

# INTSYS 2024 – Day 1 – December 5, 2024

**08:00 AM - 08:50 AM Registration**

**08:50 AM - 09:00 AM Opening Ceremony**

09:00 AM - 09:50 AM Keynote Speaker 1 (chair: Alexander Kocian)

**KEYNOTE TALK: Advancing Electromobility: A Holistic Approach to Battery Innovation**

Simona Pepe (Data Science Team Lead at Electra Vehicles)

09:50 AM - 10:30 AM Technical Session 1 - Smart technologies (chair: Alexander Kocian)

**Beat trustfully: The correlation between heart rate and a multi-dimensional trust questionnaire**

Saeedeh Mosaferchi, Rosaria Califano, Giuseppe Pica, Luca Orlando, Francesco Villecco, Alessandro Naddeo.

**Detecting and Locating Stress in Urban Settings with ChillIn**

Daniel Namaki Ghaneh, Emanuele Respino, Gianmaria Saggini, Niccolò Settimelli, Maurizio Palmieri, Alessio Vecchio.

**10:30 AM - 11:00 AM Coffee Break**

11:00 AM - 01:00 PM Technical Session 2 – Traceability (chair: Mirco Nanni)

**Interoperable Traceability in Supply Chains: A Use Case in Agritech**

Giovanni Farina, Gianluca Brunori, Stefano Chessa, Alexander Kocian, Maria Bonaria Lai Daniele Nardi, Claudio Schifanella, Susanna Bonura, Nicola Masi, Fiorenzo Ambrosino, Angelo Mariano, Lucio Colizzi, Giovanna Maria Dimitri, Marco Gori, Franco Scarselli, Silvia Bonaria.

**Treemob: Expressive Mobility Data Representation through Tree-based Structures**

Marta Fioravanti, Eleonora Cappuccio, Salvatore Rinzivillo, Riccardo Guidotti.

**From GPS Traces to Individual Emission Exposure: a Data-Driven Four-Step Process**

Gurban Aliyev, Mirco Nanni

**Capacity Vehicle Routing Problem with Time Windows: Simulation tool for Footprint Network Design**

Cosimo Birtolo, Erica Occhionero, Francesca Torre.

**Chain of Portable Health Folders: A Systematic Literature Review**

Duarte Mateus, Ana Lucia Martins, Ricardo Correia

**[VIDEO] Integrating Metro Infrastructure in Circular Food Supply Chains: A Model for decentralized Quito's Food Bank Network Redesign**

Ariadna Sandoya, Jorge Chicaiza-Vaca, Fernando Sandoya, Benjamin Baran.

**01:00 PM - 02:00 PM Lunch**

02:00 PM - 04:00 PM Panel Discussion (moderator: Anna Monreale)

**The Human Mobility ecosystem in the era of AI**

- Gil Silva Sampaio  
(Centro de Sistemas de Energia, Power and Energy Systems, INESC TEC, Portugal)
- Michela Natilli  
(ISTI, CNR Pisa, Italy)
- Roberto Trasarti  
(ISTI CNR, Pisa, Italy)
- Simone Centellegher  
(Bruno Kessler Foundation, Trento, Italy)
- Luca Pappalardo  
(ISTI CNR & Scuola Normale Superiore, Pisa, Italy)
- Carini Matteo  
(AI Technology Consultant & Presales Engineer at Almwave, Almaviva Group)

**04:00 PM - 04:30 PM Coffee Break**

04:30 PM - 06:10 PM Technical Session 3 - Traffic forecasting and control (chair: Alexander Kocian)

**An AutoML Approach for Bike Demand Forecasting and Redistribution**

Dimitris Petratos, Yannis Poulakis, Irene Gimenez Pedralba, Cristina Aragon Garcia, Christos Doulkeridis.

**Adaptive Stop-Skipping Scheduling Approach Using Reinforcement Learning**

Perla Hajjar, Leïla Kloul, Dominique Barth.

**Machine Learning Approach for Labeling Undetected Planned Trips in Public Transport Operators**

Mohammad Amin Zadenoori, Lorenzo Sarti, Alessio Micheli, Marco Calamai, Francesca Del Lungo, Daria Faucci, Andrea Gaffi.

