

4th Annual Conference on
**NEXT-GENERATION
TRANSPORT SYSTEMS
(NGTS-4)**



**THEME: THE FUTURE OF TRAVEL –
LEVERAGING AI AND ADVANCED ANALYTICS**



PROGRAM SCHEDULE

SEPT 21-22, 2024

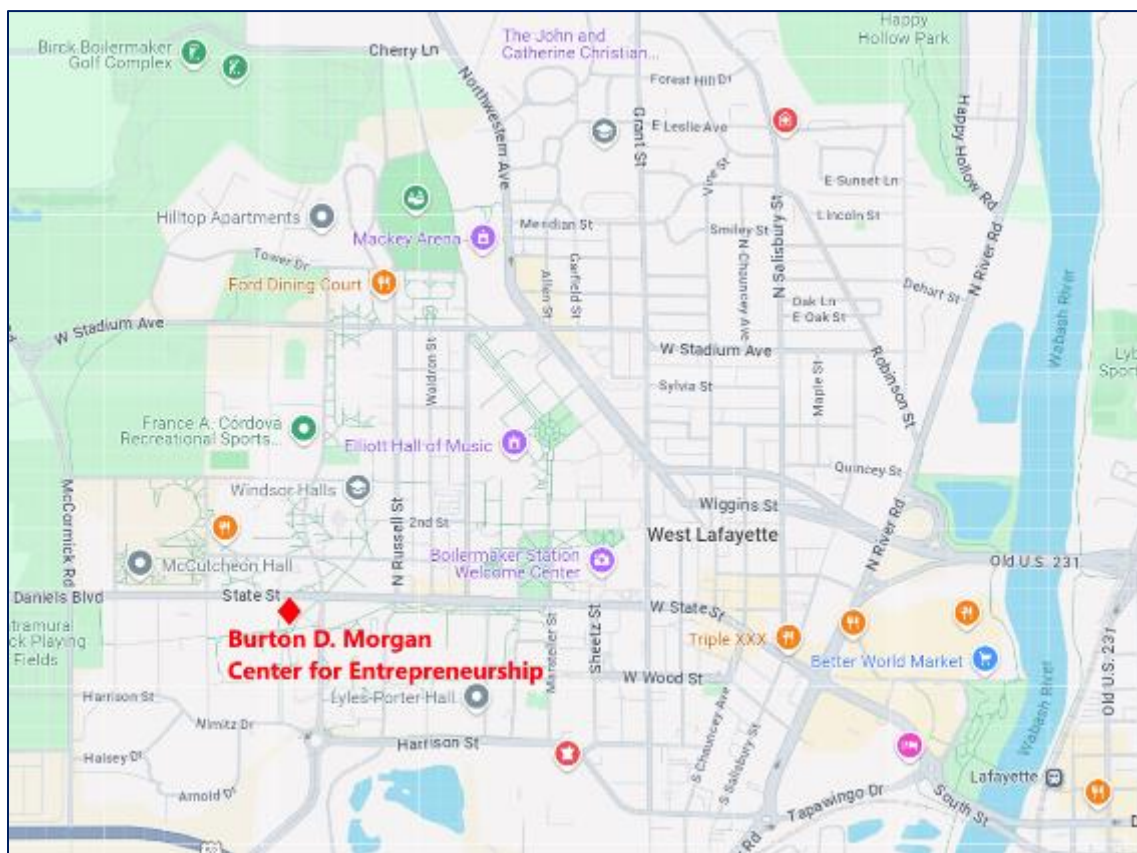
MRGN121, PURDUE UNIVERSITY
WEST LAFAYETTE CAMPUS



Location

The event will take place in a hybrid mode at Purdue University, West Lafayette Campus, and virtually via Zoom. The venue is Room MRGN 121 at the Burton D. Morgan Center for Entrepreneurship, 1201 W State St., West Lafayette, IN. Parking is available on State Street and nearby locations. Breakfast, lunch, and coffee will be served at the venue during both days.

