

Special Session Proposals - ICAIRES'2026

Intelligent Transportation Systems & Sustainability for Smart Cities (ITSS-SC)

Session Objective: The objective of the Intelligent Transportation Systems & Sustainability for Smart Cities session is to examine the critical challenges and emerging innovations at the intersection of intelligent transportation systems (ITS) and urban sustainability. It provides a forum for researchers and practitioners to explore how efficiently assessing transportation performance and implementing smart solutions can enhance not only safety and reliability but also environmental efficiency, economic viability, and social equity in smart cities. Particular attention will be given to scalable solutions that adapt to the evolving demands of urban infrastructure and future mobility ecosystems.

Session Description: Urban expansion driven by population growth has led to a significant increase in travel for both work and personal purposes. Future smart cities must effectively address traffic-related challenges, including accidents, congestion, and emergency response coordination. In this context, Intelligent Transportation Systems (ITS) meet growing transportation demands by integrating information technologies, communication systems, and advanced sensing. ITS enable large-scale, multifunctional, real-time, and precise transportation management, shifting the focus from traffic managers to road users. This special session is to investigate major obstacles and cutting-edge advances at the crossroads of intelligent transportation systems and sustainable urban development. Topics of interest include advances in ITS and their applications, sustainable transportation systems, cybersecurity, traffic safety, traffic flow theories, wireless and sensor technologies for vehicular networks, and data ethics/privacy in smart mobility. The reduction in energy consumption due to these topics is directly linked to greater sustainability, as transportation system performance is closely linked to energy use. **The ITSS-SC session** serves as a critical enabler of energy system efficiency and grid stability by fostering interdisciplinary collaboration. It offers a forum to explore how ITS can guarantee optimal performance of transportation systems in smart cities while reducing energy consumption through intelligent solutions.

Target Audience: The **ITSS-SC Session** is intended for researchers, industry professionals, policymakers, who are interested in advanced technologies and solutions in roads traffic control, public transportation operation, and traffic safety.

Topics of Interest: We encourage submissions related to the following topics (but not limited to):

- Intelligent transportation systems and their applications
- Sustainable transportation systems
- Cybersecurity, data ethics and privacy in smart mobility solutions
- Transportation and traffic safety

- Data management and control in ITS
- Modeling and simulation of transportation systems
- Wireless and sensor technologies for vehicular networks
- Digitalization of transport infrastructure
- Traffic flow theories and application
- Green urban mobility solutions

Session Format: The **ITSS-SC Session** will be organized as a series of presentations. We plan to allocate sufficient time for audience participation and Q&A sessions to ensure active engagement and knowledge sharing.

Session Chair: The proposed session chairs for this **ITSS-SC Session** are:

- 1- **Dr. Mouloud KHELFI** (Department of Transport Engineering, Technology Sciences Faculty, Constantine1- Frères Mentouri University. mouloud.khelf@umc.edu.dz)
- 2- **Prof. Lamia HAMZA** (Department of Computer Science, Faculty of Exact Sciences, University Abderrahmane Mira- Bejaia. lamia.hamza@univ-bejaia.dz)

Submission and Review Process: Submissions for the **ITSS-SC Session** will follow the same guidelines and deadlines as the main conference. All submitted papers will undergo a thorough review process by experts in the field to ensure quality and relevance. The session chair will oversee the review process and make final decisions on paper acceptance.

Expected Outcomes: By attending this **ITSS-SC Session**, participants can expect to discover the latest research developments in the field, expand their professional networks through interaction with peers and experts, and engage in meaningful knowledge exchange and potential collaborations. The session will also provide a deeper understanding of emerging challenges and innovative solutions relevant to their area of expertise.

Session Duration: We anticipate that the **ITSS-SC Session** will require (100 minutes).