**Reinforcement Learning Algorithms with Graph Convolution Networks for Traffic Signal Control**

Shreya Salmalge, Shalabh Bhatnagar.

**[VIDEO] Optimizing Intelligent Transportation Systems with Multi-Agent Reinforcement Learning: A Socio-Economic Impact Assessment**

Qian Cao, Jing Li, Paolo Trucco.

**06 10 PM - 08.00 PM FREE TIME**

**08:00 PM - 10:00 PM Gala Dinner at Restaurant « La Clessidra »**

# INTSYS 2024 – Day 2 – December 6, 2024

09:00 AM - 09:50 AM Keynote Speaker 2 (chair: Mirco Nanni)

## **KEYNOTE TALK: New scenarios for inclusive and sustainable cities**

Vittorio Loreto (Director, Sony CSL, Italy)

09:50 AM - 10:30 AM Technical Session 4 - Road safety (chair: Mirco Nanni)

## **A Mobile Application to secure pedestrians interacting with automated vehicles**

Pierre Merdrignac, Romain Tessier, Thomas Jacquet, Natacha Metayer.

## **A Simulation-based Security Benchmarking Approach for Assessing Cooperative Driving Automation (CDA) Applications**

Mateen Malik, Behrooz Sangchoolie, Johan Karlsson.

**10:30 AM - 11:00 AM Coffee Break**

11:00 AM - 11:30 AM Technical Session 5 - Regulations and policies (chair: Luca Pappalardo)

## **Wireless Interference and Regulatory Frameworks for Frequency Allocation in V2X Communication Systems**

James Grow, Nakira Olgesby, Grayson Hatcher, Billy Kihei.

## **[VIDEO] Runtime norms regulation framework for drones' smart cities applications**

Hana Gharrad, Nafaâ Jabeur, Tarek Rahil Sheltami, Ansar Ul-Haque Yasar.

11:30 AM - 01:00 PM Technical Session 6 - Autonomous vehicles (chair: Luca Pappalardo)

## **A Data-Driven Integrated Framework for Virtual Testing of Autonomous Vehicles in Mixed Traffic Scenarios**

Brunella Caroleo, Javad Sadeghialavijeh, Cristiana Botta, Shadi Nikneshan, Maurizio Arnone.

## **Federated Learning for Lane-Change Prediction**

Lilit Yenokyan, William Lindskog-Muenzing, Christian Prehofer, Matthias Schubert.

## **Evaluating Traffic Control Strategies for Autonomous Shuttle In Different AV penetration, Using SUMO Traffic Simulation**

Javad Sadeghialavijeh, Brunella Caroleo, Cristiana Botta, Maurizio Arnone.

## **[VIDEO] Adaptive Video Bitrate Allocation for Remotely Operated Vehicles (ROV)**

Eman Sarah Afi, Ons Triqui, Sofiane Sayahi, Hichem Besbes, Fethi Tlili.

**01:00 PM - 02:00 PM Lunch**

02:00 PM - 03:40 PM    Workshop - Model-based analysis for cooperative transportation under uncertainty and threats (chairs: Cinzia Bernardeschi and Gloria Gori)

**Virtual Coupling: the railway dialect for platooning**

Alessandro Fantechi.

**Experimental Evaluation of Road-Crossing Decisions by Autonomous Wheelchairs against Environmental Factors**

Franca Corradini, Carlo Grigioni, Alessandro Antonucci, Jérôme Guzzi, Francesco Flammini.

**Impact of Network Delays on Edge-Assisted Platooning Systems in 5G Networks: Addressing Latency Challenges**

Christian Quadri, Salvatore Pedone, Adriano Fagiolini.

**A Model-based Approach for Analysis of Data-Alteration in Co-Operative Vehicles**

Cinzia Bernardeschi, Alessio Vivani, Maurizio Palmieri, Marta Sanguinetti.

**A Preliminary Approach to Verify Platoon Behaviour Using Execution Traces and Model Checking**

Simona Correr, Valeria Sorgente, Giulia Varriano, Vittoria Nardone, Francesco Mercaldo, Antonella Santone.

**03:40 PM - 04:00 PM    Closing Ceremony + Best Paper Award**

**04:00 AM - 04:30 PM    Coffee Break**

**04:30 PM - 06:00 PM    Social event: guided city visit**