

IEEE ITSC 2022

Parallel Intelligence and Metaverses (PIM) Workshop Newsletter

On September 18, the Kick-off event of the 25th IEEE International Conference on Intelligent Transportation Systems (IEEE ITSC 2022), "IEEE/CAA Workshop on Parallel Intelligence and Metaverses (IEEE PIM 2022)", is launched at the Plato Hall, The Alfred N. Whitehead College in Beijing, China. The IEEE/CAA PIM 2022 is an international forum held within the IEEE ITSC 2022, which is organized in a distributed-hybrid fashion for all authors, presenters and registrants, online and offline. The Kick-off is planned and organized by Prof. Xiao Wang of Anhui University, a member of IEEE ITSS BoG.

The IEEE/CAA PIM 2022 brings together scientists, engineers, and researchers from both academic and industrial institutes to exchange their latest work, research, advance in the state of the art as well as to identify the emerging topics and open issues in the field of Parallel Intelligence and Metaverses.

The workshop is co-chaired by Prof. Fei-Yue Wang, director of the State Key Laboratory of Complex System Management and Control, Chinese Academy of Sciences, and Prof. Linyuan Lv, University of Electronic Science and Technology. Prof. Wang opened the workshop with his address titled: "Welcome to PMI: The DAO to Transportation Intelligence in CPSS".

Professor Markos Papageorgiou of Technical University of Crete Ningbo University in Greece and Dr. Zhihan Lv of Uppsala University in Sweden presented their keynote speeches at IEEE/CAA PIM 2022, their respective presentations are titled: "A New Traffic Paradigm in the Era of Connected Automated Vehicles" and "The Past and Present of the Metaverse".

Dr. Fenghua Zhu of Institute of Automation of the Chinese Academy of Sciences and Prof. Xiaoming Liu of North China University of Technology organized the second event of the first day, a workshop on Artificial Transportation Systems and Simulation (ATSS). The aim of the ATSS is to foster the discussion on issues concerning the development of Artificial Transportation Systems and Simulation, especially digital twins, as a means to devise, test and validate ITS-based technologies.

This DHC (Distributed Hybrid Conference) form of IEEE ITSC 2022 will last from September 18 to October 7, starting at Beijing and ending at Macau. During this period, a total of 145 DHC sessions will be held in an orderly manner.

With the theme of "Blockchain-based ITS: The Human Use of Cyber-Physical-Social Transportation Systems", the IEEE ITSC 2022 has received over 1,000 articles and presentations in the areas of intelligent transportation systems and automated driving, will demonstrate to the world recent ITS advances and developments in theory, modeling, simulation, testing, case studies, as well as large-scale deployment.



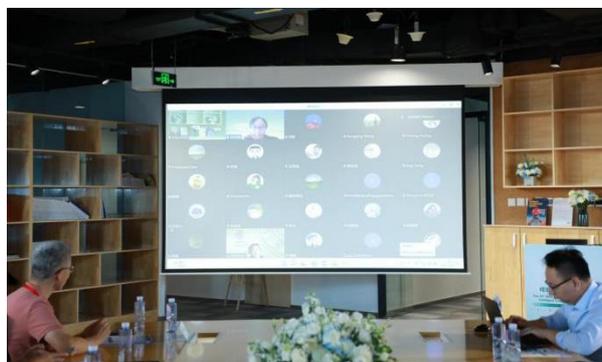
PIM Chair - Professor Fei-Yue Wang



ATSS Chair - Professor Fenghua Zhu



PIM - Offline Conference in Beijing, CHINA



Online presenters and Q&A



Screenshot of online keynotes



Poster Space



Registration Area

Meantime, Qingdao Metaverse Monitoring Center has been setup for providing real-time data monitoring and technical insurance support for this one-month series of worldwide distributed hybrid conference. Additionally, two offline brand venues have setup and begin to operate, based in Macau and Beijing. From September 18 to October 7, 145 distributed hybrid conferences will be organized in an orderly manner. Qingdao Metaverse Monitoring Center will give a strong support for this DHC in the next month period.



