2013, travel dates included, with a one-day Transportation Planning session in and for the Galapagos Islands, and a three-day Transportation Conference at UNEMI, for the region.

Dr. Rae Zimmerman, NYU Professor was appointed to the Infrastructure Indicators Technical Team of the U.S. Global Change Research Program, National Climate Assessment (NCA)

The vision for the National Climate Assessment (NCA) is to create a system of indicators that will help inform policy-makers and citizens understand key aspects of our changing climate. Scientific information about physical climate conditions, climate impacts, vulnerabilities, and preparedness will be tracked and compiled. These measures are called indicators. The goals of the Indicators System are to:

- Provide meaningful, authoritative climate-relevant measures about the status, rates, and trends of key physical, ecological, and societal variables and values
- Inform decisions on management, research, and education at regional to national scales
- Identify climate-related conditions and impacts to help develop effective mitigation and adaptation measures
- Provide analytical tools by which user communities can derive their own indicators for particular purposes

Student Awards

Akhan Almagambetov

A Ph.D. Student at Syracuse University Wins Intelligent Transportation Society of NY Best ITS Student Essay Award

Syracuse University graduate student Akhan Almagambetov has won ITS-NY's Best ITS Student Essay Award. He is pursuing his Ph.D. degree under the supervision of Dr. Senem Velipasalar in the Department of Electrical Engineering and Computer Science at Syracuse University. The award is given to the best paper with a topic which falls within the broadly defined category of Intelligent Transportation Systems, Services, or Programs in New York State, including ITS research that could positively impact New York State.

Mr. Almagambetov's research focuses on the autonomous detection and tracking of vehicle taillights and detection of alert signals by vehicle-mounted embedded smart cameras. Most existing algorithms either address daytime or nighttime detection, whereas the proposed approach allows for detection and tracking of taillights, as well as classification of alert signals (turns and brakes) during daytime (which is inherently more challenging) and at night. No user intervention is required and sophisticated correction mechanisms are implemented to provide an extra level of robustness. This algorithm is implemented entirely on an embedded smart camera - a stand-alone embedded platform capable of performing video capture as well as onboard processing.

Jonathan Muckell

At the University at Albany, SUNY was awarded the doctoral degree in Informatics

Jonathan Muckell successfully defended his dissertation entitled "**Compression of GPS Trajectory Data: Benchmarking Framework and New Approach**" and graduated with a PhD in Informatics from the University at Albany on May 18th. His dissertation was awarded the University at Albany Distinguished Dissertation Award, with committee members Catherine T. Lawson (chair), Jeong-Hyon Hwang and S.S. Ravi. In this research, the team investigated approaches for reducing the storage and computational demands required to analyze the huge volumes of data generated by Geographic Positioning Systems (GPS). Their work on compression of GPS trajectory data has been accepted for publication in the Springer Geoinformatica journal (modulo minor revisions) and the Conference for Geospatial Research and Applications (Com.Geo). The team plans to release source code for their benchmarking framework that evaluates the effectiveness of compression algorithms later this year.

UTRC Hosts French Interns – Year 2013

UTRC welcomed seven master's degree-level students with specialties in sustainable transportation and civil engineering from the Ecole Nationale des Travaux Publics de l'Etat (ENTPE) in Lyon, France, which is a highly competitive engineering school in France. The students are all participants in a national civil service program which requires that they complete a 20-week internship either in France or abroad.

The internship must be related to a specialty that the students have to choose in their first year (civil engineering, environment, urban planning, transport engineering, or building engineering). The internship occurs after the second year of classes out of a three year program. The tuition and living expenses are covered by the French government and in exchange, the students are required to work in French civil service positions for eight years after they graduate.

These students, *Dounia Khallouki, Maxim Peveri, Guillaume Faivre, Yohan Urie, Fabien Locatelli, Laureut Jacotot, and Mohammed Bailek*, all wanted to work in New York and contacted UTRC in the Fall of 2012 to request an internship at no cost to the Center.

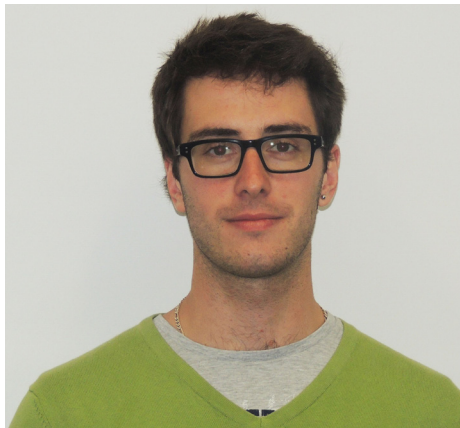
In addition to contributing to the professor's research and papers, the students are also required by their school to produce a lengthy technical and sociological report summarizing their internship pursuits. Upon returning to ENTPE in fall 2013, the students will present their work to a jury as part of their oral exams. The sociological part of the report requires the student to learn about and document the organizational structure of the office in which they are interning. In addition, the student must write this report in the language of their sponsor.

