2025 IEEE International Smart Cities Conference

Monday, October 6, 2025

	Room I.4 (small amphitheatre)	Room II.8	Room II.6	Room II.9
9:00 - 10:00	Registration (open 9:00-17:00)			
10:00 - 11:00	**ENSURE** 10:00 – 10:10 Welcome and setting the scene 10:10 – 11:00 Keynote "Neuro-Symbolic AI for Resilient Smart City Systems" by Dr. Amin Anjomshoaa	**SKYSENSE-EUSOME** •P141 Towards a Unified Runtime Monitoring Framework for Distributed Industrial Control Systems •P173 Federated Edge AI for Adaptive Zero-Trust Security in Resource-Constrained IoT Networks •P138 A Transformer-based Physics-informed Network for Trajectory Prediction and State Estimation	**Future of Learning in Smart Cities** Invited Keynote by Dr. Ioannis Anapliotis	**Building Resilient Cities** Kick-off session
11:00 - 11:30	Coffee break			
11:30 - 13:00	•P162 Optimizing Secure Group Communication in IoT Networks for Smart City Applications •P166 A Multidimensional Framework for Evaluating Socio-Technical Innovation Readiness in Urban Living Labs: Methodology and Application •P161 AI-Driven Precision Agriculture in the Context of Smart Cities: A Pathway to Food Security and Environmental Resilience	•P135 Self-Sovereign-Identity Management and On-Boarding Framework for UAV Swarm Environment •P159 Towards Robust and Generalizable Air-to-Air Object Detection and Tracking for Non-Cooperative Aerial Vehicles •P165 ISAC for AAM: Integrated Sensing and Communication Technology for Advanced Air Mobility •P136 Design and Evaluation of a Simulation Framework for FMCW Radar Sensors Deployed on UAV Platforms	•P152: Transforming Smart Learning Pathways with AI-Enhanced Mind Mapping for Personalized Education in Urban Ecosystems •P145: STUD-U-ONAs: Behavioural Archetypes for Human-Centred Learning Analytics—A Case Study Using Microsoft Teams Insights in Undergraduate Education •P158: Early Detection of Student Mental Health Conditions Using Multimodal AI: A Scoping Review	•P168 AI-Powered Environmental Monitoring for Urban Industrial Disaster Prevention: Transferring Deep Learning Contamination Detection to Urban Resilience Frameworks •P170 High-Resolution PM2.5 Forecasting with LSTM Models: A Case Study in Thermi, Greece •P171 Toward Community-Engaged Sustainable Development Goals Localization: San Antonio, TX •P172 ARMED: A novel intelligent Framework for Floods Early Warning
13:00 - 14:00	Lunch			
14:00 - 16:30	•P147 SynAI: Supply Security for Smart Municipalities through AI-optimized Aquaponics Farm Automation using Federated Learning, GenAI, and Edge-AI •P146 Real-Time Routing and Energy Management in Demand-Responsive Transport using Digital Twins •P163 Building Urban Resilience through Circular Smart City: Insights from Valencia Flood •P148 MAPE-AI: A Self-Adaptive, Conversational Framework for Urban Smart Agriculture •P139 MAD-Agent: A Malware Analysis and Detection AI agent	**Invited Talks** •Innovative Aerial Mobility in Policy: Opportunities, Risks, and Responsibilities •Moment-Based Control: Teaching Drones to Handle the Unexpected •Aerial Communication Channels Modeling: Propagation and physical-layer aspects	•P154: Efficient Emotion Recognition Using MediaPipe 3D Landmarks and Explainable Machine Learning Models •P155: A Compact Multiband Patch Antenna with Minkowski Fractal Geometry for Smart City Applications •P151: An Edge-AI Educational Framework for Physical Skill Acquisition via Inertial Motion Sensing and Generative Learning Models •P149: Intellectus: An AI Model to Enhance Student Cognitive Performance, Increase Knowledge Acquisition, Boost Academic Integrity and Mitigate AI Over-Reliance in Education •P142: Deep Learning-Based Hybrid Model for Knowledge Tracing and Personalised E-learning	**Connected Smart Cities For Greece 2.0** (SmartC4G) Tutorial session
16:30 - 17:00	Coffee break			
17:00 - 18:00	**Welcome Session** and **Keynote** by Prof. John Verboncoeur, "Smart Agrifood Systems (SmartAg): Technology Applied to the Food Supply Chain" (Michigan State University, USA)			
18:00-20:00	Welcome cocktail			

