20/20 Global Symposium

Event Program
Thank you for registering for the 20/20 CCAT Global Symposium on Connected and Automated Transportation. While typically an in-person event in Southeast Michigan, the spread of COVID-19 has given us the opportunity to expand our audience by moving it online.

The Global Symposium is our signature, annual event which brings academia, government, and industry together to encourage discussions surrounding the many facets of transportation. This includes equity in technology development, legal and liability frameworks, cybersecurity concerns, public acceptance of emerging technologies, and infrastructure changes. It also provides the public with exclusive access to the cutting-edge research being conducted at CCAT.

You will hear from global leaders whose work is at the forefront of this rapid growth. We hope that this online meeting keeps you engaged in the transportation discussion during our “new normal” and you consider joining us in-person next year.
Event Schedule

8:00 AM  Opening Remarks
Speaker:   Dr. Henry Liu, Director, Center for Connected and Automated Transportation

*About this speaker:* Dr. Henry Liu is a Professor in the Department of Civil and Environmental Engineering at the University of Michigan, Ann Arbor. He is also a Research Professor at the University of Michigan Transportation Research Institute and the Director for the Center for Connected and Automated Transportation (USDOT Region 5 University Transportation Center). From July 2017 to August 2019, he took a leave of absence from the University of Michigan and served as Chief Scientist on Smart Transportation for DiDi Chuxing in China, one of the leading mobility service providers in the world. Dr. Liu received his Ph.D. degree in Civil and Environmental Engineering from the University of Wisconsin at Madison in 2000 and his Bachelor degree in Automotive Engineering from Tsinghua University (China) in 1993. Dr. Liu is the managing editor of Journal of Intelligent Transportation Systems and an editor of Transportation Research Part C.

8:15 AM  Keynote
Speaker:   John Kwant, Global Director of Government Relations for Mobility and Advanced Technologies, Ford Motor Co.

*About this speaker:* John F. Kwant is responsible for advocating Ford’s Federal positions on Autonomous and Connected Vehicle regulatory matters as well as Urban Mobility issues. Prior to this role, Mr. Kwant was as Vice President, City Solutions, Ford Smart Mobility, LLC. where he led Ford’s global efforts to partner with municipalities to identify key urban mobility needs that inform its development of new mobility services while also working to create, pilot and implement new mobility solutions in cities worldwide. He also served as Director of Global Strategy, focusing on Smart Mobility initiatives. Mr. Kwant holds an MBA, Kellogg Graduate School of Management, and MSE in Engineering Management, McCormick Graduate School of Engineering, both from Northwestern University as well as a BSE, Industrial and Operations Engineering from the University of Michigan.
Panel 1: Mobility Blues

The discussion in this panel session will revolve around existing and foreseen challenges associated with wide scale deployment of highly automated vehicles (Levels 4 and 5). Granted there remain considerable technical challenges, but there also remains many unknowns regarding acceptance, policy, and mobility equity. The industry has moved well past the hype stage and now is confronting some difficult realities of making highly automated vehicles functional and practical for everyday use, particularly by a wide range of society. What are some of these remaining challenges, and how might they be addressed?

Moderator: Dr. James Sayer, Director, University of Michigan Transportation Research Institute (UMTRI)

About this speaker: Dr. Sayer has conducted basic and translational research in the areas of connected vehicle technology, advanced vehicle safety systems, driving behavior, and driver distraction since 1993. Dr. Sayer recently served as the Principle Investigator for the U.S. DOT’s Connected Vehicle Safety Pilot Model Deployment program and Ann Arbor Connected Vehicle Test Environment. He serves as an Adjunct Professor of Civil and Environmental Engineering, is Chair of the University’s Institutional Autonomous System Committee, and has overseen the development of a university-wide mobility initiative.

Panelists:

Sue Bai, Chief Engineer - Automotive Technology Research, Honda R&D Americas, Inc.