The following is a short biography of each student:



Mohammed Bailek

Mohamed Bailek is a Masters student at the University of ENTPE studying Civil Engineering. Currently, Mohamed is doing an internship at UTRC with CCNY professor Dr. Michel Ghosn. In this internship, he is working on projects related to trucks and pavement focusing on impact of overweight truck on roads.



Guillaume Faivre

Guillaume Faivre is a student at the ENTPE (French Engineering school based in Lyon) studying Urbanism. Currently, Guillaume is doing an intership at the University Transportation Research Center with Dr. Alison Conway. During his internship, he'll work on projects related to trucks and bicycles.

Guillaume has taken courses in GIS mapping and Road Development. He is a civil servant: after his graduation, he will work for his State as a manager in the services dedicated to Town or Regional Planning.



Laureut Jacotot

Laurent Jacotot is a Masters student at the University of ENTPE studying Civil Engineering. Currently, Laurent is doing an internship at UTRC with Graziano Fiorillo under the supervision of Dr. Michel Ghosn. During his internship, he'll work on projects related to the effect of overweight trucks on the New York state bridges.

Laurent has taken civil engineering courses like Structural and Dynamic Analysis, Reinforced Concrete or Bridge Design but also management courses. After his graduation, he intends to work with the French Department of Transportation for several years.



Dounia Khallouki

Doounia Khallouki is pursuing her masters from the ENTPE, a French Engineering school, specialized in construction, civil engineering, urban planning and transportation issues. She is also enrolled in another master's degree in political sciences at the Institute of Political Sciences of Grenoble France.

Ms. Khallouki is working at the UTRC for a 5 months internship this season. During her stay, she is working with Dr. Alison Conway on a pedicab research project. Her future goals are to do a specialization in transportation.



Fabien Locatelli

Fabien Locatelli is currently a second year student and trainee civil servant enrolled at the French National Graduate School of Sustainable Civil Engineering, Transport and Planning (ENTPE). He follows courses in sustainable development where he learns how to adapt and develop cities in order to make them more reliable on their energy consumption or greenhouse gas emissions. He is majoring in Transport with a specialization on pedestrian safety issue and urban transportation planning.

He is doing an internship at UTRC under the supervision of Dr. Camilla Kamga. He is working on 125th Street congestion mitigation project. He will assist in the collection of transportation related data at the 125th Street corridor. The data will be used to develop scenarios and provide suggestions in order to improve the flow of vehicles in the corridor. He will work on this subject with Maxim but will particularly focus on how pedestrians, bicycles and businesses generate could impact the traffic flow.



Maxim Peveri

Maxim PEVERI is a French student in civil engineering at ENTPE, a French Engineering school. He chose Transportation as his major and interning this summer at the University Transportation Research Center at CCNY. He is working on a project to model the 125th corridor using a software packages. Fabien and Maxim are working together on this project to provide a complete analysis of the corridor. Maxim is interested in traffic modeling and forecasting traffic issues.



Yohan Urie

Yohan URIE is a masters student at the University of ENTPE studying Transportation. Currently, Yohan is doing an internship at the University Transportation Research Center with Dr. Anil Yacizi. During his internship, he'll work on taxis data in Manhattan in order to find links between high congestion level and taxi fares.

Yohan have taken courses like transportation economy, transportation policy related to sustainable development. He also worked on research like road safety for Bordeaux, a project about bike lane's use and public transportation fare in France. Yohan has worked in the transportation field as a technical in charge of road safety and road traffic management and he wasn't to continue his research in this specific field.

Matthew W. Daus, UTRC Distinguished Lecturer speaks about the “APP Wars” in NYC and GOING MY WAY?” -- the Proliferation of Rogue Ride sharing Services



* Matthew W. Daus, Esq. (left), Chair of the Transportation Practice Group at Windels Marx is joined by Associate and practice group member Jasmine LeVeaux (right), at the law firm's Midtown Manhattan Offices.

“APP WARS” In New York City!!! The TLC’S E-HAIL Pilot Program: Litigation Overview & Update

In late 2012, the New York City Taxi & Limousine Commission (the “TLC”) proposed rules to allow for smartphone applications to be used with taxicabs – the “E-Hail Rules.” However, the proposed E-Hail Rules were heavily protested by the for-hire industry at the November 29, 2012 TLC hearing. As a result of the opposition, the E-Hail Rules were roughly transformed into a pilot program, which was proposed and approved by the TLC in a Resolution dated December 13, 2012 (the “E-Hail Program”). The E-Hail Program, among other things, permitted E-Hails to all taxicabs by licensed application providers for a period of one year. The E-Hail Program was scheduled to commence upon the approval of the first application provider, no earlier than February 15, 2013. In furtherance of the heavy opposition to the E-Hail Program, on February 14, 2013, a coalition of black car and livery companies (collectively, the “Petitioners”), pursuant to emergency court procedures, requested a temporary restraining order to strike down the E-Hail Program and prohibit the Respondents¹ from implementing and/or moving going forward with the E-Hail Program. Of note, the litigation was initially assigned to Justice Arthur Engoron, the same judge who heard and decided the Street Hail Livery Law Suit (filed and decided in 2012),² but after a highly unusual series of twists and turns with several recusals and judge assignment disputes, the case is now firmly before Justice Carol Huff.

