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Important Dates:

Paper Submission (extended):
July 31, 2011
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Submission Guideline:

All manuscripts and any supplementary material should be submitted through Elsevier Editorial System (EES). The authors must select "SI: Vehicular Communications-Rodrigues et al" when they reach the "Article Type" step in the submission process. The EES website is located at http://ees.elsevier.com/jnca/

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Scope:

The increasing importance of vehicle and infrastructure communications is recognized by governments, highway authorities, automobile manufacturers and the academic community. Governments have allocated spectrum for vehicle-vehicle and vehicle-infrastructure communications (e.g., DSRC or 4G cellular). Government and industry have funded large partnerships or projects such as IVI (e.g., CAMP, ACAS), ADASE2, as well as new initiatives such as IVBSS, CICAS, and VII, among others. Academic conferences and workshops on automotive networking and ITS are beginning to grow in popularity (e.g., VANET, V2VCOM, and VDTN). Standards community has been active to ensure interoperability with participation of IEEE, ISO, TIA, ASTM and major automobile manufacturers and other industrial cooperation.

There are unique research challenges that need to be addressed in order for vehicle and vehicle-infrastructure communications to be widely deployed. The combination of unique features of automotive applications and unique features of the automotive networking leads to many interesting research areas. The wireless networking between vehicles and with infrastructure has different characteristics from other conventional wireless networking problems. For example, due to rapidly-changing topology as vehicles move around, there are resemblances to ad hoc networking scenarios. However, the constraints and optimizations are very different. Power efficiency is not as important for vehicle communications as it is for traditional ad hoc networking. Vehicles in general are also constrained to move within roads (and within lanes most of the time). Automotive applications also demand stringent communications performance requirements that are not seen in conventional wireless networks.

The purpose of this special issue is to showcase the variety of research being conducted in automotive networking, ITS and applications to survey and collect the state-of-the-art in this emerging field. Topics of interest include:

- Intelligent / interactive transport system applications
- Network architectures, system architectures for ITS
- Link / MAC and physical layer issues, algorithms and protocols
- Network protocols and algorithms, including clustering, routing, etc.
- Higher layers (application, transport) algorithms and protocols
- Cross-layer protocol design
- Inter-working of vehicle-to-vehicle and vehicle-to-infrastructure communications
- Multimedia-based ad-hoc networking & WLAN aspects
- Mobility management
- Vehicle movement and performance simulation
- Security for automotive networking
- Network management for automotive networking
- Vehicle to Grid Communication
- Intra-vehicle networks supporting x-by-wire applications

Submission Format:

The submitted papers must be written in English and describe original research which is not published nor currently under review by other journals or conferences. Author guidelines for preparation of manuscript can be found at http://www.elsevier.com/locate/jnca. For more information, please contact the Editor-in-Chief, Mohammed Atiquzzaman (atiq@ou.edu)