Autonomous Vehicle Technologies
for Passenger and Freight Mobility

Tuesday, June 10, 2014
1:30 p.m. to 4:30 p.m.

Northwestern University • McCormick Tribune Center Forum
1870 Campus Drive
Evanston, IL 60208
About the Workshop

Autonomous Vehicle Technologies for Passenger and Freight Mobility

The convergence and integration of software, hardware, communications, sensing, and positioning technologies are moving the possibility of autonomously-driven road vehicles beyond science fiction and closer to reality. Our Spring Industry Technical Workshop brings together speakers from the automobile industry, trucking industry, and technology community to discuss technology readiness, innovations on the horizon, target markets, and insights into near and long term rollout of autonomous vehicle and mobility enhancing technologies.

Event Co-Chairs

Dr. Hani Mahmassani, William A. Patterson Distinguished Professor of Transportation; Director, Northwestern University Transportation Center

Mr. Breton Johnson, Associate Director, Northwestern University Transportation Center; Director, Center for the Commercialization of Innovative Transportation Technology

About NUTC

Now in its 60th year, the Northwestern University Transportation Center (NUTC) is a leading interdisciplinary education and research institution serving industry, government, and the public. NUTC was founded in 1954 to make substantive and enduring contributions to the movement of materials, people, energy, and information. In doing so, the Center aims to influence national and international transportation policy, management, operations, and technological developments.

About CCITT

The Center for the Commercialization of Innovative Transportation Technology (CCITT) fosters the implementation of innovative technologies for all modes of surface transportation, including but not limited to railways, mass transit, highways, and waterways.
Program

Welcome 1:30 - 1:35 p.m.
Bret Johnson  Associate Director, Northwestern University Transportation Center; Director, Center for the Commercialization of Innovative Transportation Technology
Fabián Bustamante  Associate Professor of Electrical Engineering and Computer Science, Northwestern University

Introduction and Welcome

Presentations 1:35 - 2:35 p.m.
Hani Mahmassani  William A. Patterson Distinguished Professor of Transportation; Director, Northwestern University Transportation Center
Autonomous Vehicles, Connected Systems and Market Adoption

Brian Droessler  Vice President of Software and Connected Solutions, Continental Automotive Systems
The Path to Highly Automated Driving – An Evolutionary Development

Roger Berg  Vice President, North America Research and Development, Denso International America
Improving Safety Through Connected Vehicle Technology

Discussion 2:35 - 2:55 p.m.
Fabián Bustamante  Moderator

Break 2:55 - 3:10 p.m.

Presentations 3:10 - 4:10 p.m.
Ogi Redzic  VP Connected Driving, HERE (A Nokia company)
The Evolution from Contextually Aware Cars to Automated Driving Vehicles

Leo Danieldes  Project Management Officer, Navistar
Connected Vehicles for Commercial Transportation: An Evolving Story

Josh Switkes  Founder and CEO, Peloton Technology Inc.
Preventing Accidents and Saving Fuel by Connecting Trucks

Discussion 4:10 - 4:30 p.m.
Fabián Bustamante  Moderator
**Speaker Biographies**

**Roger Berg**  
*Vice President, North America Research and Development, Denso International America*

In his current role, Roger Berg oversees vehicle communication and automation technology, as well as DENSO's regional research and development of connected vehicles, automation and cyber security. He joined DENSO in 2000 as Vice President of Wireless Communications, overseeing the design and development of cellular handset and telematics technology and products. In 2003, his group began to shift toward wireless technology research and development with an extensive focus on V2X imminent crash avoidance systems.

Before joining DENSO, Berg held positions at electronics companies such as Sony and Motorola, overseeing the design and development of cellular handset and accessory products in major markets around the world. The holder or co-holder of eight U.S. and international patents, Berg earned his Bachelor of Science degree in Electrical Engineering from the University of Illinois in Urbana, Illinois, and a Master of Science in Electrical Engineering from Illinois Institute of Technology in Chicago. He is a member of the U.S. Department of Transportation’s Intelligent Transportation Systems (ITS) Program Advisory Committee, the On-Road Automated Vehicle Stardas Committee and Safety Testing Working Group, and the Society of Automotive Engineers. He also chairs the ITS America Connected Vehicle Task Force.