<https://maps.app.goo.gl/cfru19Q5rKA1ySnZ6>



Zoom Link:

Obtain your Zoom Link here:

<https://purdue-edu.zoom.us/meeting/register/TJAuduGprjkrHtQQGoNg9a74x4rLQOAKuSXW>

Schedule at a glance

Saturday, September 21, 2024

- 08:00 – 08:45 Breakfast and registration
- 08:45 – 09:00 Opening remarks
- 09:00 – 11:00 Presentations Track: *Shared Mobility and Aerial Transport*
- 11:00 – 11:15 Coffee Break
- 11:15 – 12:30 Keynote Lectures & Dean’s Address
- 12:30 – 13:15 Lunch
- 13:15 – 14:00 Poster Session & Networking
- 14:00 – 15:00 Keynote Lectures
- 15:00 – 15:15 Coffee Break
- 15:15 – 16:15 Presentations Track: *Electric Vehicles*
- 16:15 – 16:25 Coffee Break
- 16:25 – 17:45 Presentations Track: *Automated Vehicles and Road Safety*

Sunday, September 22, 2024

- 08:00 – 09:00 Breakfast and registration
- 09:00 – 10:45 Presentations Track: *Connected and Automated Vehicles*
- 10:45 – 11:00 Coffee Break
- 11:00 – 12:00 Keynote Lectures
- 12:00 – 12:30 Closing Remarks & Awards
- 12:30 – 13:15 Lunch & technology demonstrations

*All timings mentioned in the program are in Eastern Time (ET), USA

Detailed Program Agenda (As of 09.17.24)

Saturday, Sept 21, 2024

- 08:00 – 08:45 Breakfast and registration
- 08:45 – 09:00 Opening remarks
Isaiah C. Mwamba, Conference Chair, NGTS
Rao S. Govindaraju, Bowen Head of Civil and Construction Engineering
- 09:00 – 11:00 **Presentations Track: Shared Mobility and Aerial Transport**
Moderator: David Orlando Holguin Mejia
- Negasa Yahy**, Ali Karimodini; North Carolina A&T State University;
Risk Assessment Framework for Mid-Air Collisions to Support Decision-Making in Urban Air Mobility
- Haimanti Bala**, Archie Huang, Monika Filipovska; University of Connecticut;
Towards Equitable Operation of Shared-use Autonomous Mobility Services via Reinforcement Learning for Fleet Repositioning
- Syed Rezwanul Islam**, Monika Filipovska, Archie J. Huang; University of Connecticut; *Networkwide Traffic State Forecasting Using Exogenous Information: A Multidimensional Graph Attention-Based Approach for Transferability*
- Cong Zhang**, Chi Tian, Tianfang Han, Yunfeng Chen, Jiansong Zhang, Yiheng Feng; Purdue University; *Examining Driving Behaviors and Trust in an In-Vehicle Warning System Under Uncertainty: A Driving Simulator Study*
- Fateme Hafizi**, Mohammad Miralinaghi; Illinois Institute of Technology;
On the Design of Electric Charging Infrastructure for Drones
- 11:00 -11:15 Coffee Break

- 11:15 - 11:45 Keynote Address:
Dan Delaurentis, Vice President Purdue Discovery Park District & Professor of Aeronautics and Astronautics, Purdue University
Assessment of Potential Operational Limits to Urban Air Mobility: A Recap of Studies Across 5 U.S. Metro regions
- 11:45 - 12:00 Keynote Address:
Bharat Bhargava, Professor of Computer Science, Purdue University
Real Application of Machine Learning (REALM): Situation Knowledge on Demand (SKOD)
- 12:00 - 12:15 Keynote Address:
Zizheng Liu, Research Assistant, Computer Science, Purdue University
Reasoning and Detecting Collaborative Attacks in Autonomous UAV Networks
- 12:15 - 12:25 Dean's Address
Prof. Arvind Raman
- 12:25 - 13:15 Lunch
- 13:15 - 14:00 Poster Session + networking
- Christina Joslin**, Bruno Cesar Krause Moras, Konstantina Gkritza; Purdue University;
Does Experience Shape Perceptions? A Comparison of Users' and Non-Users' Views on Electric Vehicle Characteristics.
- David Holguin-Mejia**, Chishala I. Mwamba, Deepak Benny Konstantina Gkritza, Samuel Labi; Purdue University;
Electric Propulsion and Vehicle Automation: Challenges and Opportunities of the Sibling Relationship
- Kenny Chandra Wijaya**, Prasanna Humagain, Ziqi Song, Konstantina Gkritza; Purdue University;
Preference heterogeneity in the choice of first-last mile mode to transit: A case study of Salt Lake City and Portland MSA

Mario Barahona, Qiming Guo, Mario Romero, Andrew Tarko; Purdue University;
Safety Effectiveness of Rumble Strips on Indiana Rural Roads

Nachuan Li, Hani Mahmassani, Yanlin Zhang, Alireza Talebpour, Samer Hamdar; Northwestern University;
Using the Third Generation Simulation Dataset to Understand Complex Traffic Dynamics

Jayesh Milind Fasate; Purdue University;
Navigating into future (Autonomous Vehicle)

14:00 - 14:30 Keynote Address:
Darcy Bullock, Director of the Joint Transportation Research Program & Professor of Civil Engineering, Purdue University
Our vehicles often know more about our infrastructure than we do. Are we ready for that?

