

IEEE Transactions on Vehicular Technology

Call for papers for special section on

Emerging Technology for 5G Enabled Vehicular Networks

Overview:

It is foreseeable that in the very near future on-board Internet access, e.g., online media streaming, social networking, real-time traffic report acquisition and online navigation, would become a standard feature of future motor vehicles. In 2014, both Google and Apple released their mobile operating systems for autos, and it is estimated that more than 50% of vehicles sold worldwide in 2015 will be connected, either by embedded, tethered or smartphone integration. Motivated by the increasing applications and tremendous market demands of vehicular networking, how to enable the high-rate and reliable Internet connections to vehicles in a scalable and cost-effective manner is therefore one of the key research issues for the next-generation mobile networks.

While IEEE develops IEEE 802.11p as the main communications standard for vehicular networking, the emerging 5G cellular networks still represent the most practical and convenient marketing solutions to enabling ubiquitous and reliable connections to vehicles in the densely populated urban areas. With ample bandwidth and lowered cost, the 5G cellular networks would enable rich engaged service applications to vehicles and, more importantly, efficiently drive the convergence of vehicular networking to existing Internet framework and applications, such as cloud computing and video streaming.

The purpose of this special issue is to provide the academic and industrial communities an excellent venue to present the vision, research, and dedicated efforts on the key technologies emerging for 5G cellular communication enabled vehicular networks. The special issue seeks original contributions which address the fundamental research challenges on the related topics, that can help the community analyse the current state, identify future goals, and refine the architectures and technologies of vehicular networks with the emerging 5G technologies.

The topics of interest include, but are not limited to, the following topics:

- Performance evaluation of 5G radio technologies for the vehicular communications
- Novel vehicular applications and service scenarios of 5G cellular based vehicular networks
- Protocol design and resource allocation for 5G cellular based vehicular networks
- Design, implementation and deployment for 5G cellular based vehicular networks
- Internetworking technology of 5G systems and DSRC networks
- Traffic redundancy elimination and data offload in 5G cellular based vehicular networks
- Efficient Intelligent Transportation System (ITS) and safety applications through 5G cellular based vehicular networking
- Software-defined networking (SDN) and network function virtualization for supporting 5G vehicular networks
- Cloud computing and big data techniques for novel vehicular applications with 5G cellular networks
- Novel ITS applications of vehicular networks based on SDN, big data, cloud computing and emerging 5G technologies
- Efficient and cost-effective multimedia streaming and applications to vehicles using 5G cellular networks
- Security and privacy in the 5G cellular enabled vehicular networks

Manuscript Preparation and Submission:

Authors should follow the guidelines in “Information for Authors” in the IEEE Transactions on Vehicular Technology (<http://winet.ece.ufl.edu/tvt/>) under Information for Authors. Prospective authors should submit a PDF version of their complete manuscript via the journal online paper submission system at <http://mc.manuscriptcentral.com/tvt-ieee>

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Important Dates:

- Paper Submission: ~~July 1, 2015~~ **Extended to July 15, 2015**
- First Round Decisions: October 1, 2015
- Revised Papers: December 1, 2015
- Final Editorial Decision: January 1, 2016
- Final Manuscripts Due: February 1, 2016
- Publication Date: Second Quarter 2016