**Fabián E. Bustamante**  
*Associate Professor of Electrical Engineering and Computer Science, Northwestern University*

Dr. Fabián E. Bustamante completed his M.Sc. and Ph.D. in Computer Science at the Georgia Institute of Technology in 1997 and 2001, respectively, working under the direction of Dr. Karsten Schwan. Before going to Georgia Tech, he studied and taught at the Universidad Nacional de La Patagonia San Juan Bosco (Argentina), from which he received both 3-year and 5-year-and-project degrees in computer science.

Bustamante’s research interests span several areas of experimental systems, with a focus on large-scale distributed computing in wide-area and mobile networks. Fabián is a senior ACM member, a member of USENIX and the IEEE. Fabián is a recipient of the National Science Foundation CAREER award and the Science Foundation of Ireland E.T.S. Walton Visitor Award.

**Leo Danielides**  
*Project Management Officer, Navistar*

Leo Danielides came to Navistar five years ago, initially taking responsibility for the TACOM program, which supplies military vehicles for the US Department of Defense and the Canadian Department of National Defense. Eventually, Danielides took over responsibility for all engine/vehicle regulatory and compliance programs, which he now oversees, along with Navistar’s emergent Connected Vehicle program. Prior to Navistar, he was the Director of Program Management for Air Cargo Carriers.

Over his nearly three-decade career, Danielides has focused on providing strong leadership and direction that maximizes organizational efficiency and success. He excels at bringing new and emergent technologies from conception through deployment. In addition, he has a vast array of experience designing and implementing these technologies onto new or existing vehicle platforms.
Brian Droessler  
*Vice President of Software and Connected Solutions, Continental Automotive Systems*

Brian Droessler has spent more than 20 years in the automotive electronics industry. He currently oversees software and connected solutions for Continental’s Infotainment & Connectivity Business Unit. Previously, he managed all North America Telematics business operations at Continental. He joined the Telematics Business unit in 1998 as a program manager and later lead North America Business Development and Strategy. He joined Motorola's Automotive Group in 1993 as an Electrical Engineer and later held positions in Engineering Rotation and Powertrain Electronics. The group was acquired by Continental in 2006.

Droessler earned his Bachelor's Degree in Electrical and Computer Engineering from the University of Wisconsin – Madison and his MBA from University of Chicago.

Hani Mahmassani  
*William A. Patterson Distinguished Professor of Transportation, Northwestern University; Director, Northwestern University Transportation Center.*

Dr. Hani Mahmassani joined Northwestern University in 2007 with joint appointments in the McCormick School of Engineering and the Kellogg School of Management. Prior to joining Northwestern, he was the Charles Irish Senior Chaired Professor in Transportation Engineering and Director of the Maryland Transportation Initiative at the University of Maryland. He previously spent 20 years on the faculty of the University of Texas at Austin.

Mahmassani has more than 30 years of professional, academic, and research experience in the areas of multimodal transportation planning and network modeling, freight and logistics systems analysis, homeland security and emergency systems operations, intelligent transportation systems, econometric modeling (with applications to travel and freight demand forecasting), integrated systems management, and travel and shipper behavior analysis.

Ogi Redzic  
*Vice President, Connected Driving, HERE, a Nokia business*

As part of his role to deliver new innovations to the connected car, Ogi Redzic leads HERE Traffic, HERE Automotive Cloud Services, and HERE Auto—embedded and companion Automotive applications. Prior to joining HERE, he served as Vice President of Product Management and Business Development at PCTEL, Inc. and also worked at Motorola, where he led a product management team.

Redzic holds a BS in Computer Science from Northeastern Illinois University, an MS in Computer Science from Illinois Institute of Technology, and an MBA from the Northwestern University Kellogg School of Management.

Joshua Switkes  
*Founder and Chief Executive Officer, Peloton Technology, Inc.*

Dr. Joshua Switkes has been working on systems to make driving safer and more efficient for more than 13 years. He founded Peloton Technology in 2011 and has assembled a world-class team that brings groundbreaking safety and efficiency to trucking through the application of leading-edge sensing, control, and communications to today’s trucking operations, augmenting the abilities of human drivers.

Prior to Peloton, Switkes developed production control systems for Volkswagen, Audi, and Tula Technology. He previously worked on a variety of vehicle control systems, including guaranteeing safety for lane-keeping assistance and steering wheel haptic feedback, at Stanford University. He holds a Ph.D. in Mechanical Engineering from Stanford University.
This year, the NUTC celebrates its 60th anniversary. We are proud to have been a part of Northwestern University and the worldwide transportation community for the last six decades, and we look forward to the next 60 years with great anticipation.