



## IEEE MOST 2025 Conference Program

- *Presentation location : Audion at STAR Tower*
- *Posters and demos location: Audion at STAR Tower (Hallway)*

### May 4, Sunday

8:00	Registration Open & Breakfast
8:45-9:00	Opening Remarks: Weisong Shi, Xinghui Zhao, Guoquan Huang, and Tom St. John, MOST25 General Chairs and Program Chairs
9:00-10:00	<b>Keynote #1:</b> Perception's Next Frontier: World Models and the Future of Autonomous Mobility Speaker: <b>Vinay Palakkode</b> , Senior Manager, Rivian Chair: Tom St. John, Meta
10:00-10:30	Coffee break
10:30-12:10	<b>Paper Session #1: Perception and AI for Autonomous Systems</b> [5 presentations, 20 min each] <ul style="list-style-type: none"><li>• <b>ID 29:</b> ICanC: Improving Camera-based Object Detection and Energy Consumption in Low-illumination Environments</li><li>• <b>ID 30:</b> Edge-Assisted Object Perception for Autonomous Vehicles under Challenging Exposure and Blur Conditions</li><li>• <b>ID 49:</b> Better Reliability Compression: Model Pruning with Calibrated Uncertainty Estimation for Mobile Deep Learning Applications</li><li>• <b>ID 64:</b> D2SO: Detecting Distant and Small Objects for Vision-based Vehicle Autonomous Systems</li><li>• <b>ID 68:</b> Zero-shot Prompt-based Partial 3D Point Cloud Creation of the Specified Object from an Unlabeled 2D Image</li></ul> Chair: Sagar Manglani, Teleo Inc.
12:10-13:40	Lunch break

13:40-15:00	<p>Paper Session #2: <b>Planning and Control for Autonomous Mobility</b> [4 presentations, 20 min each]</p> <ul style="list-style-type: none"> <li>● <b>ID 1:</b> Cooperative Maneuver Coordination: Smart Infrastructure for VRUs Collision Avoidance with Trajectory Planning</li> <li>● <b>ID 31:</b> Slope Considered Online Nonlinear Trajectory Planning with Differential Energy Model for Autonomous Driving</li> <li>● <b>ID 43:</b> Gap Opening Control to Facilitate Human-Driven Vehicle Overtaking of Connected and Automated Vehicle Platoons on Two-Lane Highways</li> <li>● <b>ID 52:</b> From Depth to Flow - Learning Uncertainty Aware Stereo Scene Flow from Partial Synthetic Labels</li> </ul> <p>Chair: Yu (Fred) Song, University of Wyoming</p>
15:00-15:30	Coffee break
15:30-17:00	<p>Paper Session #3: <b>Autonomous Systems and Applications</b> [4 presentations, 20 min each, 10 min buffer]</p> <ul style="list-style-type: none"> <li>● <b>ID 26:</b> Design and Implementation of A Voice Controlled Indoor Autonomous Robot Kit</li> <li>● <b>ID 50:</b> SOUND: Unknown Object Detection for Autonomous Driving</li> <li>● <b>ID 66:</b> From Preventative to Predictive: Advancing Timely and Accurate Aircraft Prognostics</li> <li>● <b>ID 72:</b> Unsupervised 3D Point Cloud Anti-Occlusion Multi-Object Tracking</li> </ul> <p>Chair: Chi-Sheng (Daniel) Shih, National Taiwan University</p>

**May 5, Monday**

8:00	Registration Open & Breakfast
9:00-10:00	<p><b>Keynote #2:</b> Keep Calm and Commerce On: Real Talk About Autonomous Trucking Speaker: <b>Xiaodi Hou</b>, Founder and CEO of Bot Auto Chair: Weisong Shi, University of Delaware</p>
10:00-10:30	Coffee break