About this speaker: Bai’s areas of research include wireless communication for in-vehicle navigation systems, telematics system design and development, and connected and automated vehicle system research. She currently leads a team that supports Honda’s transportation safety and mobility goals through connected vehicle and V2X communication systems. Bai has held leading roles on SAE V2X technical standards committees for many years, working to improve safety and mobility for a variety of road users including vehicles, pedestrians, cyclists and road workers. She is also the Honda technical leader for various industry-government collaborative projects including the Ohio Smart Mobility Corridor that, when fully operational, will be the longest stretch of continuously connected highway in the world.

Raymond Hess, Transportation Manager, City of Ann Arbor

About this speaker: Raymond Hess is Transportation Manager for the City of Ann Arbor, Michigan. Alongside a passionate team, he implements transportation initiatives that aim to improve safety and the livability of the community. Previously, he was Director of Planning Services at the Regional Transportation Commission of Southern Nevada and oversaw the Metropolitan Planning Organization for the greater Las Vegas Valley as well as a regional sustainable communities initiative known as Southern Nevada Strong. Prior to joining the RTC, Raymond worked for the City of Bloomington (IN), the City of Brooksville (FL) and was a Peace Corps Volunteer in the Ivory Coast West Africa.

Dr. Ramanarayan Vasudevan, Assistant Professor, University of Michigan

About this speaker: Dr. Vasudevan received a BS in Electrical Engineering and Computer Sciences and an Honors Degree in Physics in May 2006, an MS degree in Electrical Engineering in May 2009, and a PhD in Electrical Engineering in December 2012 all from the University of California, Berkeley. Subsequently, he worked as a postdoctoral associate in the Locomotion Group at MIT from 2012 till 2014 before joining the University of Michigan in 2015. He is a recipient of an NSF CAREER Award and ONR Young Investigator Award.

Dr. Steve Vozar, Principal and Founder, Vozar Technology Consulting

About this speaker: Dr. Vozar delivers strategic insights and technical leadership to enterprises developing products and services leveraging autonomy, artificial intelligence, robotics, and IoT. Prior to his consulting career, Steve was the CoFounder and CTO of May Mobility, leading the technology team that deployed the first commercial fleet of self-driving shuttles in the United States, overseeing product, user experience, hardware, software, autonomy, vehicle production, and quality teams. As an academic, Dr. Vozar has been a Research Fellow with the APRIL and PerRL laboratories at the University of Michigan, developing robotic solutions for Ford’s next-generation vehicle thrust and the DARPA Squad X Core Technologies program. He has previously worked at Johns Hopkins University, developing tele-robotic satellite servicing technology in collaboration with NASA. He also co-founded and served as VP of Technology for Absolute Nano, a university spin-off developing instruments for nanomaterials research, which won a 2009 R&D 100 Award.
9:45 AM  CCAT Research Panel: Multi-Front Approach for Improving Navigation of Autonomous and Connected Trucks
Presented by: Dr. Yanfeng Ouyang, George Krambles Endowed Professor, University of Illinois at Urbana-Champaign

About this speaker: Dr. Ouyang’s research mainly focuses on modeling transportation, logistics, and infrastructure systems, and applications to military, energy, and agricultural industries. To date, Prof. Ouyang has over 110 peer-reviewed publications in leading academic journals. He also has published seven book chapters, two translated books, and one original textbook. He currently serves as a Department/Area/Associate/Board Editor of IIE Transactions, Networks and Spatial Economics, Transportation Science, Transportation Research Part C, Transportmetrica B, and Transportation Research Part B. His work has been recognized by a Walter L. Huber Research Prize from the American Society of Civil Engineers, a High Impact Project Award from the Illinois Department of Transportation, a Faculty Early Career Development (CAREER) Award from the U.S. National Science Foundation, among others.

10:15 AM  Break

10:25 AM  Panel 2: Who Do We Sue?
As the technology and business models around automated and connected vehicles and advanced driver-assistance systems (ADAS) continue to advance, significant questions remain around the legal, liability, and insurance frameworks for these vehicles. Legal and industry experts will discuss the current regulatory environment, the liability risks, and the future of the legal landscape as it relates to automated and connected vehicles. Hear how these issues are impacting business decisions around the deployment of these cutting edge technologies.