Tuesday, October 7, 2025

	Room I.4	Room II.8	Room II.6
9:00 - 11:00	**Smart City Infrastructure – Revisiting Networks and Testbeds for Smart Cities (Track 1)** •₽88 From buildings to cities: a scalable smart city implementation for research on smart buildings and infrastructures systems integration •₽96 City-Agnostic Demand Prediction: A Graph Attention Approach for Urban Transfer Learning •₽112 Spatio-temporal interpolation of mobile sensing data with Edge-to-Cloud strategies in smart cities •₽132 Design and Single-Hop Evaluation of a Network-Controlled Repeater for Enabling Urban mmWave Coverage **Smart Lighting (Track 13)** •₽120 SALUSLux: Open-Source Street Lighting Software to Improve Pedestrian Safety and Light Pollution	**Data Spaces in the Smart City Ecosystem (Track 7) - Session I** •₽41 PLVS: A Documentation and Exploration System for Data Provenance, Lineage, and Versioning •₽47 Bridging IoT Sensors and Context Brokers: A Software Stack for NGSI-LD Interoperability •₽64 SEDS: Designing a Smart Energy Data Space for Secure and Trustworthy Real-Time Sharing of Household Energy Data •₽80 Data Space-Aligned Smart City Data Sharing with Context Brokers •₽91 Cross-City Micromobility Demand Prediction Using Machine Learning •₽93 Open Data for Smart Urban Innovation	**Resilient Smart Cities (Track 11) - Session I** •₽3 Urban Emergencies in the Age of 15-Minute Cities: Assessing Response Capability to Critical Situations •₽14 An open-access digital platform for optimizing building-integrated photovoltaics in climate change resilient urban environments •₽17 Forecasting PM2.5 and NO2 concentrations in Patras using low-cost sensors and machine learning •₽20 Assessing the Future Energy Demand of Greece's terrestrial transportation •₽24 Automated Energy-Aware Time-Series Model Deployment on Embedded FPGAs for Resilient Combined Sewer Overflow Management •₽27 A Multi-domain Geospatial Framework for the Assessment of Urban Preparedness to Emergencies
11:00 - 11:40	Coffee break		
11:40 - 12:20	**Keynote** - Prof. Chunting Chris Mi (San Diego State University, USA), "Wireless Power Transfer – from Science Fiction to Reality"		
12:20 - 13:00	**Keynote** - Prof. Madjid Fathi (University of Siegen, Germany), "Trust by Design: How Explainable AI Strengthens Local Digital Platforms in Smart and Caring Cities"		
13:00 - 14:00	Lunch		
14:00 - 16:00	**Smart Education for Resilient and Sustainable Cities (Track 2)** •₽16 paperXR: An Immersive Virtual Reality Training Tool for Sustainable and Resilient Workforce Development in Industrial Printing •₽52 Bridging Communication Gaps: A Low-Cost, Real- Time Sign Language Recognition Platform •₽68 Using Immersive VR to Enhance Universal Design for Motor-Impaired Users •₽84 Immersive Smart Education for Sustainable Urban Mobility: A VR-Based Study on Traffic Systems, EVs, and Sensor-Enabled Crosswalks •₽98 Application Of Multi-Agent Systems, Agent-Based Modeling, And Simulation In Higher Education: A Systematic Review •₽99 eXRercise Training System: A Novel AI-Enhanced XR Architecture for Sustainable and Adaptive Smart Learning Ecosystems	**Data Spaces in the Smart City Ecosystem (Track 7) - Session II** •₽103 A Survey on Generative AI Applications for Geo-Economic Pattern Modeling and Predictive Mapping •₽107 Content Based Retrieval for Distributed Data Trading Platforms •₽110 Detecting Dataset Reuse and Modification in Data Spaces via Structure-Aware Similarity Analysis •₽87 Big Data Analytics in Smart Cities: Systems, Techniques, and Applications	**Resilient Smart Cities (Track 11) - Session II** •₽28 Context-aware Sensor Active Prioritization for Emergency Management in Smart Cities •₽97 AI-Enabled Waste Classification as a Data-Driven Decision Support Tool for Circular Economy and Urban Sustainability **General Track (Track 12) - Session I** •₽9 Assessing Urban Emergency Response based on Historical Ambulance Calls: A Case Study in Brazil •₽18 Metro Station Evacuation Simulation: A Case Study Using Three Agent-Based Exit Models •₽29 Cross-City Generalizion of Air Quality Prediction: A Domain-Adversarial Learning Approach •₽74 Tactile Urbanism: A Sensor Box - Driven Game to Connect People, Nature, and Public Space
16:00 - 16:30	Coffee break		
16:30 - 17:30	**Panel**: Navigating the Future of Smart Cities: Towards Sustainability, Resilience and Participation	Panelists: Prof. Panos Fitsilis, Asst. Prof. Christina Politi, Dr. Asterios Leonidis, Dr. Amin Anjomshoaa, Prof. Paraskevi Tsoutsa and Prof. Ioannis Chatzigiannakis (Moderator)	
20:00	Social Event		