<p>10:30-12:40</p>	<p><b>Paper Session #4: Simulation, Testing, and Validation of Autonomous Vehicles</b> [5 presentations, 20 min each]</p> <ul style="list-style-type: none"> <li>● <b>ID 25:</b> Enhancing Car-Following Models with Bike Dynamics for Improved Traffic Simulation</li> <li>● <b>ID 32:</b> Adaptive Dynamic Digital Twin for Test Scenario Generation</li> <li>● <b>ID 44:</b> T-GANRE: Advanced Deep Learning Models for Synthetic Data Generation for Nonrecurrent Events</li> <li>● <b>ID 51:</b> Statistical Comparison of SUMO's count-based and countless Traffic Generation Tools</li> <li>● <b>ID 56:</b> An Old Dog with New Tricks: Lessons from Building an AV Testbed with Autoware</li> </ul> <p>Chair: Chaozhe He, University at Buffalo</p>
<p>12:40-13:30</p>	<p>Lunch break</p>
<p>13:30-15:00</p>	<p>Panel: Driving Force: Towards Large-Scale Autonomous Driving Commercialization</p> <p>Moderator: Lily(Xianling) Zhang, Technical Lead in Generative AI</p> <p>Panelists:</p> <ul style="list-style-type: none"> <li>● Matteo Barale, Head of TC Autonomous</li> <li>● Nikhil Rao, Senior Deep Learning Engineer at NVIDIA</li> <li>● Christian John, President, Tier IV North America</li> <li>● Fiona Hua, Director of Perception, May Mobility</li> </ul>
<p>15:00-15:30</p>	<p>Coffee break</p>
<p>15:30-17:00</p>	<p><b>Paper Session #5: Urban Mobility and Transportation Systems</b> [4 presentations, 20 min each, 10 min buffer]</p> <ul style="list-style-type: none"> <li>● <b>ID 8:</b> Addressing the minimum fleet problem for a traditional and an autonomous car sharing service based on real data</li> <li>● <b>ID 37:</b> The Hidden Costs of Private Mobility: Public Land Occupation and Inefficiency in Milan</li> <li>● <b>ID 41:</b> Technological Horizons in Urban Mobility: A Systematic Review of Mobility Apps' Capabilities and Applications</li> <li>● <b>ID 47:</b> Towards Seamless Autonomous Public Transportation: Deployment of Level-4 Autonomous Buses in Mixed-Traffic Environments</li> </ul> <p>Chair: Ali U. Peker, ADASTEC Corp.</p>

17:00-18:00	Poster Session Chair: Qiang Liu and Haoxin Wang Room: Audion at STAR Tower (Hallway)
18:00-20:00	Conference Banquet and Award Ceremony

## May 6, Tuesday

8:00	Registration Open & Breakfast
9:00-10:00	<b>Keynote #3:</b> Winter Is Coming: Extending Self-Driving Perception to Adverse Weather Speaker: <b>Steven L. Waslander</b> , Professor, University of Toronto Chair: Guoquan (Paul) Huang, University of Delaware
10:00-10:30	Coffee break
10:30-12:00	Paper Session #6: <b>Software Development and Communication for Autonomous Vehicles</b> [4 presentations, 20 min each, 10 min buffer] <ul style="list-style-type: none"> <li>● <b>ID 55:</b> Practicing Tailored Agile Framework for Automated Vehicle Software Development</li> <li>● <b>ID 58:</b> Cooperative V2X Communications and Sensing for Autonomous Mobility</li> <li>● <b>ID 59:</b> ReLES-OTA: A Reinforcement-Learning Enhanced Scalable Over-the-Air Update Approach for CAVs</li> <li>● <b>ID 63:</b> Deep Learning Hybrid Model for Equitable Data Representation: Physics Model Incorporating Ramp Traffic Dynamics &amp; Data-Driven Enhancement</li> </ul> <p>Chair: João Amaral, University of Aveiro</p>
12:00-13:30	Lunch break
13:30 – 16:30	Tutorial Autoware Room: Audion at STAR Tower Field Demo: STAR Campus