To read more about the E-Hail program, and petition details, please visit the TLC website at:
http://www.tlc-mag.com/in_focus_apr13.html

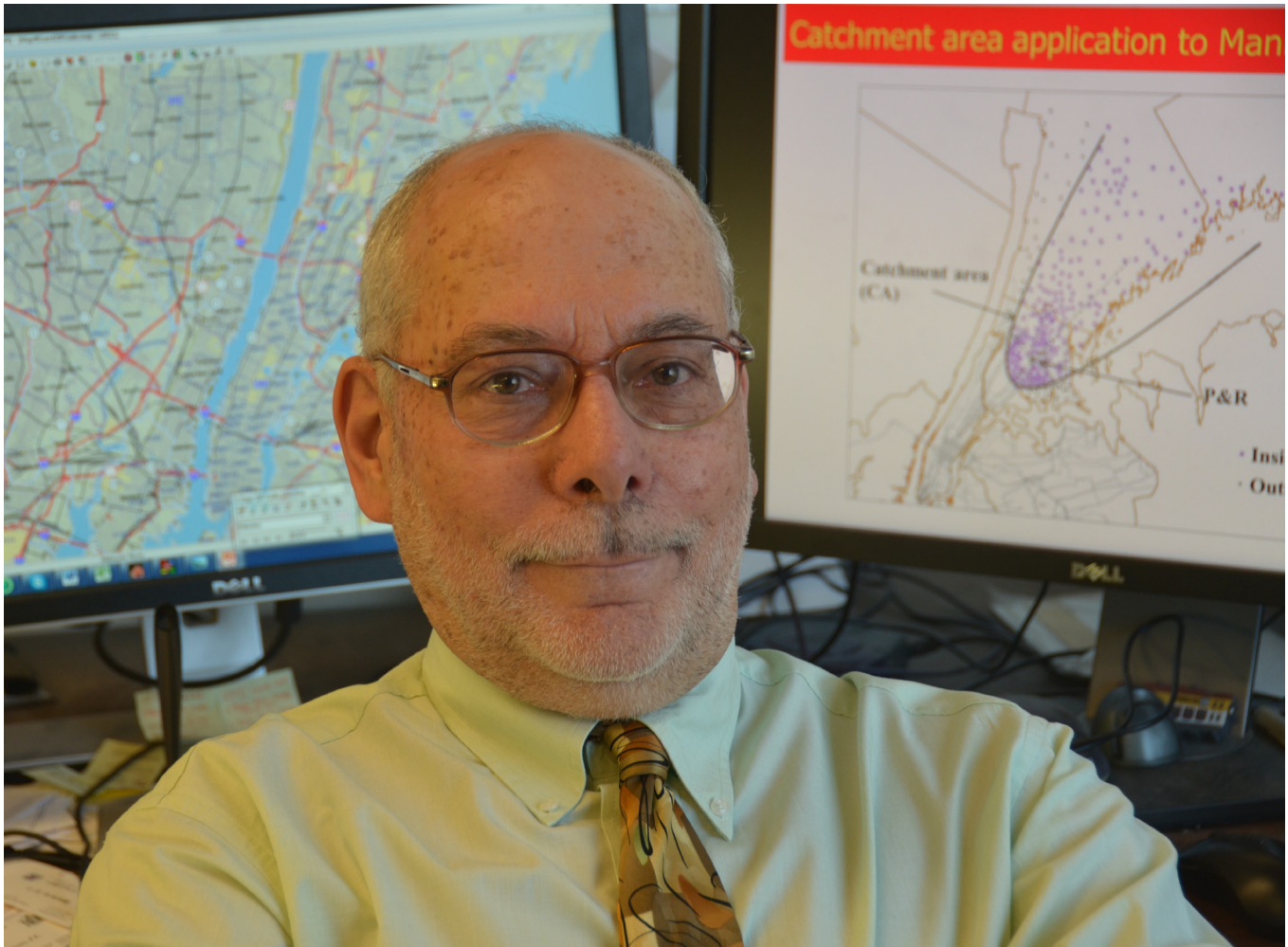
GOING MY WAY?” -- The Proliferation of Rogue Ridesharing Services

By Matthew W. Daus, Esq. & Jasmine K. Le Veaux,
Esq. Transportation Practice Group

The California Public Utilities Commission (the “Commission”) voted in December 2012 to institute rulemaking on regulations relating to passenger carriers, ridesharing, and new online-enabled transportation services. In California, rideshare transportation is exempt from regulation when it involves the transportation of persons between home and work locations and when such transportation is incidental to the driver. This exemption does not apply if the primary purpose for the transportation is to make a profit. As such, further investigation and information gathering is necessary for the Commission to fully evaluate the operations of companies like Lyft and SideCar in order to determine whether California regulations must be changed to address a “new” form of transportation, or, whether these are merely for-hire transportation companies in disguise, and as such, existing regulations and licensing requirements need simply to be enforced.