Moderator: Amy Mass, Vice President and Counsel, The Hanover Insurance Group

About this speaker: Mass is responsible for Government Affairs, Regulatory Matters, and Legal Support for the West Region, which includes Michigan, the company’s largest state. In 2017, Amy was appointed by Governor Rick Snyder to serve as the Insurance Industry Representative to the Michigan Council on Future Mobility, which was created to make public policy recommendations to position Michigan as a leader in innovation on issues related to automated and connected vehicles and the Mobility Ecosystem until 2020. She was based in Columbus, OH and served The Hanover as the National Counsel for the Schools Program, Managing Attorney for the Ohio/Indiana Staff Counsel Offices, Senior Trial Attorney and Trial Attorney. Amy has been an Adjunct Professor of Dispute Resolution at Capital University Law School in Columbus, OH since 2004, teaching Negotiation, Mediation, and Arbitration. Amy is a frequent lecturer in the areas of automated and connected Vehicles, the impact of mobility on the insurance industry, negotiation, mediation, and women in leadership among other topics, for organizations.

Panelists: Tom Branigan, Managing Partner, Bowman & Brooke

About this speaker: Branigan represents automotive OEMs and suppliers in high stakes product liability trials, class actions, multi district litigation and regulatory matters throughout the United States. Tom has been included in most of the major legal rating services including The Best Lawyers in America, Chambers, The Legal 500, Leading Lawyers, Who’s Who in American Law and Martindale Hubbell where he is AV rated as “preeminent in his field.” Additionally, Tom was named a 2012 Michigan Leader in the Law by Michigan Lawyers Weekly. Besides his active automotive related trial practice, he is currently counseling or defending numerous automotive and technology clients in matters involving self-driving technology, automotive cyber security, connected vehicle issues and active and passive safety. As a life-long resident of the “Motor City” and as someone who has worked in or for the auto industry since 1980, Tom has a unique understanding of the challenging issues facing automotive OEMs and suppliers today. His firm, Bowman and Brooke, is one of the world’s leading law firms in the realm of automotive related litigation, representing most major OEMs and many automotive suppliers.
Cybersecurity is an increasingly important aspect of automotive systems. This panel will explore security and privacy aspects of connected vehicles as well as security of automated vehicles. We will cover security concerns of future technologies but also of current technologies, discuss how we can properly test security and mitigate vulnerabilities, and how stakeholders can better collaborate.

**Moderator:** Dr. André Weimerskirch, Vice President - Cybersecurity and Functional Safety, Lear Corporation

**Panelists:**

- **Emily Frascaroli,** Managing Counsel, Ford Motor Co.
  
  About this speaker: Frascaroli advises globally on automotive safety, regulatory, and product liability issues, including a focus on autonomous vehicles and mobility. She has extensive experience handling complex product litigation cases, regulatory matters with NHTSA and other governmental entities, and product defect investigations. She is also co-chair of the Legal and Insurance Working Group of MCity at the University of Michigan, and a lecturer at the University of Michigan Law School where she teaches a class about the legal issues involved with autonomous vehicles. In 2017, she was appointed by Governor Rick Snyder to the Michigan Council on Future Mobility, and in 2019 she was appointed by Governor John Kasich to the DriveOhio Expert Advisory Board. She earned her JD, cum laude, from Wayne State University and was an editor of the Wayne Law Review. She received her BS in aerospace engineering from the University of Southern California and her MEng in aerospace engineering from the University of Michigan. Prior to practicing law, she worked in engineering at both Ford and NASA.

