

Special Issue on

Wireless Access in Vehicular Environments

Call for Papers

Wireless access in vehicular environments (WAVE) technology comes into sight as a state-of-the-art solution to contemporary vehicular communications, which is anticipated to be widely applied in the near future to radically improve the transportation environment in aspects of safety, intelligent management, and data exchange services. WAVE systems will fundamentally smooth the progress of intelligent transportation systems (ITSs) by providing them with high-performance physical platforms. WAVE systems will build upon the IEEE 802.11p standard, which is still active and expected to be ratified in April, 2009. Meanwhile, the VHF/UHF (700MHz) band vehicular communication systems are attracting increasingly attention recently.

The fast varying and harsh vehicular environment brings about several fresh research topics on the study of WAVE systems and future vehicular communication systems, which include physical layer challenges associated with mobile channels, capacity evaluation, novel network configuration, effective media access control (MAC) protocols, and robust routing and congestion control schemes.

The objective of this special section is to gather and circulate recent progresses in this fast developing area of WAVE and future vehicular communication systems spanning from theoretical analysis to testbed setup, and from physical/MAC layers' enabling technology to network protocol. These research and implementation activities will be considerably helpful to the design of WAVE and future vehicular communications systems by removing major technical barriers and presenting theoretical guidance. This special issue will cover, but not limited to, the following main topics:

- 700MHz/5.8GHz vehicle-to-vehicle (V2V)/vehicle-to-infrastructure (V2I) single-input single-output (SISO)/MIMO channel measurement and modeling, channel spatial and temporal characteristics exploration
- Doppler shift study, evaluation and estimate, time and frequency synchronizations, channel estimate and prediction
- Utilization of MIMO, space-time coding, smart antenna, adaptive modulation and coding
- Performance study and capacity analysis of V2V and V2I communications operating over both 5.8GHz and 700Mz
- Software radio, cognitive radio, and dynamic spectrum access technologies applied to WAVE and future vehicular communication systems
- Mesh network and other novel network configurations for vehicular networks
- Efficient MAC protocols development

- Routing algorithms and congestion control schemes for both real-time traffic warning message broadcasting and high-speed data exchange
- Cross-layer design and optimization
- Testbed or prototype activities

Authors should follow the EURASIP Journal on Wireless Communications and Networking manuscript format described at the journal site <http://www.hindawi.com/journals/wcn/>. Prospective authors should submit an electronic copy of their complete manuscript through the EURASIP Journal on Wireless Communications and Networking's Manuscript Tracking System at <http://mts.hindawi.com/>, according to the following timetable.

Manuscript Due	April 1, 2008
First Round of Reviews	July 1, 2008
Publication Date	October 1, 2008

Guest Editors

Weidong Xiang, University of Michigan, Dearborn, USA; xwd@umich.edu

Javier Gozalvez, University Miguel Hernández, Spain; j.gozalvez@umh.es

Zhisheng Niu, Tsinghua University, China; niuzhs@tsinghua.edu.cn

Onur Altintas, Toyota InfoTechnology Center, Co. Ltd, Tokyo, Japan; onur@jp.toyota-itc.com

Eylem Ekici, Ohio State University, USA; ekici@ece.osu.edu