The International Association of Transportation Regulators (“IATR”) has been on the front lines of the discourse regarding technology transportation companies and recently submitted comments to California’s Rule-making Proceeding regarding Ridesharing. A pre-hearing conference and workshops to address the issues raised throughout the comment-sharing process will likely be scheduled in the near future. The Commission has been in contact with the IATR, and we have been working with the agency on adoption in California of our model regulations (the latest draft of which can be found at www.windelsmarx.com)¹⁵. The IATR’s public comments to the Commission can also be accessed on the website of Windels Marx Lane & Mittendorf, LLP.¹⁶

Dr. Jose Holguin-Veras



**William H. Hart Professor
Professor of Civil and Environmental Engineering,
Rensselaer Polytechnic Institute**

Dr. José Holguín-Veras is the William H. Hart Professor and Director of the Center for Infrastructure, Transportation, and the Environment; and the Volvo Research and Educational Foundations' Center of Excellence on Sustainable Urban Freight Systems at the Rensselaer Polytechnic Institute. He received his B.Sc. in Civil Engineering, Magna Cum Laude, from the Universidad Autónoma de Santo Domingo, Dominican Republic, in 1981; his M.Sc. from the Universidad Central de Venezuela in 1984; and his Ph.D. from The University of Texas at Austin in 1996. He has been a faculty member at California Polytechnic State University at San Luis Obispo, The City College of New York (1997-2002), and Rensselaer Polytechnic Institute (2002-present). His work has received numerous awards, including the 2013 White House Champion of Change Award for his contributions to freight transportation and disaster response research.

His research emphasizes the integration, synthesis, and projection of the knowledge that exist in multiple disciplines to produce solutions to the complex and multifaceted problems—which have proven to be too complex to be solved by single-disciplinary approaches—that impact freight transportation and humanitarian logistics. His research taps into the knowledge of social sciences to build more realistic mathematical models of humanitarian logistics, and integrate cutting edge economic principles into freight transportation modeling, so that a complete picture could be developed on the broader impacts of transportation activity on the economy and the environment; and on the most effective ways to conduct post-disaster humanitarian logistics. His research blends field research and measurements, applied and basic research to ensure that theory relates to reality; and, ultimately, to a set of actionable policy recommendations that contribute to the betterment of the economy and society.

His current research activities focus on three major areas: freight transportation demand modeling, sustainable freight policy, and humanitarian logistics. His work on freight demand modeling focuses on enhancing the realism of spatial price equilibrium (SPE) models, and development of simplified modeling techniques. His work on SPE models combines game theory, spatial price equilibrium principles, and multi-vehicle routing models, to provide estimates of commodity flows, vehicle trips, and trip chains under competitive market equilibrium.

His work on sustainable freight policy studies the interactions between the agents (e.g., shippers, carriers, receivers) involved in freight activity, to define ways to exploit these interactions to foster sustainable development and operations. This research already has led to paradigm changes in the area of freight road pricing by demonstrating theoretically and empirically that, in competitive markets, providing financial incentives to receivers willing to do off-hour deliveries is more efficient than pricing. Following the success of a \$2.6 million pilot project to test this concept, the United States Department of Transportation (USDOT) and the City of New York (NYC) decided to fund an implementation phase (\$3.2 million), now underway.

An important third area, of profound human impact, focuses on the development of novel forms of humanitarian logistics. His research group has pioneered the multidisciplinary study of post-disaster humanitarian logistic operations. Using a holistic approach encompassing field work, quantitative characterization of operations, and basic research on analytical modeling, the group has: identified the key lessons learned from the response to the largest disasters of recent times; translated these lessons into actionable policy recommendations; shared these suggestions with disaster response agencies; and developed new paradigms of humanitarian logistic models that account for material convergence, deprivation costs, and other unique features of post-disaster operations.

His professional experience includes the analysis of the intermodal alternatives for the trans-isthmian corridor that runs parallel to the Panama Canal, and the development of numerous national and regional transportation plans in Venezuela, Dominican Republic, Guatemala, and other countries. He has been consultant in transportation planning, modeling, and economics for international companies and financial institutions, such as The World Bank, United Nations, Inter-American Development Bank, among many others.

To read more about his leadership positions and awards, please visit the website at:
<http://transp.rpi.edu/~jhvweb/index.shtml>

Upcoming Events

2013 ITS-NY 20th Annual Meeting

**June 13-14, 2013 at Gideon Putnam Hotel and Conference Center
24 Gideon Putnam Road Saratoga Springs, NY 12866**

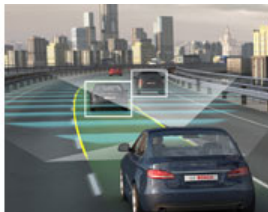
This year's 2013 Annual Meeting and Technology Exhibition is very special – ITS-NY is celebrating its 20th Year Anniversary! The Conference will focus on the Theme of The Past, Present and Future of ITS. Many highly informative speakers and panel sessions will be addressing MAP-21 Performance Measures and Planning for Operations; Major Civil Projects with ITS Components; Disaster Planning and Recovery after Hurricane Sandy; more ITS Applications includ-

ing Connected Vehicles; and the Future of ITS including Autonomous Vehicles; and more. CEUs will be awarded for attendance at the conference. Celebratory Events include a Special 20th Anniversary and Awards Dinner!

