

IEEE Internet of Things Journal Special Issue on
Space-Air-Ground Integrated Networks for Internet of Vehicles

Internet of Vehicles (IoV) empowers vehicles to communicate with the surrounding environment such as neighboring cars, roadside infrastructure, and traffic control centers, enabling a wide range of on-the-go services such as road safety, infotainment, and location-dependent services. The main enabling platforms include dedicated short-range communications (DSRC)-based 802.11p networks and cellular networks. However, these terrestrial networks alone cannot serve the vehicular applications very well in different scenarios, due to the issues of deployment, coverage and capacity. It is imperative to leverage other communication infrastructures, such as low Earth orbit (LEO) satellites, unmanned aerial vehicles (UAVs), and high-altitude platforms, to serve vehicles anywhere and anytime, by exploiting their respective advantages in terms of coverage, flexibility, reliability and availability, resulting in space-air-ground integrated networks (SAGIN). However, it is very challenging to support various vehicular services/use cases in a more flexible and effective network environment, different segments in the SAGIN, due to multi-dimensional heterogeneity in resources, distinct quality of service/experience (QoS/QoE) requirements, high spatial-temporal dynamics in the network, etc.

This special issue will bring leading researchers and developers from both industry and academia together to present their research on SAGIN for IoV. The content of the special issue will focus on the SAGIN network architecture and implementations, interoperation technologies, dynamic access control, resource orchestration, mobility management, QoS/QoE driven network management, performance modeling and optimization, and other enabling technologies in SAGIN for IoV. Topics of interest include, but are not limited to:

- SAGIN architecture for IoV
- Enabling interoperation of SAGIN for IoV
- QoS/QoE aware resource management in SAGIN for IoV
- Cooperative computing in SAGIN for IoV
- Information-centric networking in SAGIN for IoV
- Dynamic access control for SAGIN for IoV
- Mobility management in SAGIN for IoV
- Orchestration of heterogeneous resources for IoV
- Artificial intelligence in SAGIN for IoV
- Big data analysis for SAGIN for IoV
- Security and privacy of IoV in SAGIN

Important Dates:

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First Review Due: November 30, 2020

Revision Due: January 15, 2021

Sec. Reviews Due/Notification: February 15, 2021

Final Manuscript Due: February 28, 2021

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