- **Ryan Harrington,** Principal - Vehicle Engineering Practice, Exponent
  
  About this speaker: Having worked directly on the development of automotive technologies and federal regulations, Mr. Harrington specializes in the analysis of complex technical and policy issues while fostering collaboration between industry executives, senior government officials, and engineers related to the deployment of emerging automotive technologies, including automated vehicles, advanced driver assistance systems (ADAS) and fuel saving technologies. Prior to joining Exponent, Mr. Harrington was a Division Chief at the U.S. DOT’s Volpe Center where he led a cross-functional team focused on the deployment of advanced transportation technologies. Mr. Harrington also worked as Technical Support Manager at Cummins and a Product Development Engineer at Delphi Automotive Systems. Mr. Harrington holds a master’s degree in Automotive Engineering from the University of Michigan-Ann Arbor and a bachelor’s degree in Mechanical Engineering from the University of Nebraska-Lincoln.

- **Dr. David Yang,** Executive Director, AAA Foundation for Traffic Safety
  
  About this speaker: Dr. Yang has co-authored approximately fifty peer-reviewed journal articles, conference papers, and government reports on subjects related to traffic safety, operations, planning, and Intelligent Transportation Systems. An ITE Journal article he co-authored won Institute of Transportation Engineers’ 2015 Traffic Engineering Council Best Paper Award. He is an associate editor for the Journal of Intelligent Transportation Systems: Technology, Planning, and Operations and a member of the editorial board for the International Journal of Transportation Science and Technology. Dr. Yang serves as an advisory board member on a number of university transportation centers funded by the U.S. Department of Transportation. Dr. Yang attended Purdue University and received his Bachelor of Science, Master of Science, and Doctor of Philosophy degrees in the field of civil engineering. In April 2018, he was honored with the Civil Engineering Alumni Achievement Award from Purdue University.
Panelists:  

**Sam Lauzon, Engineer in Research, UMTRI**

*About this speaker:* His previous position was with a leading tier-one supplier to the automotive-industry, where he led the development of an over-the-air update mechanism. He has extensive experience in automotive, industrial, and security-related software and electronics. He also has worked in automotive communication systems, infotainment systems, and automotive computing platforms. Sam has a bachelor of technology degree in electronics engineering technology from Yorkville University’s RCC Institute of Technology (Toronto). At UMTRI his expertise is focused on applied cybersecurity.

**Raffaele Mautone, CEO and Founder, AaDya Security**

*About this speaker:* Raffaele’s strategic thinking and effective leadership have been instrumental and paramount in his career as an IT, sales and operations professional. His extensive experience in the IT and security industry serves as the platform of AaDya. Raffaele’s consistent record of leading teams through successful acquisitions, strategic planning and implementation and deploying large, multi-tiered complex programs has served companies such as Duo, FireEye, McAfee and Dell. He also has experience in implementing marketing and sales strategies, positioning companies for future growth, and deploying applications and business process improvements to assist with bookings, leads and new go-to-market programs. Raffaele holds a BS from Eastern Michigan University. He is a passionate supporter of Detroit’s startup scene and is an advisor for Fluxo and Toodolie.

**Cyndi Millns, Professional Faculty - Cybersecurity, Washtenaw Community College**

*About this speaker:* Cyndi has been an instructor of Information Technology for the past thirteen years in both networking and cybersecurity after switching from a career in Human Resources & Risk Management. She was the driving force behind a successful grant proposal to become the first Michigan Cyber Range Hub located in a high school. The Pinckney Cyber Training Institute was launched in December of 2016 and it was Cyndi’s vision to build this into a program that would benefit not just high school students, but the community. Cyndi continues to build the Cybersecurity pathway between high school, 2 year and 4 year college focusing on cybersecurity in mobility and connected devices at Washtenaw Community College.

**Kristie Pfosi, Senior Manager - Automotive Cyber Security, Mitsubishi Electric Automotive America, Inc.**

*About this speaker:* A respected policy maker and program manager with deep technology expertise, Kristie has been a champion for cybersecurity best practices for more than a decade as a technical intelligence officer at the CIA and as an OEM employee, most notably helping FCA shore up their cybersecurity practice after one of their vehicles was infamously hacked. Her wide-ranging background in automotive also includes designing minivan seats, developing advanced service diagnostic tools, and working on internal combustion engine technology at leading automotive companies such as Magna and MAHLE Powertrain. Today Kristie is responsible for creating and implementing processes and methodologies for global incident responses, vulnerability management, and risk assessments at Mitsubishi Electric Automotive America.