For more details and registration information, please visit the ITS-NY website at: <http://www.its-ny.org/>

The 2nd Connected Vehicles Symposium

June 17 – 18, 2013 at Rutgers University, 96 Frelinghuysen Road, NJ



The second Connected Vehicles (2CV) symposium will bring industry, government and academia together to explore the future directions in research and deployment of connected vehicle technologies in our region. Similar to the last year's symposium, many wireless communication technologies such as Vehicle-to-Vehicle (V2V), Vehicle-to-Infrastructure (V2I), Infrastructure-to-Vehicle (I2V), and Vehicle-to-Other (V2O) that can be used to improve our transportation system will be the centerpiece of this meeting. However, this year's symposium broadens its scope by looking at some of the emerging trends and challenges automating the task of driving. Initially these technologies can be seen as aids that deliver enhanced safety, comfort and convenience; however, in the long run, they can emerge as autonomous self-driving entities that efficiently share a common infrastruc-

ture that accommodates all levels of automation as well as bicycles, pedestrians and other entities that currently use our roadways.

As the organizers of the 2CV symposium it is our hope to achieve the participation of a very large and diverse group of stakeholders that can provide the broadest vision in terms of the major goals of the symposium briefly described above.

2CV symposium will be held at the CoRe Auditorium in Busch campus of Rutgers University on June 17-18, 2013.

Please stay tuned for a detailed program and sessions information, read more at: <http://www.connectedvehicleworkshop.com>

New York City Mayoral Transportation Forum

June 19, 2013 at Baruch College Vertical Conference Center

Mayoral candidates from all major parties will answer questions on a wide range of topics affecting the NYC riding public, the business community and industry stakeholders.

The purpose of this forum, organized and hosted by UTRC, is to give all candidates for Mayor an opportunity to address a

wide range of issues that affect transportation policy, community sustainability, safety and livability in New York City.

RSVP at: <http://www.utrc2.org/events/MayoralForum>

Past Events

TransAction 2013 Conference

April 17-19, 2013 at the Tropicanna Hotel, Atlantic City, NJ



UTRC participated at the annual New Jersey Transportation Conference and Expo - TransAction 2013, held at the Tropicanna Hotel, Casino and Conference Center, Atlantic City, NJ on April 17th, 18th, and 19th (Wednesday, Thursday and Friday).

TransAction 2013 featured 65 workshop sessions (4 & 5 concurrent throughout each day) specializing in bus, rail, roads, bridges, goods movement, pedestrian/bicycle, paratransit, community transportation, ports, and much more. The conference served as a network opportunity for different transportation working agencies and groups from academia, private and public sector throughout tri-state area.

For more information, please visit the conference website at:
<http://www.njtransactionconf.com/>

GPS for Transportation Symposium

May 17, 2013 at Roosevelt House, NY, NY 10065



Dr. Hongmian Gong, an Associate Professor at Hunter College/CUNY delivering the opening and welcoming remarks at the GPS Symposium

The GPS Transportation symposium featured presentations by Mr. Matthew W. Daus, former Commissioner and Chairman of the New York City Taxi and Limousine Commissions, on public policies and regulations as well as by Drs. Hongmian Gong (Geography, Hunter College), Nicholas Maxemchuk (Electrical Engineering, Columbia University), Xuegang (Jeff) Ban (Civil and Environmental Engineering, Rensselaer Polytechnic Institute), and Jianting Zhang (Computer Science, City College) on GPS for person-based travel, public transit, freight transportation, and taxi industry.

The global positioning system (GPS) has been increasingly used to gather data for transportation modeling and planning. However, the potential of this emerging technology and its combined power with other technologies such as wireless telecommunications, geographical information systems (GIS), and Internet have not been fully understood and utilized. The goal of this symposium is to bring people together to discuss the use of GPS and other new geospatial technologies for transportation planning and policies. Ideas developed from this symposium will serve to facilitate future collaboration among universities, government agencies, non-for-profit organizations, and private industries.

For more information, please visit the symposium website at:
<http://www.geo.hunter.cuny.edu/GPSsymp/>

Dr. James Cohen, Professor Emeritus at the John Jay College of Criminal Justice/CUNY at the Business History Association's Annual Conference

Jim Cohen organized a panel on "speed in transportation" at the Business History Association's Annual Conference in late March in Columbus, Ohio. Jim presented a paper on the theories about speed-based partly on timetable data and partly on secondary sources—on U.S. and French railways, 1900 to present.