ONE-Metaverse-Center, TWO-Branch-Venue

This year, the distributed hybrid conference covers almost all frontier research and hot topics in the field of intelligent transportation. The agenda of the conference is announced as follows:

IEEE ITSC 2022
The 25th IEEE International Conference on Intelligent Transportation Systems
Co-located with ITS The Human Side of Cyber-Physical Social Transportation Systems

Schedule

| Date | Time | Title |
|--------|-------------|---|
| Sep 18 | 14:25-15:30 | Parallel Intelligence and Materials |
| Sep 18 | 17:05-18:30 | AutRise: Transportation Systems and Simulation (ATSS) |
| Sep 18 | 18:00-18:30 | Task-based Connected Sensing: Planning and Control of Connected and Automated Vehicles |
| Sep 19 | 09:30-11:00 | Smart Mobility for a Sustainable Transport Future |
| Sep 19 | 11:30-12:00 | Control of Connected and Automated Vehicles in Low-Flow Environments |
| Sep 19 | 17:05-18:30 | Active Safety Control for Autonomous Trucks |
| Sep 19 | 20:00-21:30 | Control, Communication and Emerging Technologies in Smart Rail Systems |
| Sep 20 | 08:30-10:30 | Transportation II and Parallel Transportation |
| Sep 20 | 10:30-12:30 | CPS based Traffic Control |
| Sep 20 | 14:00-16:00 | CPS based Complex City Systems |
| Sep 20 | 17:05-18:30 | Coast Neural Networks for Traffic Forecasting |
| Sep 20 | 18:30-20:00 | Visual Coupling: A Novel Concept in Railway I |
| Sep 20 | 20:00-21:30 | Visual Coupling: A Novel Concept in Railway II |
| Sep 21 | 11:05-12:30 | Trajectory Prediction and Decision Making for Autonomous Vehicles |
| Sep 21 | 17:05-18:30 | Artificial Intelligence for Traffic Signal Control, Optimization and Scheduling Problems |
| Sep 21 | 20:00-22:00 | Systems Engineering for ITS |
| Sep 22 | 08:00-09:30 | Collaborative Control and Management of EV Fleets based on Intelligent Transport Systems |
| Sep 22 | 09:30-11:00 | Advanced control technology for connected and automated vehicles |
| Sep 22 | 11:05-12:30 | Autonomous Transportation System |
| Sep 22 | 14:00-15:30 | Connected Vehicles and Cyber-Physical Transportation Systems |
| Sep 22 | 15:30-17:00 | Parallel Vision for Intelligent Vehicle |
| Sep 22 | 17:00-18:30 | Intelligent Freeway Planning for CAVs |
| Sep 22 | 18:30-20:00 | Towards sustainable traffic via trajectory optimization and control strategies for Connected and Automated vehicles |
| Sep 23 | 08:30-09:00 | ITSC II Opening |
| Sep 23 | 09:00-09:30 | Vehicles in Complex Driving Conditions |
| Sep 23 | 09:30-11:00 | 2nd Special Session on Cooperative Driving in Mixed Traffic I |
| Sep 23 | 11:00-12:30 | 2nd Special Session on Cooperative Driving in Mixed Traffic II |
| Sep 23 | 15:30-17:30 | BlockChain & Knowledge Automation |
| Sep 23 | 18:30-19:00 | AI Empowered Intelligent Solutions for CAV Impacts: From Individual Vehicle Control to Networked System Management |
| Sep 23 | 19:00-21:00 | Emerging Data-driven Technologies and Machine Learning for Traffic Prediction & Estimation |
| Sep 24 | 09:30-11:00 | Traffic Simulation under Vehicle Road Cooperation |
| Sep 24 | 11:00-12:30 | New Technology and Development in Autonomous Train Control |
| Sep 24 | 17:00-18:30 | Intelligence Traffic Management for Mainline and High Speed Railways |
| Sep 24 | 08:00-09:30 | Driver Assistance Systems, Automated Vehicle Operation, Motion Planning, Navigation-1 |
| Sep 24 | 09:30-11:00 | Driver Assistance Systems, Automated Vehicle Operation, Motion Planning, Navigation-2 |
| Sep 24 | 11:00-12:30 | Driver Assistance Systems, Automated Vehicle Operation, Motion Planning, Navigation-3 |
