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Special Issue on
Road and Vehicular Communications and Applications

The promise of safer roads and enhanced driver experience enabled by radio communication of location and traffic information among vehicles (V2V), as well as between vehicles and roadside infrastructure (V2I), has attracted researchers for a long time. Generally, progress has been relatively slow until a significant boost in the last few years became possible thanks to recent developments in standardization and enabling technology. The progress achieved in the development of the IEEE 802.11p standard for the PHY and MAC communication layers and the IEEE 1609 suite of standards defining higher-layer functionalities, such as resource management and security, and the allocation of spectrum in the Dedicated Short-Range Communications (DSRC) band in several countries, have led to growing experimental testbed evaluation of related technologies by industry and state road authorities. Despite these advances, the space of road and vehicular communications is in its infancy compared to more mature applications such as Wi-Fi or cellular networks, in both the fundamental research and the practical sense. There are many open questions remaining, ranging from physical-layer issues of the wireless channel behavior in the highly dynamic and interference-prone outdoor road environment, to specialized solutions for channel access, routing and mobility management, and to novel communication paradigms that go beyond the traditional point-to-point exchange of messages (e.g. geocasting). Above all, it is not yet clear which of the wealth of potential applications, ranging from safety and collision avoidance to driver assistance to traffic management to passenger infotainment, will take hold in the market and prove to be popular with the public.

The Special Issue on Road and Vehicular Communications and Applications is soliciting original contributions on related advances in theoretical research, standardization work, experimental evaluation, and practical implementation and deployment. Submissions reporting on accomplished results as well as detailed surveys of the state-of-the-art are welcome. Topics of interest include, but are not limited to, the following:

- Wireless channel behavior in the road and vehicular environment
- Transceiver design for vehicles and roadside infrastructure
- Medium-access protocols for vehicular communication
- Protocols and algorithms for vehicular networks (VANET)
- Cooperative communication and relaying
- Opportunistic routing and forwarding
- Location, navigation and mobility management
- Geographical routing methods
- Security and privacy in vehicular communications
- V2V and V2I communications
- Intra-vehicle wireless communication
- Public transport communication systems
- DSRC/WAVE standards
- Experimental evaluation and testbed deployments
- Applications of road and vehicular communications in safety and traffic management

Submission

Authors are invited to submit original and unpublished papers. Submissions should follow the author guidelines of Journal of Communications and the complete instructions for prospective authors can be found at <http://www.academypublisher.com/jcm/forauthors.html>. For further questions or inquiries, please contact the corresponding guest editor (Lavy Libman, l.libman@usyd.edu.au).

Important Dates

Submission Deadline: March 15, 2010
Author Notification: July 15, 2010
Final Manuscript due: August 10, 2010
Tentative Publication Date: September 2010

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