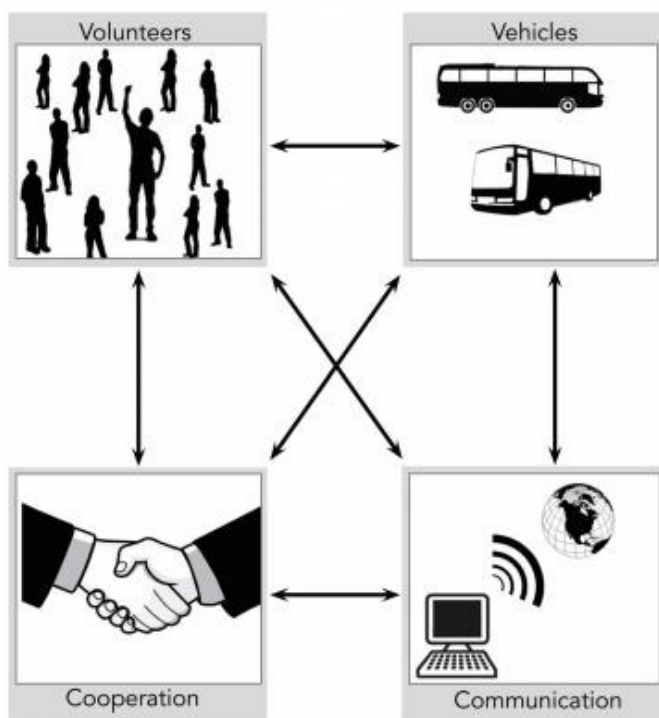
"Book and Article References Requested"

Jim requests that you send him book and article references that you know concerning speed broadly conceived; don't be limited to railway speed. jcohen@jjay.cuny.edu

UTRC

Sponsored Research Completed Projects

THE UNIVERSITY TRANSPORTATION RESEARCH CENTER (UTRC) PUBLISHES THE FINAL REPORT: “ENHANCING RESOURCE COORDINATION FOR MULTI-MODAL EVACUATION PLANNING”



UTRC has released a final report for the research titled: “Enhancing Resource Coordination for Multi-Modal Evacuation Planning”, funded by the Research and Innovative Technology Administration (RITA/USDOT). The principal investigator was Dr. Daniel B. Hess, an associate professor at the University at Buffalo, the State University of New York.

This research project seeks to increase knowledge about coordinating effective multi-modal evacuation for disasters. It does so by identifying, evaluating, and assessing current transportation management approaches for multi-modal evacuation planning. The research increases equity by identifying strategies for evacuation of all residents, including carless residents during a disaster. The research also seeks to address the challenges of effectively incorporating multi-modalism into local emergency plans by enhancing transportation resource coordination through exploration of the feasibility of a new concept - a Transportation Reserve Corps (TRC). A TRC seeks to integrate planning for households without automobiles, multi-modal evacuation, and coordinated volunteerism with disaster preparedness, response and recovery.

The full report is available for a free download at the UTRC website:
<http://www.utrc2.org/publications/multi-modal-evacuation-planning-final>

THE UNIVERSITY TRANSPORTATION RESEARCH CENTER (UTRC) PUBLISHES THE FINAL REPORT: “EARLY AGE RUTTING POTENTIAL OF WARM MIX ASPHALT”

UTRC has released a final report for the research titled: “Early Age Rutting Potential of Warm Mix Asphalt (WMA)”, funded by the New York State Department of Transportation (NYSDOT). The principal investigator was Dr. Thomas Bennert, an associate professor of Civil and Environmental Engineering at Rutgers University.

This research project shows various plant produced Warm Mix Asphalt (WMA) mixtures and how they were evaluated and compared to identical plant produced Hot Mix Asphalt to assess their early life rutting potential. Along with the laboratory permanent deformation testing, fatigue and moisture damage were also included. The test results

indicated that the performance of the WMA was very similar to that of the companion HMA with differences in performance a function of mix type, RAP content, and production temperature. To help address New York State’s concerns with the implementations of WMA, fourteen (14) sets of WMA and companion HMA plant produced mixtures were evaluated in the laboratory for their respective rutting, fatigue cracking, and moisture damage resistance.

The full report is available for a free download at the UTRC website:
<http://www.utrc2.org/publications/warm-mix-asphalt-final>

THE UNIVERSITY TRANSPORTATION RESEARCH CENTER (UTRC) PUBLISHES THE FINAL REPORT: “VEHICLE CLASSIFICATION USING MOBILE SENSORS”

UTRC has released a final report for the research titled: “Vehicle Classification Using Mobile Sensors”, funded by the Research and Innovative Technology Administration (RITA/USDOT). The principal investigator was Dr. Xuegang (Jeff) Ban, an assistant professor at Rensselaer Polytechnic Institute.

In this research, the feasibility of using mobile traffic sensors for binary vehicle classification on arterial roads is investigated. Features (e.g. speed related, acceleration/deceleration related, etc.) are extracted from vehicle traces (passenger cars, trucks) collected from real world arterial roads. Machine learning techniques such as support vector machines (SVM) are developed to distinguish passenger cars from trucks using these features.

Despite many issues and future research questions remaining unsolved in this project, the proposed research does show the feasibility and potential of using mobile data for vehicle classification. It reveals that acceleration/deceleration related features are the most critical for vehicle classification using mobile data. Such acceleration/deceleration based vehicle classification methods using advanced machine learning techniques have the potential to help build a low-cost, wide-area vehicle classification system.