| Sep 24 | 14:00-16:00 | IEEE Workshop (2022) |
| Sep 25 | 08:30-09:00 | Multi-autonomous Vehicle Studies, Models, Techniques and Simulations-1 |
| Sep 25 | 09:00-09:30 | Multi-autonomous Vehicle Studies, Models, Techniques and Simulations-2 |
| Sep 25 | 10:00-11:00 | Sensing, Vision, and Perception-1 |
| Sep 25 | 09:00-09:30 | Driver Assistance Systems, Automated Vehicle Operation, Motion Planning, Navigation-4 |
| Sep 25 | 09:30-11:00 | Sensing, Vision, and Perception-2 |
| Sep 25 | 11:00-12:30 | Sensing, Vision, and Perception-3 |
| Sep 25 | 14:00-15:30 | Driver Assistance Systems, Automated Vehicle Operation, Motion Planning, Navigation-5 |
| Sep 25 | 15:30-17:00 | Multi-autonomous Vehicle Studies, Models, Techniques and Simulations-3 |
| Sep 25 | 17:00-18:30 | Multi-autonomous Vehicle Studies, Models, Techniques and Simulations-4 |
| Sep 25 | 18:30-20:00 | Sensing, Vision, and Perception-4 |
| Sep 25 | 20:00-21:30 | Sensing, Vision, and Perception-5 |
| Sep 25 | 21:30-23:00 | Sensing, Vision, and Perception-6 |
| Sep 26 | 08:00-09:30 | Sensing, Vision, and Perception-7 |
| Sep 26 | 09:00-11:00 | Sensing, Vision, and Perception-8 |
| Sep 26 | 11:00-12:30 | Sensing, Vision, and Perception-9 |
| Sep 27 | 14:00-18:30 | ITSC Workshop |
| Sep 27 | 18:30-20:00 | Advanced Vehicle Safety Systems-1 |
| Sep 27 | 20:00-21:30 | Advanced Vehicle Safety Systems-2 |
| Sep 27 | 21:30-23:00 | Advanced Vehicle Safety Systems-3 |
| Sep 28 | 08:00-09:30 | Communications and Protocols in ITS-1 |
| Sep 28 | 09:30-11:00 | Communications and Protocols in ITS-2 |
| Sep 28 | 11:05-12:30 | Data Mining and Data Analysis, Off-line and Online Data Processing Techniques -1 |
| Sep 28 | 14:00-15:30 | Advanced Vehicle Safety Systems-4 |
| Sep 28 | 15:30-17:00 | Advanced Vehicle Safety Systems-5 |
| Sep 28 | 17:00-18:30 | Data Mining and Data Analysis, Off-line and Online Data Processing Techniques -2 |
| Sep 28 | 18:30-20:00 | Communications and Protocols in ITS-3 |
| Sep 28 | 20:00-21:30 | Data Mining and Data Analysis, Off-line and Online Data Processing Techniques -3 |
| Sep 28 | 21:30-23:00 | Data Mining and Data Analysis, Off-line and Online Data Processing Techniques -4 |
| Sep 29 | 08:00-09:30 | ITSC Banquet |
| Sep 29 | 14:00-15:30 | Data Mining and Data Analysis, Off-line and Online Data Processing Techniques -5 |
| Sep 29 | 15:30-17:00 | Data Mining and Data Analysis, Off-line and Online Data Processing Techniques -6 |
| Sep 29 | 17:00-18:30 | Intelligent Logistics-1 |
| Sep 29 | 18:30-20:00 | Electric Vehicles-1 |
| Sep 29 | 20:00-21:30 | Electric Vehicles-2 |
| Sep 29 | 21:30-23:00 | Incident Management-1 |
| Sep 30 | 08:00-09:30 | Data Mining and Data Analysis, Off-line and Online Data Processing Techniques -7 |
| Sep 30 | 09:30-11:00 | Data Mining and Data Analysis, Off-line and Online Data Processing Techniques -8 |
| Sep 30 | 11:00-12:30 | Data Mining and Data Analysis, Off-line and Online Data Processing Techniques -9 |
| Oct 1 | 14:00-18:30 | ITSC Workshop |
| Oct 1 | 08:00-09:30 | Rail Traffic Management-1 |
| Oct 1 | 09:30-11:00 | Rail Traffic Management-2 |
| Oct 1 | 11:00-12:30 | Traffic Theory for ITS-1 |
| Oct 1 | 14:00-15:30 | ITS Field Tests and Implementation, Cooperative Techniques and Systems-1 |
| Oct 1 | 16:00-17:00 | Public Transportation Management: Theory and Models for Optimization and Control: Aerial, Marine and Surface Intelligent Vehicles-1 |
| Oct 1 | 17:00-18:30 | Traffic Theory for ITS-2 |
| Oct 1 | 18:30-20:00 | ITS Field Tests and Implementation, Cooperative Techniques and Systems-2 |
