

Call for Papers

IEEE Wireless Communications Magazine

Special Issue in “On-The-Road Communications”

Vehicular wireless communications and Vehicular Ad hoc Networks (VANETs) have been identified as important technology enablers for improving vehicle safety, for enhancing vehicle traffic efficiency, and for providing comfort and convenience to drivers and passengers. The development of vehicle-to-vehicle (V2V) and infrastructure-to-vehicle (V2I) based Vehicular Ad hoc Networks is one of the most critical issues for the Intelligent Transportation System (ITS) industry, which involves not only automotive and ITS research community but also wireless communication and networking research community. Throughout the world, there are many national and international collaboration projects in government, industry, and academia on V2V. These projects are devoted to conducting research in this emergent research field and committed to develop prototypes of vehicle communication systems (VCS). Through these research and development projects, the research community realizes that designing reliable, efficient, scalable, robust, and secured vehicular networking technologies presents extraordinary challenges to the wireless research community. This special issue intends to disseminate the latest research results in the emergent research areas of ITS, automotive, wireless communication, and networks, providing a snapshot of the current state-of-the-art in VANET, VCS, V2V, V2I systems.

Scope of Contributions

We would like to solicit papers related to technical challenges, good in-depth tutorial surveys, standardization efforts on vehicular communications, field trials of 802.11p based VANETs, security issues, channel access, routing, data dissemination, and application scenarios. Contributions from both academia and industries are welcome. Original contributions (previously unpublished and not currently under review by another publication), are solicited (but not limited to) in the following areas:

Mobility models and vehicle traffic models

Simulation aspects of V2V, V2I, and VCS

Physical layer issues for vehicular comms (RF, radio design and propagation models)

Channel access and MAC collision management

Vehicular networks architectures and network protocols

QoS support and real-time issues

Emulation and testbeds for large-scale vehicular networks

Application scenarios using VANET technologies

Security, encryption and privacy for vehicular systems

Standards (802.11p, CALM, P1609, etc) development and evolution

Performance, scalability, reliability and efficiency of VANET systems

Intra-vehicular sensor network and embedded system integration.

Human-Machine Interface for vehicular systems

Data dissemination methods

Safety, enhanced navigation, and car alert mechanisms

Routing issues, addressing issues, transport layer issues

Vehicular collision avoidance using distributed sensing technologies

Vehicular sensors

Manuscript Submission Authors should submit their manuscripts electronically in PDF format with a separate cover letter, which contains the paper title, authors with affiliations, and a 250-word abstract via email to Fan Bai (fan_bai_at_yahoo.com) and C. K. Toh (ckt_at_eee.hku.hk). To enforce the double blind reviewing policy, authors' names and affiliations can only appear in the separate cover letter. The "Subject field" of the email must contain "IEEE WCM OTRC Paper". Articles should have no more than 4500 words, no more than 6 tables/figures, and the abstract should have no more than 250 words. With regard to both the content and formatting style of the submissions, prospective contributors should follow the IEEE Wireless Communications guidelines for authors that can be found at: http://www.comsoc.org/pubs/pcm/pub_guidelines.html.

The following timetable will be followed:

Manuscript Submission

01 Apr, 2009

Acceptance Notification

01 August, 2009

Final Manuscript

01 September, 2009

Publication Date:

December, 2009

Guest Editors:

Dr. C K Toh, U of HONG KONG

Dr. Fan Bai, General Motors R&D (USA)

Dr. Russell Hsing, TELCORDIA Technologies Inc, (USA)

Dr. Onur Altintas, TOYOTA ITC (Japan)

Dr. Oh Hyun Seo, ETRI (Korea)