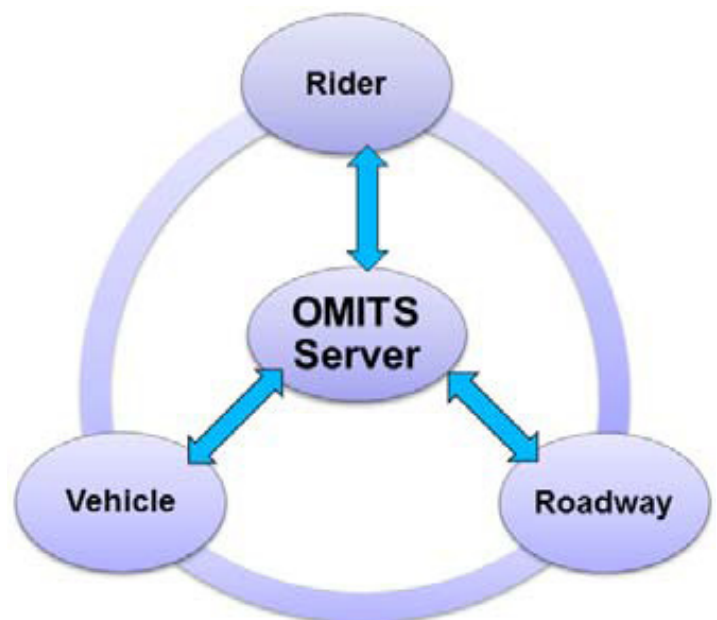
The full report is available for a free download at the UTRC website:
<http://www.utrc2.org/publications/vehicle-classification-final>

THE UNIVERSITY TRANSPORTATION RESEARCH CENTER (UTRC) PUBLISHES THE FINAL REPORT: “PROTOTYPE DEVELOPMENT OF THE OPEN MODE INTEGRATED TRANSPORTATION SYSTEM (OMITS)”

UTRC has released a final report for the research titled: “Prototype Development of the Open Mode Integrated Transportation System (OMITS)”, funded by the Research and Innovative Technology Administration (RITA/USDOT). The principal investigator was Dr. Huiming Yin, an assistant professor at Columbia University.

This report presents an overview of the Open Mode Integrated Transportation System (OMITS), introduces its key components and algorithms in the recent development and implementation, and demonstrates the working mechanism of dynamic transit service. The OMITS has been designed to integrate the availability of multiple transit modes into the ridesharing service to provide riders and drivers flexible, efficient, and reliable transportation services, through dynamic matching and routing algorithms and emerging information communication and data mining and fusion technologies. The OMITS App, which is run on a smart phone (iPhone or Android), has been developed for customers to communicate with the OMITS server, detect roadway traffic conditions, and receive driving directions.

The full report is available for a free download at the UTRC website:
<http://www.utrc2.org/publications/integrated-transportation-system-final>



THE UNIVERSITY TRANSPORTATION RESEARCH CENTER (UTRC) PUBLISHES THE FINAL REPORT: “A SIMULATION-BASED ASSESSMENT APPROACH TO INCREASE SAFETY AMONG SENIOR DRIVERS”

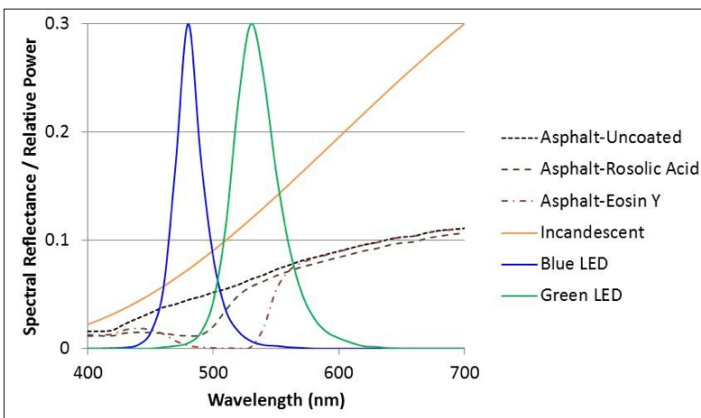


UTRC has released a final report for the research titled: “A Simulation-based Assessment Approach to Increase Safety among Senior Drivers”, funded by the Research and Innovative Technology Administration (RITA/USDOT). The principal investigator was Kevin Hulme, a senior research associate at the New York State Center for Engineering Design and Industrial Innovation (NYSCEDI) at the University at Buffalo/SUNY

Statistics show that in the U.S., there are about 38 million licensed drivers over age 65; about 1/8 of our population. By 2024, this figure will DOUBLE to 25%. The current research is intended to address the driving capabilities of our older population, as accident and injury risk has been statistically shown to increase - normalized per mile driven - with advanced age. Our primary objective is to perform a preliminary Pilot Study (N=10) that allows our team to analyze the impact of supplementing traditional driver evaluation for senior persons with cognitive impairment using state-of-the-art driving simulation technologies.