2025 IEEE International Smart Cities Conference

Wednesday, October 8, 2025

	Room II.8	Room II.6	Room II.9
9:00 - 10:40	**Smart Mobility – Autonomous Vehicles and the Transition to EVs (Track 3) - Session I** •₱2 Quantifying the Carbon Footprint of Electric Vehicles in Sustainable Urban Mobility •₱4 A Deep Q-Network (DQN) Framework for Joint Optimization of EV Charging Station Placement and Vehicle Routing •₱19 An Approach to Formulate the Dial-a-Ride Problem with Linear Programming •₱49 Integrated Simulation Framework for Adversarial Attacks on Autonomous Vehicles •₱54 Midd4VC: A Middleware for Vehicular Cloud Computing	**Smart Services in the Urban Ecosystem (Track 4)** •₱109 Adaptive and Mixed Incentive Strategies for Spatial Balancing in Bike-Sharing Systems •₱10 Clear Path Ahead: Improving the Golden Time in Emergency Response with a Green Wave Approach •₱30 Personalized Vacation Planning: An Efficient Heuristic Approach •₱95 Sustainable Planning of Pick-up and Delivery for Waste Collection •₱125 Smart Building-Robot Cooperation via Delegated Control: Enabling Lightweight Elevator Integration	**Digital Twins (Track 9) - Session I** •₱73 CyDT: The Cyprus Digital Twin for Resilient Cities and Robust Critical Infrastructure Systems •₱38 Digital Twins for climate-positive Cities: Integrating Local Climate Zones with Solar Energy Technologies and Nature-based Solutions •₱48 LabTwinXR: A real-time eXtended Reality Digital Twin testbed for smart buildings •₱50 Implementing a Digital Twin for a Secondary School Building Complex in Greece •₱63 Digital Twins based Automatic Reconfiguration of Robotics Systems in Smart Environments
10:40 - 11:00	Coffee break		
11:00 - 12:00	**Keynote (Room I.4)** - Prof. Chiara Bocaletti (Sapienza University of Rome, Italy), "Smart technologies for a sustainable energy system in urban environments"		
12:00 - 13:00	**Panel (Room I.4)**- Smart Charging in Smart Cities	Dr. Anna Stefanopoulou, Chair Professor, University of Michigan, Dr. Jianning Dong, Associate Professor, Delft University of Technology, Roberto Petrella, Ph.D. Professore Associato, Università degli Studi di Udine, Partick Aiguo Hu, Professor, University of Auckland, Dr. Theofanis Raptis, National Research Council, Pisa, Italy	
13:00 - 14:00	Lunch		
14:00 - 16:00	**Smart Mobility – Autonomous Vehicles and the Transition to EVs (Track 3) - Session II** •₱77 A holistic perception system of internal and external monitoring for ground autonomous vehicles: AutoTRUST paradigm •₱101 Exploring Perceived Risk of Passing Sidewalk Mobility Using VR •₱128 Vision-based Perception System for Automated Delivery Robot–Pedestrians Interactions •₱129 An Agent-Based Methodology to Support Emission-Aware Modal Assignment Strategies in Urban Mobility	**Cybersecurity and Privacy (Track 8)** •₱33 Quantization and Pruning under FHE Constraints: Enabling Encrypted Anomaly Detection in Smart City IoT •₱53 A Lightweight CNN for CAN-Bus Intrusion Detection •₱100 Privacy-Aware Multi-Class Intrusion Detection Using Federated Neural Encoding and Robust Feature Distillation •₱104 Privacy-Preserving Parking Lot Surveillance Utilizing Homomorphic Encryption •₱108 Temporal Dimension of Concept Drift in Malware Behavior Classification	**Digital Twins (Track 9) - Session II** •₱76 Ontology-Driven Building Operating System Integrated with Large Language Models for Intuitive Building Operations •₱92 Towards Dynamic Urban Scene Synthesis: The Digital Twin Descriptor Service •₱121 A Framework for Analyzing Urban Spaces from Pedestrian Perspectives: Integrating Micro-scale Trajectories with Digital Twins **Smart Grids and Virtual Power Plants (Track 6)** •₱75 Implementation of Energy Communities: How to overcome barriers with best practices? •₱102 An Energy Management Strategy for Islanded DC Microgrids: A Case Study on Efficient Energy Exchange Among Residential Houses
16:00 - 16:15	Coffee break		
16:15 - 17:15	**Keynote (Room I.4)** - Prof. Anna Stefanopoulou (University of Michigan, USA), "Battery Lifetime Management for Sustainable Cities"		
17:15 - 18:15	**Panel (Room I.4)** - IEEE Dataport - "Intelligent Sensing and Data-Driven Innovation – How Can They Help Smart Cities?"	Panelists: Dr. Rakesh Kumar, Dr. Anil Roy, Dr. Georges Zissis, Dr. Surekha Deshmukh, and Dr. Anjali Diwan (Moderator of the Panel)	