14:30 - 15:00 Keynote Address:
Diane Newton, Vice President, HNTB
Charging Ahead: Indiana's DC Fast Charging EV Infrastructure

15:00 - 15:15 Coffee Break

15:15 - 16:15 **Presentations Track: Electric Vehicles**
Moderator: Fahad Fardan T Alqahtani

Charvi Gupta, WSP
The State of Transit Bus Electrification

Sipan Hovsepian, Jose Balsa-Barreiro, Monica Menendez; New York University, Abu Dhabi;
Optimizing the Spatial Distribution of Electric Vehicle Charging Infrastructure Using Space Syntax: A Case Study of Dubai, UAE

Bruno Cesar Krause Moras, Christina Joslin, Konstantina Gkritza, Purdue University.
Investigating Consumer Choices Between New and Used Electric Vehicles

16:15 - 16:25 Coffee Break

16:25 - 17:45 **Presentations Track: Automated Vehicles and Road Safety**

Moderator: Dongyoon Song

Zifei Wang, Huizhong Guo, Brian Lin, Fred Feng, Feng Zhou, Rini Sherony, Shan Bao; University of Michigan - Dearborn;
Corner-Case Scenarios of Vulnerable Road Users to Support Evaluation of Automated Driving Systems: A Data-Driven Framework

Chengxin Zhang, Huizhong Guo, Fred Feng, Anuj Pradhan, Shan Bao; University of Michigan - Dearborn;
Evaluation of Multiple Training Approaches on Enhancing Drivers' Understanding of Vehicle Automation Systems

Vamsi Krishna Bandaru, Andrew Tarko, Mario Romero, Lucas Florez Forero; Purdue University;
Safety effectiveness of ICWS installed in Indiana

Priya Darshini Narayanan, Qiming Guo, Andrew P Tarko, Mario A Romero, Vamsi Krishna Bandaru; Purdue University;
A Study of Suburban Arterial Safety Performance Based on Median Type

Sunday, Sept 22, 2024

08:00 – 09:00 Breakfast and registration

09:00 – 10:45 **Presentations Track: Connected and Automated Vehicles**

Moderator: Rishika Srinivasa Tumula

Zhao Peilin, Yiik Diew Wong, Feng Zhu; Nanyang Technological University.
Probability Distribution of Connected and Autonomous Vehicle Platoon Size in a Mixed Traffic Environment

Muhammad Sajjad Hasan, Mehtab Muhammad Irshad; M/s Pavron.
Accident Analysis and method Comparison of finding blackspots: A case Study of (M-2) Lahore-Islamabad motorway, Pakistan.

Desmond Ndambi, Ndambi Ndaya, Bismark R. D. K. Agbelie; Catholic University of America.
Cloud-Based Predictive Model for Intrusion Detection in Autonomous and Connected Vehicles using Machine Learning and Neural Networks

Saraswathi (Suthi) Navaratnam-Tomayko, Timothy Mwangi; Princeton University; *Using autonomous taxis to create shared mobility: an overview and a dive into data management*

Myeongkyu Lee, Brandon J. Pitts; Purdue University.
The Effect of System Reliability and Confidence Information on Drivers' Behavior in Automated Vehicles

10:45 – 1 1:00 Coffee Break

- 11:00 – 11:30 Keynote Address:
Kumares Sinha, Edgar and Olson Distinguished Professor of Civil Engineering
Highway Safety Implications of Connected and Automated Transportation
- 11:30 – 12:00 Keynote Address:
Nathaniel Sturdevant, Emerging Mobility Director, Indiana Department of Transportation
Indiana Department of Transportation: Focused on the Future of Roads
- 12:00 – 12:30 Closing Remarks and Awards
- 12:30 – 13:30 Lunch & technology demonstrations

Event Sponsors