12:25 PM  Break for Lunch

1:30 PM  Keynote Speaker:  

**Dr. Huei Peng, Director, Mcity, Professor, University of Michigan**

*About this speaker:* Dr. Peng received his Ph.D. in Mechanical Engineering from the University of California, Berkeley in 1992. He is now a Professor at the Department of Mechanical Engineering at the University of Michigan. He currently serves as the Director of Mcity, which studies connected and autonomous vehicle technologies and promotes their deployment. His research interests include adaptive control and optimal control, with emphasis on their applications to vehicular and transportation systems. His current research focuses include design and control of electrified vehicles, and connected automated vehicles. In the last 10 years, he was involved in the design of several military and civilian concept vehicles, including FTTS, FMTV, Eaton/Fedex, and Super-HUMMWV—for both electric and hydraulic hybrid concepts. He served as the US Director of the DOE sponsored Clean Energy Research Center—Clean Vehicle Consortium, which supports more than 30 research projects related to the development of clean vehicles in the US and in China. One of his proudest achievements is that more than half of his Ph.D. students have each published at least one paper cited more than 100 times.
2:00 PM  Panel 4: AV Investment and Public Acceptance
This panel will focus on the current state of AV research and development as well as public acceptance of AV and electric vehicle deployment. Panelists will explore the apparent shift in R&D investment from highly automated/fully autonomous vehicle systems to advanced driver assistance systems. Panelists will also discuss public acceptance of AVs and EVs with reference to very recent survey data. Finally, the panel will review impediments to highly automated vehicle deployments with a view to how they can be overcome.

Moderator:  John Peracchio, Managing Member, Peracchio & Company, LLC

Panelists:  Peter Appel, Director - Transportation and Supply Chain, AlixPartners

Panelists:  Hideki Hada, Executive Engineer - Technical Strategy, Toyota Motor North America - R&D

Panelists:  Kristin Kolodge, Executive Director, J.D. Power
3:00 PM  CCAT Research Panel : Operation of Efficient and Budget-Balanced Shared-Use Mobility Systems
Presented by: Dr. Neda Masoud, Assistant Professor, University of Michigan

About this speaker: Neda Masoud is an Assistant Professor in the Department of Civil and Environmental Engineering at the University of Michigan. She holds a Bachelor’s of Science Degree in Industrial Engineering and a Master’s of Science degree in Physics. She received her PhD in Civil and Environmental Engineering from the University of California Irvine in 2016. Her research focuses on devising operational and planning tools to facilitate the transition to the next generation of mobility systems, which are envisioned to be connected, automated, electrified, and shared.

3:30 PM  Break

3:40 PM  Panel 5: Infrastructure - Make Way for CAVs
With the rapid emergence of Connected and Automated Vehicle (CAV) Technologies, Infrastructure Owner Operators (IOOs) will need to be prepared to support their safe testing and operations now and into the future. As such, all stakeholders and elements of the transportation system will need to work together to improve safety, mobility, equity, and operations efficiency through the implementation of these technologies in a broader Cooperative Automated Transportation system context. The panel will focus on how government, academia, engineering consultants and other stakeholders are working with IOOs to prepare and make infrastructure decisions today that will support the successful deployment of these technologies for years to come.

Moderator: Collin Castle, ITS Program Manager, Michigan Department of Transportation

About this speaker: Collin Castle has worked in the Michigan Department of Transportation (MDOT) Intelligent Transportation Systems (ITS) Program Office for the past 12 years. He is currently serving as the MDOT ITS Program Manager responsible for the administration, support and oversight of the statewide ITS, Signals, Connected and Autonomous Vehicle program at MDOT. He is a graduate of Michigan State University with a Bachelor of Science (BS) in Civil Engineering with a focus on Transportation and is registered Professional Engineer in the State of Michigan.