| Oct 1 | 20:00-21:30 | Public Transportation Management: Theory and Models for Optimization and Control: Aerial, Marine and Surface Intelligent Vehicles-2 |
| Oct 1 | 21:30-23:00 | Traffic Theory for ITS-3 |
| Oct 2 | 08:00-09:30 | Traffic Theory for ITS-4 |
| Oct 2 | 09:30-11:00 | Simulation and Modeling-1 |
| Oct 2 | 11:00-12:30 | Task Information: Theory and Models for Optimization and Control-1 |
| Oct 2 | 14:00-15:30 | Road Traffic Control-1 |
| Oct 2 | 15:30-17:00 | Transportation Security, Network Management, Network Modeling-1 |
| Oct 2 | 17:00-18:30 | Sensing, Vision, and Perception-7 |
| Oct 2 | 18:30-20:00 | Road Traffic Control-2 |
| Oct 2 | 20:00-21:30 | Transportation Security, Network Management, Network Modeling-2 |
| Oct 2 | 21:30-23:00 | Transportation Security, Network Management, Network Modeling-3 |
| Oct 3 | 08:00-09:30 | Travel Information: Theory and Models for Optimization and Control-2 |
| Oct 3 | 09:30-11:00 | Air Traffic Management-1 |
| Oct 3 | 11:00-12:30 | Road Traffic Control-3 |
| Oct 3 | 14:00-15:30 | Driver Assistance Systems, Automated Vehicle Operation, Motion Planning, Navigation-7 |
| Oct 3 | 15:30-17:00 | Driver Assistance Systems, Automated Vehicle Operation, Motion Planning, Navigation-8 |
| Oct 3 | 17:00-18:30 | Driver Assistance Systems, Automated Vehicle Operation, Motion Planning, Navigation-9 |
| Oct 3 | 18:30-20:00 | Driver Assistance Systems, Automated Vehicle Operation, Motion Planning, Navigation-10 |
| Oct 3 | 20:00-21:30 | Driver Assistance Systems, Automated Vehicle Operation, Motion Planning, Navigation-11 |
| Oct 3 | 08:00-09:30 | Transportation Security, Network Management, Network Modeling-4 |
| Oct 7 | 9:30-11:00 | Travel Behavior Under ITS-1 |
| Oct 7 | 11:00-12:30 | Risk Mitigation and Resilience, Travel Information, Travel Guidance, and Travel Demand Management-1 |
| Oct 7 | 14:00-15:30 | Driver Assistance Systems, Automated Vehicle Operation, Motion Planning, Navigation-12 |
| Oct 7 | 15:30-17:00 | Driver Assistance Systems, Automated Vehicle Operation, Motion Planning, Navigation-13 |
| Oct 7 | 17:00-18:30 | Driver Assistance Systems, Automated Vehicle Operation, Motion Planning, Navigation-14 |
| Oct 7 | 18:30-20:00 | Multi-autonomous Vehicle Studies, Models, Techniques and Simulations |
| Oct 7 | 20:00-21:30 | Multi-autonomous Vehicle Studies, Models, Techniques and Simulations |
| Oct 7 | 21:30-23:00 | Sensing, Vision, and Perception |

Visit our conference website for more information: <https://www.ieee-itsc2022.org/#/>.

Online broadcast: <https://www.ieee-itsc2022.org/#/attend/sessionlist>.

Conference Introduction:

Blockchain-based ITS: The Human Use of Cyber-Physical-Social Transportation Systems

The 25th IEEE International Conference on Intelligent Transportation Systems (IEEE ITSC 2022) is the annual flagship conference sponsored by the IEEE Intelligent Transportation Systems Society. From 1997 to 2021, it has been held 24 times, covering 24 cities in 12 countries in Asia, Europe, North America, South America and Oceania. The main conference of the 25th IEEE ITSC 2022 will be held in Macau, China. IEEE ITSC 2022 welcomes articles and presentations in the areas of intelligent transportation systems and automated driving, conveying new advances and developments in theory, modeling, simulation, testing, case studies, as well as large-scale deployment. The conference particularly invites and encourages prospective authors to share their recent research work, findings, perspectives, and developments related to advanced blockchain-based intelligent transportation systems.