2025 IEEE International Smart Cities Conference

Thursday, October 8, 2025

	Room II.8	Room II.6	Room II.9
9:00 - 10:00	Keynote - Dr. Surekha Desmukh (TCS, India) "Energy Democracy empowering Smart and Sustainable City"		
10:00 - 10:30	Coffee break		
10:30 - 12:00	**Healthcare and Well-being (Track 5)** •₽45 Identifying Long Term Impacts on Sustainability from Technology Design: The Case of Zoom in Building Resilient Smart Cities •₽61 ROS based multi-person 3D pose extraction for edge deployment •₽70 Artificial Bee-Scout Algorithm for Recurrent Neural Network Optimization for Motor Imagination EEG Signal Classification for BCI •₽105 Towards Ethical Health Claim Verification: Blockchain and Digital Twin Systems for Rhinoplasty Surgery in Smart Cities	**Transfer of Smart Cities Research and Applications to the Peri-Urban Domain & Smart Agriculture (Track 10)** •₽55 SUSTAINABLE Platform: Seamless Smart Farming Integration Towards Agronomy Automation •₽123 3D Reconstruction and Instance Segmentation of Shiitake Mushrooms for Accurate Volume Estimation •₽126 Agri-RAG: A Context-Aware Framework for Precision Agricultural Information Retrieval •₽117 Predictive Maintenance Strategies for Smart Street Lighting Systems: A Stochastic Modeling	**General Track (Track 12) - Session II** •₽86 Social Bridges to Technology: Social Influences on Older Adults' Use of Technology •₽111 Leveraging Cloud-Native IoT for Cross-Sector Smart City Intelligence •₽130 FairChoice: Balancing Performance and Group Fairness in Federated Learning With Non-IID Data
12:00 - 13:00	Closing session		
13:00 - 14:00	Lunch		