Panelists: Dr. Yiheng Feng, Assistant Research Scientist, UMTRI

About this speaker: Dr. Feng received his Ph.D. from the Department of Systems and Industrial Engineering at the University of Arizona in 2015. His research mainly focuses on smart transportation systems, including traffic control with connected and automated vehicles (CAVs), cybersecurity of transportation infrastructure and CAV testing and evaluation. His research articles have appeared in major transportation journals, such as Transportation Research Part B, Part C, IEEE transactions on ITS, and top security conferences such as NDSS. He has been the PI and co-PI for multiple federal and industry-funded research projects including NSF, USDOT, USDOE and Ford Motor Company.

Joel Leisch, Owner, JPL Consulting

About this speaker: Mr. Leisch has been engaged in transportation and traffic planning and design with an emphasis on urban freeway corridors and other high type urban facilities for more than 50 years. He has been responsible for the planning studies of more than 2,000 miles of freeways, toll facilities, and arterials including more than 900 interchanges in major metropolitan areas in 28 states and 5 foreign countries. Many of these projects have incorporated high occupancy vehicle facilities, managed lanes, surveillance and control, and integration with public transportation (BRT or rail) in environmentally and socially sensitive areas. Mr. Leisch has published numerous papers with and made presentations to TRB, ASCE, AASHTO and ITE. He is primary author and editor of the ITE “Freeway and Interchange Geometric Design Handbook.” He was a researcher on the FHWA project “Field Evaluation of the Double Crossover Diamond (Diverging Diamond).” Mr. Leisch was also the lead design researcher for the FHWA research project: Interchange and Ramp Spacing. Mr. Leisch holds a BSCE from Purdue University (1964), an MSCE in Transportation Engineering from Northwestern University (1968).
4:40 PM  Closing Remarks  
Speaker:  Dr. Henry Liu, Director, Center for Connected and Automated Transportation

About this speaker: Dr. Henry Liu is a Professor in the Department of Civil and Environmental Engineering at the University of Michigan, Ann Arbor. He is also a Research Professor at the University of Michigan Transportation Research Institute and the Director for the Center for Connected and Automated Transportation (USDOT Region 5 University Transportation Center). From July 2017 to August 2019, he took a leave of absence from the University of Michigan and served as Chief Scientist on Smart Transportation for DiDi Chuxing in China, one of the leading mobility service providers in the world. Dr. Liu received his Ph.D. degree in Civil and Environmental Engineering from the University of Wisconsin at Madison in 2000 and his Bachelor degree in Automotive Engineering from Tsinghua University (China) in 1993. Dr. Liu is the managing editor of Journal of Intelligent Transportation Systems and an editor of Transportation Research Part C.

5:00 PM  Global Symposium Concludes
With a $2.4M grant from the U.S. Department of Transportation, the University of Michigan, along with its partners, has created the Center for Connected and Automated Transportation (CCAT). CCAT aims to advance research in the field of transportation safety, mobility, and sustainability via connected vehicles, connected infrastructure, and autonomous vehicles.

Located at the focal point of the U.S. auto industry, CCAT will play a unique regional role in promoting connected and automated transportation research, education, workforce development, and technology transfer activities, which are of critical importance to the future of the region’s economy. The CCAT team’s extensive and substantive collaborations with stakeholders such as the region’s state DOTs, local governments, and the CAV industry will ensure that our research translates to practical outcomes through prototypes, field tests, technology transfer, implementation, and policies.

U-M’s partners include: Washtenaw Community College, Purdue University, University of Illinois at Urbana-Champaign, University of Akron, and Central State University.

The U.S. DOT invests in the future of transportation through its University Transportation Centers (UTC) Program. The UTC Program advances the state-of-the-art in transportation research and technology and develops the next generation of transportation professionals. UTC awards and administers grants to consortia of colleges and universities across the United States.
Thank you for joining us!