The full report is available for a free download at the UTRC website:
<http://www.utrc2.org/publications/safety-among-senior-drivers-final>

THE UNIVERSITY TRANSPORTATION RESEARCH CENTER (UTRC) PUBLISHES THE FINAL REPORT: “INNOVATIVE ROADWAY LIGHT SOURCE AND DYE COMBINATIONS TO IMPROVE VISIBILITY AND REDUCE ENVIRONMENTAL IMPACTS”



UTRC has released a final report for the research titled: “Innovative Roadway Light Source and Dye Combinations to Improve Visibility and Reduce Environmental Impacts”, funded by the Research and Innovative Technology Administration (RITA/USDOT). The principal investigator was Dr. John Bullough, a senior research scientist at the Lighting Research Center (LRC), Rensselaer Polytechnic Institute. In this report, the authors investigated the feasibility of a system consisting of a specialized LED streetlight and a dye based roadway surface coating that would reduce sky glow, but still provide adequate illumination of objects in the road. As envisioned, the streetlight would produce white light with narrow-band LEDs of red, green, and blue wavelengths. The roadway surface coating would use three dyes that would selectively absorb the specific wavelengths produced by the streetlight. This investigation examined the optical properties of green and blue absorbing dyes. The dyes, when in their liquid states, did selectively absorb light at the expected wavelengths. However, the dyes did not selectively absorb light when applied as a surface coating, so appropriate encapsulants would need to be developed for subsequent implementation.

The full report is available for a free download at the UTRC website:
<http://www.utrc2.org/publications/innovative-roadway-Final>

THE UNIVERSITY TRANSPORTATION RESEARCH CENTER (UTRC) PUBLISHES THE FINAL REPORT: “MODERN LOW COST MAINTENANCE OF CONCRETE BRIDGES USING EFFECTIVE NDT TEST DATA”

UTRC has released a final report for the research titled: “Modern Low Cost Maintenance of Concrete Bridges Using Effective NDT Test Data”, funded by the Research and Innovative Technology Administration (RITA/USDOT). The principal investigator was Dr. Riyad Aboutaha, an associate professor of Civil and Environmental Engineering at Syracuse University.

This report presents smart use of NDT data to assess the near future service life of concrete bridge components, and its utilization for cost effective maintenance policy, in a limited financial resources environment. The impact of this study enhances the followings: (1) devel-

opment of better rational for setting maintenance frequency based on condition, (2) development of low-cost preventive maintenance measures for better control of deterioration rate, (3) understanding of financial consequences of delayed maintenance, and (4) reduction of the number of structurally deficient bridges. The study concludes that the most economical way to maintain existing concrete bridges is by adopting an active preventive maintenance approach, which costs just fraction of the current passive approach.

The full report is available for a free download at the UTRC website: <http://www.utrc2.org/publications/concrete-bridges-final>

New Grants

Dr. Rae Zimmerman received three Research Awards

Dr. Rae Zimmerman of New York University received funding for three new research projects and is principal investigator on:

- January 15, 2013 – December 31, 2013, **National Science Foundation funded “RAPID/Collaborative Research: Collection of Perishable Hurricane Sandy Data on Weather-Related Damage to Urban Power and Transit Infrastructure,”** with the U. of Washington (lead) and Louisiana State University.

This Rapid Response Research Grant (RAPID) will collect perishable damage data in connection with Hurricane Sandy that made land-fall on October 29, 2012. The research covers weather, storm surge and floods, power outage, transit stoppage, and interdependencies of infrastructures in New York Metropolitan area. The research team at the three universities will apply various techniques for data collection including ground-based observations, satellite data, and aerial and water-based survey maps. (Abstract excerpted from the NSF award).

- September 1, 2013 – August 31, 2013, NYU-Wagner Faculty Research Fund grant, **“The Disconnectedness of the Poor from Urban Public Services.”**

This research focuses on how policy and planning decisions by public service providers affect the distribution of certain services, particularly public transportation, to outlying portions of urban areas where poorer people tend to live (as distinct from patterns of previous decades where the poor tended to concentrate primarily in inner city areas). Public transportation in turn supports other kinds of services such as the provision of supplies and access to jobs. Census data is used to relate transit access to poverty conditions.

- October 1, 2013 – December 31, 2013, UTRC funded faculty research grant on **“Promoting Transportation Flexibility in Extreme Events through Multi-Modal Connectivity.”**

Extreme events of all kinds are increasing in either number or severity. Transportation provides vital support to people in such circumstances for evacuation and supplies, yet is often disabled in such disasters. Nationwide and in New York and New Jersey record-setting weather disasters have occurred, and transportation impacts are temporary or involve long-term network closures. Transportation is heavily dependent on electric power with increasing dependence on information technology. When disasters affect these other infrastructures, transportation effects are magnified. Disadvantaged populations are particularly vulnerable to lack of access to vehicles, travel routes, and transportation services. The concentration of infrastructure facilities and usage increases the vulnerability, taking the form of the convergence of roadways at single intersections or the convergence of rail lines at single transfer points. Multi-modal connections support flexibility by providing multiple travel alternatives. To analyze multi-modal connectivity's role in reducing risks in extreme events, selected multi-modal facilities in the region will be identified for transit using several national transit and road transportation databases. Geographic coverage, capacity, usage, number and type of interconnections, and extreme event experience and capacity for each facility will be defined and statistical summaries provided. A case-based approach will provide analyses of types of multi-modal facilities that have been successful or unsuccessful in emergencies and cover experiences of disadvantaged populations in the UTRC region.

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- ▶ New Jersey Institute of Technology
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